

Stormwater Pollution Prevention Plan
For Storm Water Discharges Associated with Industrial Activity under the
RIPDES Multi-Sector General Permit

for:

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

Owner:

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

Operator(s):

Rhode Island Recycled Metals
Edward Sciaba, Jr.
434 Allens Avenue
Providence, RI 02903
617-293-8700

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 Sample MSGP SWPPP Template, made available by the United States Environmental Protection Agency Office of Water. The use of this template is per the direction of Rhode Island D.E.M. Office of Water Resources, to serve as a base for State submission.

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

SWPPP CERTIFICATION

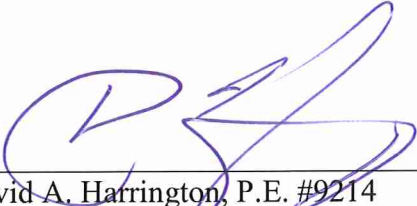
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage 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.

Edward Sciaba, Jr.
Applicant/Operator
Rhode Island Recycled Materials, Inc.

Date



I certify that this SWPPP has been prepared in accordance with sound environmental engineering practices, and applicable state and local standards and requirements.



David A. Harrington, P.E. #9214
Senior Civil Engineer
Coneco Engineers & Scientists, Inc.



Date

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DISCLAIMER

SWPPP CERTIFICATION

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SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION

1.1 Facility Information

Facility Information

Name of Facility: Rhode Island Recycled Metals

Street: 434 Allens Avenue

City: Providence State: RI ZIP Code: 02903

Permit Tracking Number: RIPDEES #RIR50N009 (if covered under a previous permit)

Latitude/Longitude (Use **one** of three possible formats, and specify method)

Latitude: 1. 41 ° 48 ' 08" N (degrees, minutes, seconds) Longitude: 1. 71 ° 24 ' 01" W (degrees, minutes, seconds)

Method for determining latitude/longitude (check one):

USGS topographic map (specify scale: _____) Other (please specify): Google Earth

Is the facility located in Indian Country? Yes No EPA Web site GPS

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable." _____

Is this facility considered a Federal Facility? Yes No

Estimated area of industrial activity at site exposed to stormwater: 5.8 (acres)

Discharge Information

Does this facility discharge stormwater into an MS4? Yes No

If yes, name of MS4 operator:

Name(s) of water(s) that receive stormwater from your facility Providence River and Narragansett Bay

Are any of your discharges directly into any segment of an "impaired" water? Yes No

If Yes, identify name of the impaired water (and segment, if applicable): Providence River (RI0007020E-01B)

Identify the pollutant(s) causing the impairment: Fecal Coliform, Nitrogen, Dissolved Oxygen

For pollutants identified, which do you have reason to believe will be present in your discharge? None

For pollutants identified, which have a completed TMDL? Fecal Coliform

Do you discharge into a receiving water designated as a Tier 2 (or Tier 2.5) water? Yes No

Are any of your stormwater discharges subject to effluent guidelines? Yes No

If Yes, which guidelines apply? _____

Primary SIC Code or 2-letter Activity Code: 5093

Identify your applicable sector and subsector: RI Industrial MSGP sector N: Scrap Recycling Facilities

1.2 Contact Information/Responsible Parties

Facility Operator (s):

Name: Edward Sciaba, Rhode Island Recycled Metals
Address: 434 Allens Avenue
City, State, Zip Code: Providence, RI, 02903
Telephone Number: **617-293-8700 EMERGENCY CONTACT**
Email address: esciaba@comcast.net

Facility Owner (s):

Name: Antonio Ramos, ACR Realty, LLC
Address: 15 Branch Pike
City, State, Zip Code: Smithfield, RI, 02917
Telephone Number: 401-232-2040
Email address: admin@granitesofamerica.com

SWPPP Contact:

Name: Shane M. Oates, Project Manager
Address: 4 First Street
City, State, Zip Code: Bridgewater, MA, 02324
Telephone number: 508-697-3191
Email address: soates@coneco.com

1.3 Stormwater Pollution Prevention Team

Staff Names	Individual Responsibilities
Edward Sciaba	Operator of day to day activities on site. Implement SWPPP
Ken Hanley	SWPPP Manager. Implement SWPPP
Robert Fernandes	SWPPP Assistant Manager. Assist in SWPPP Implementation

1.4 Activities at the Facility

The site is situated on the east side of Allens Avenue and extends eastward to the Providence River. The site is under the jurisdictional authority of the City of Providence and is zoned Waterfront District (W3). The parcel is bounded by an existing channel (abandoned Thurburs Ave.) to the south and the Narragansett Bay/Providence River to the east.

The subject parcel consists of a vacant fenced in area comprised of fallow/bare soil, remains of bituminous pavement and concrete and two buildings. There is no stormwater management system in place, but at the time of writing, an extensive containment, collection and treatment system is proposed for immediate construction (refer to Appendix A for schematic Site Plans) following approval. This work also includes an expansive concrete pad to contain runoff from facility processing and stockpiling.

Rhode Island Recycled Metals (RIRM) collects, trades, brokers and processes ferrous and non-ferrous metals from industrial manufacturers, auto salvage facilities, metal dealers and individuals. The metals generally come from obsolete vehicles, demolition metal from buildings, home appliances and other metals to be recycled. Proposed on-site activity will

include a metal recycling process aided by an Ing. Bonfiglioli shredder/mill and SEDA Rack vehicle decommission apparatus.

As scrap material is delivered to the Site, each load is inspected by surveillance cameras at the weigh scale and by a HAZMAT-trained RIRM representative as it is unloaded. Vehicles found to be leaking are prohibited access into the vehicle storage area. Hazardous materials such as asbestos, paint, trash, solvents of any kind, PCB ballasts and transformers, leaking batteries, fluorescent tubes, microwaves or televisions are turned away. Incoming weight scales contain Geiger counters, and all material found to be radioactive will be turned away as well. All other metals are directed by facility personnel to their appropriate location (i.e. plate steel, light iron, #1 steel, etc.). Freon will be collected using an Appion G5Twin refrigerant recovery machine and stored in OSHA-approved recyclable cylinders for sale off-site. Switches containing mercury are removed from vehicles and stored in accordance with the National Vehicle Mercury Switch Recovery Program (NVMSRP) until collected by End of Life Vehicle Solutions (ELVS).


Heavy iron is cut into manageable sizes and sorted by the Ing. Bonfiglioli shredder/mill. The mill and its product stockpiles will be protected by a 100x200-foot enclosure. Light iron such as appliances are stockpiled and then crushed with a bailer and placed in a processed stockpile. Wire is stripped of insulation and stored in cardboard containers. Light fixtures are disassembled and the various components segregated according to metal type. Electronic devices are palletized and shrink-wrapped pending shipment off-site.

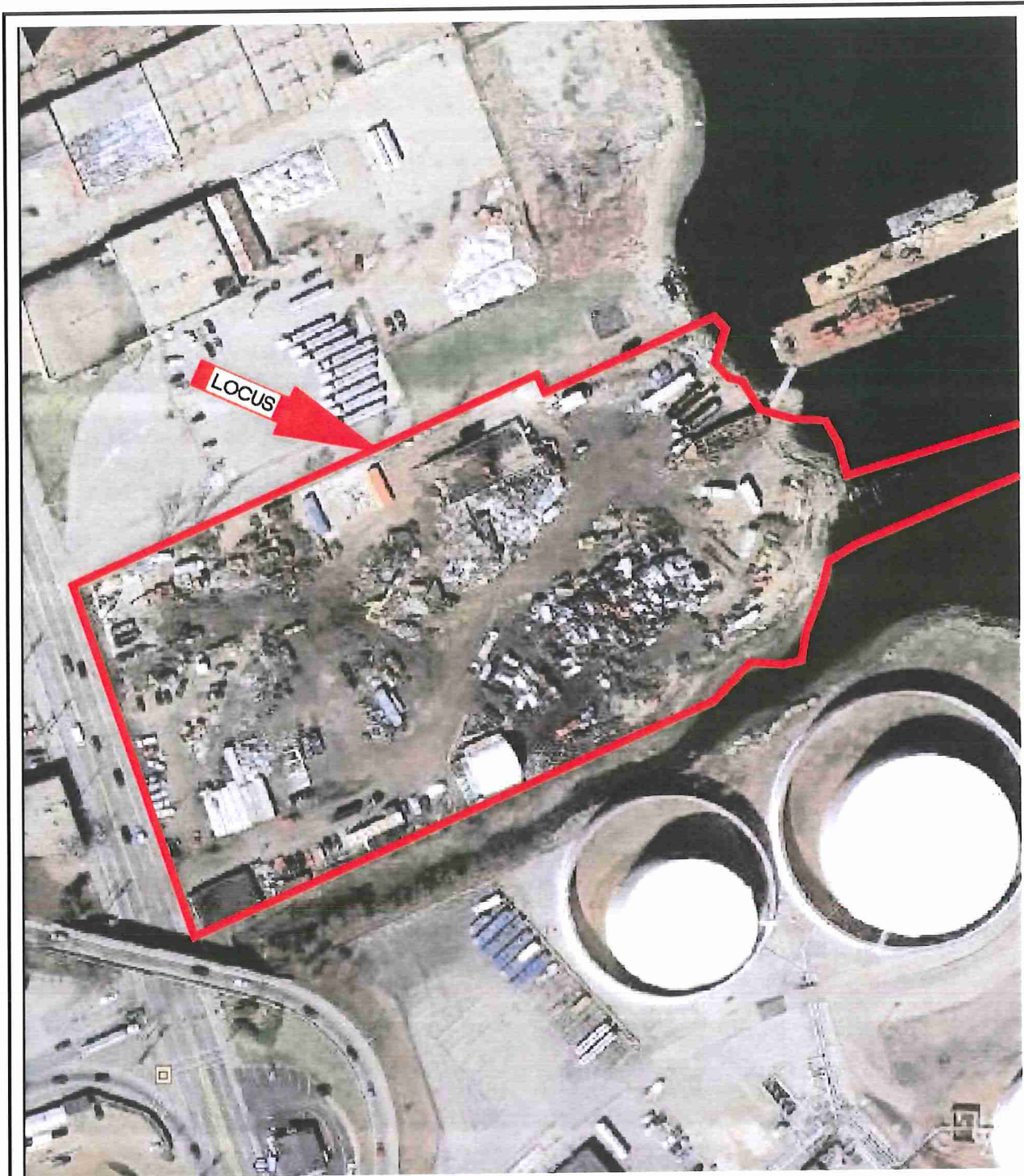
Vehicles are stored on the containment pad in rows three high until processed on the SEDA Rack (refer to Appendix B for a complete description of the SEDA Rack). At this point, automotive fluids are drained into clearly labeled holding tanks (antifreeze, motor oil, transmission fluid, power steering fluid, rear end fluids) and tires and batteries are removed and recycled. The car chassis are then crushed in a separate area inside the shredder enclosure and stockpiled until shredded. The automotive processing and crushing operations, including separated material stockpiles, are conducted under cover such that they are not exposed to stormwater.

1.5 Site Locus and Aerial Photograph




SITE LOCUS

 <p>CONECO Engineers, Scientists & Surveyors 4 First Street, Woonsocket, Massachusetts 02894 PHONE 603-897-3191 • 603-849-3388 • FAX 603-897-8888 EMAIL: Admin@coneco.com • WEB SITE: http://www.coneco.com</p>	PREPARED FOR: RHODE ISLAND RECYCLED METALS, INC.	PLAN SET: INDUSTRIAL SWPPP
	SCALE: N.T.S.	DATE: 05/25/2012
		TITLE: RIRM SITE LOCUS



SITE LOCUS

 <p>CONECO <i>Engineers, Scientists & Surveyors</i> 4 FIRST STREET, BUNGHERTON, MASSACHUSETTS 02804 PHONE: 508-897-3761 • 508-848-3388 • FAX 508-897-8988 EMAIL: Admin@coneco.com • WEB SITE: http://www.coneco.com</p>	PREPARED FOR: RHODE ISLAND RECYCLED METALS, INC.		PLAN SET: INDUSTRIAL SWPPP	
	SCALE: N.T.S.	DATE: 05/25/2012	PROJECT NO.: 7400.0	TITLE: RIRM SITE AERIAL (2011)

SECTION 2: POTENTIAL POLLUTANT SOURCES

2.1 Industrial Activity and Associated Pollutants

Potential Minor spills or leaks may occur at the vehicle storage area prior to decommissioning; there have been no significant spills or reportable releases at the facility within the past 3 years.

Industrial Activity	Associated Pollutants
Scrap Metal Storage	Rust
Vehicle Storage	Rust, Oils/fuels/lubricants
Vehicle Load Out Area	Rust

2.2 Spills and Leaks

Vehicles will be decommissioned within an enclosure structure equipped with a SEDA Rack and spill prevention measures.

Areas of Site Where Potential Spills/Leaks Could Occur

Location	Outfalls
Enclosed Vehicle Decommissioning Area	SEDA Rack
Vehicle Storage Area	Stormwater Treatment System

Description of Past Spills/Leaks

Date	Description	Outfalls

2.3 *Non-Stormwater Discharges Documentation*

- Date of evaluation: November 10, 2010
- Description of the evaluation criteria used: A site audit by Edward Sciaba on November 10, 2010, indicated no source of non-stormwater flows entering the stormwater discharges.
- List of the outfalls or onsite drainage points that were directly observed during the evaluation: Existing Channel and Narragansett Bay/Providence River
- Different types of non-stormwater discharge(s) and source locations: N/A
- Action(s) taken: N/A

2.4 *Salt Storage*

N/A

2.5 *Sampling Data Summary*

N/A

SECTION 3: STORMWATER CONTROL MEASURES

The site is located on the western coast line of the existing channel and Narragansett Bay, and east of Allens Avenue. At the time of writing, stormwater runoff from smaller storm events is directed via overland flow onto the site where it infiltrates on site. Larger storm events generate runoff that flows off-site to the south and east to open waterways.

Stockpiling of automobiles and additional metal items awaiting the scrap recycling process will occur on the majority of the central and eastern portions of the site. In order to collect runoff and effectively provide water quality for stormwater falling on these materials, an 8-inch thick concrete containment pad is proposed as part of the project. This pad will cover over half the site and will be large enough for the facility's material stockpiles and processing equipment. The pad will be sloped to direct runoff to surface catch basins or a large centralized trench drain.

Stormwater will be routed by solid-walled HDPE pipes and directed to a subsurface water quality unit. The water quality unit has been sized to provide suspended solids settlement, as well as oils/floatables separation, for up to the first 1 inch of rainfall (i.e. the "first flush"). Following this unit, stormwater will be stored below ground in a network of large solid-walled HDPE pipes and then pumped through a pressurized roughing sand filter to remove finer particles and heavy metals. This filter will discharge processed stormwater to a nearby flared end protected by rip rap on the coast of the bay.

Details and sizing of the stormwater treatment and detention components can be found in Appendices A and B.

3.1 *Minimize Exposure*

- Vehicles in vehicle storage area will only remain in storage for a maximum of five days prior to decommissioning.
- Vehicle decommissioning to occur within an enclosed structure equipped with a SEDA Rack and spill prevention measures.
- Vehicles in the vehicle load out area will be trucked offsite on a weekly basis or more frequently if required. The maximum number of days vehicles will be kept on the load out area will be five days.
- The Ing. Bonfiglioli mill/shredder will be housed in a 3-walled covered structure. This structure will also provide enough room for storage of different processed and separated metals.
- All other metals delivered to the site will be directed to their appropriate storage location. Once in their appropriate storage piles the materials will be sorted and trucked off site on a weekly basis.
- All routine and emergency maintenance of facility vehicles will be conducted under cover within the maintenance garage.

3.2 *Good Housekeeping*

Good housekeeping and regular preventative maintenance of equipment are effective methods of pollution prevention. The following practices shall be performed:

- All vehicles will be decommissioned in an enclosed structure on the concrete containment pad. The perimeter of this concrete pad will be formed into a raised berm for additional containment.
- All fluids from vehicle decommissioning will utilize the SEDA Rack, equipped with four holding tanks and secondary containment. All tanks will be clearly and accurately labeled.

- Greasy rags, degreasers, used filters, and other waste materials used or removed during the decommissioning process shall be disposed of properly. Oil filters are to be drained before disposal.
- An appropriate number of drip pans shall be kept on hand in order to contain minor drips or leaking observed from vehicles and equipment waiting for processing.
- Any spills will be handled per the attached Oil & Hazardous Materials Spill Response outline. Refer to Appendix H for this document.
- Vehicle decommissioning areas and all open impervious areas are to be swept clean on a daily basis.
- A crew is deployed daily to pick up and dispose of garbage and waste materials (upon fill up of dumpsters and roll-off containers).

3.3 Site Inspections and Maintenance

Routine Facility Inspections and Maintenance:

Routine visual inspections and/or maintenance shall be performed of all areas of the facility where industrial materials of activities are exposed to storm water, and of all storm water control measures used to comply with the effluent limits in the MSGP. These inspections shall be performed by qualified personnel. Qualified personnel are personnel who have been trained to assess conditions and activities that could impact storm water quality at the facility and can also evaluate the effectiveness of control measures.

The routine and comprehensive inspections shall be recorded and kept in Appendix F of this SWPPP. Records shall include at minimum:

- The inspection date and time;
- Areas inspected;
- The name & signatures of the person(s), or the position of the person(s), responsible for inspection;
- The weather information and a description of any discharges occurring at time of inspection;
- Any control measures needing maintenance or repair;
- Any failed control measure needing replacement;
- Any incidents of non-compliance

Schedule of Routine Inspections and Maintenance:

Inspections and maintenance practices shall be performed as described in the following schedule. Please note that conditions warranting repair are to be addressed before the next anticipated storm event in order to maintain the continued effectiveness of stormwater controls.

Unscheduled and General Inspections and Maintenance:

- Inspect incoming vehicles for excessive fluid leaks upon arrival at site.
- Inspect incoming vehicles/materials for hazardous items.
- Service facility vehicles and equipment when necessary. All maintenance and repairs shall be performed by a trained professional. All old/removed fluids are to be collected and recycled in the same manner as that drained from received vehicles.
- Facility vehicles are to be washed as necessary. Washing is to be only conducted at an off-site truck washing facility.
- Filter media in the Retenu roughing sand filter apparatus may need occasional partial or full replacement. A float switch with alarm is included within the Retenu inlet tank. If excessive clogging of the filter media occurs, the inlet tank water level will rise and trip this alarm. The manufacturer is to be contacted

immediately and the filter units are to be inspected for functionality. Refer to manufacturer's literature in Appendix B for complete maintenance guidelines.

Daily Inspections and Maintenance:

- Vehicle decommissioning areas and all open impervious areas are to be swept clean.
- A crew will be deployed to pick up and dispose of garbage and waste materials (upon fill up of dumpsters and roll-off containers).
- All vehicle storage areas are to be inspected for leaks. Any significant leaks observed are to be addressed per the attached Oil & Hazardous Materials Spill Response outline found in Appendix H.

Weekly Inspections and Maintenance:

- SEDA Racks and containment devices are to be inspected for leaks.
- Following leak inspection, SEDA Rack holding tanks are to be emptied appropriately.
- Empty drip pans at vehicle and material storage areas appropriately.
- Inspect all material storage areas for leaks or spills. Any significant leaks or spills observed are to be addressed per the attached Oil & Hazardous Materials Spill Response outline found in Appendix H.

Quarterly Inspections and Maintenance:

- Inspect SEDA Rack parts and accessories for proper function as expected. Any necessary maintenance is to be performed per manufacturer's specifications.
- Inspect all facility vehicles and industrial equipment for proper function as expected. Vehicles and mobile equipment shall be serviced under cover of the maintenance garage whenever possible.
- Sweep, vacuum, or clean the portion of Allens Avenue adjacent to the facility entrances and exits.
- Inspect catch basin sumps and trench drain for debris and sediment. Remove any trash or large debris that could interfere with the proper operation of the outlet of the structures. Remove accumulated sediment, by use of a clamshell bucket or vacuum truck, when it reaches a depth of 18 inches, but not less than annually.
- Inspect the subsurface Stormceptor water quality structure for accumulation of sediment and oil as outlined in the manufacturer's specifications. The unit is to be cleaned when inspection deems necessary in accordance with manufacturer's specifications. Refer to Appendix B for manufacturer's literature.
- Inspect underground storage system for accumulated sediment and debris via the installed access ports. Special attention is to be paid to the closest observable point to the Retenu filter backwash inlet. Sediment is to be removed by vacuum truck or other appropriate method when the depth of sediment reaches 6 inches.
- Inspect inlet tank of Retenu roughing sand filter for accumulated sediment. Clean the tank with a vacuum truck or other appropriate method if sediment depth reaches 6 inches. Inspect mechanical workings, valves, pipes, etc. for proper functionality and damage. Refer to manufacturer's literature in Appendix B for complete maintenance guidelines.
- Conduct a visual inspection of water discharging from the Retenu roughing sand filter. This inspection must be done during or shortly after a rain event. Refer to Section 5 Stormwater Inspection for full details. Blank report forms can be found in Appendix F.
- Conduct a benchmark analysis of water discharging from the Retenu roughing sand filter. This analysis must be done during or shortly after a rain event. Refer to Section 4.1 Benchmark Monitoring for full details.

Annual Inspections and Maintenance:

- Refer to Section 3.12 Comprehensive Site Compliance Evaluation below for further annual inspection information.

3.4 Spill Prevention and Response

The following procedures shall be followed for preventing and responding to spills and leaks:

- Spill prevention and response, and reporting procedures are detailed in the Oil & Hazardous Materials Spill Response outline. Refer to Appendix H for this document. This document will also be made available on site.

3.5 Erosion and Sediment Controls

The proposed concrete containment pad will be formed with a berm added to its perimeter on the north, east, and south sides. Similar to a Cape Cod berm, this will help the slope of the pad in containing any rainfall landing on the pad or flowing onto the pad from the west. An existing low-permeability earthen berm also exists on site, and will remain adjacent to the new concrete pad where not built upon. Beyond the concrete pad or earthen berm, disturbed shoreline will be stabilized with grass. At the sand filter outlet, a flared end and armored plunge pool will be installed to minimize scour and erosion from water exiting the system.

3.6 Management of Runoff

Stormwater generated on the western portion of the site left as compacted gravel will either infiltrate back into the water table or flow over land onto the concrete pad. Stormwater on the eastern portion of the site will be entirely contained by the concrete pad, collected by surface drains and directed to a subsurface water quality unit. The water quality unit has been sized to provide treatment up to the first 1 inch of rainfall (i.e. the "first flush"), when the majority of suspended solids and oils are transferred in the runoff stream. Larger, less frequent storm events will bypass the water quality unit by an internal weir and continue downstream to the subsurface detention pipes without resuspending oils and solids captured by the unit. Stormwater will then be pumped through an above-ground roughing sand filter to remove finer particulate matter and heavy metals. Finally, the treated stormwater is discharged to a rip rap-protected flared end on the coastline adjacent to the bay.

No adverse impacts would be expected from the site due to off-site flows from the associated site improvements described herein. Due to the location of the site next to waterways associated with tidal flooding, the proposed site work would not contribute to downstream flooding. Due to the inclusion of the stormwater treatment train designed to treat the first flush, water quality of stormwater on the site would not be compromised.

3.7 Salt Storage Piles or Piles Containing Salt

Not applicable to site.

3.8 Employee Training

Personnel who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of the MSGP, including all members of the SWPPP team, will be trained on a yearly basis. Training will cover both the specific control measures used to achieve the effluent limits in the MSGP, and the monitoring, inspection, planning, reporting and documentation requirements of the MSGP. Employees will be trained on procedures for proper containment/collection and storage of hazardous materials. Training will also be targeted for those personnel engaged in the inspection and acceptance of inbound materials. All employees expected to regularly handle hazardous materials shall be 40-hour HAZWOPER trained. Equipment operators will be trained to minimize damage to control structures (e.g. concrete pad, curbing and containment berms, inlet grates, and manholes). RIRM makes available numerous OSHA-developed industry training videos on site to all employees. Documentation of training, including the date and a list of attendees will be kept onsite.

RIRM may provide information and education to regular suppliers of scrap and recycled metals on properly draining and disposing of residual fluids and removal of mercury switches before delivery, when feasible.

3.9 Non-Stormwater Discharges

See section 2.3.

3.10 Waste, Garbage and Floatable Debris

Waste, garbage and floatable debris will be kept in closed dumpsters and will be picked up on a weekly basis and disposed of offsite. A crew shall be deployed daily to pick up and dispose of garbage and waste materials.

3.11 Dust Generation and Vehicle Tracking of Industrial Materials

During the operation process, non-potable water trucks will be onsite to sprinkle water on the ground to mitigate dust. The Ing. Bonfiglioli mill/shredder is also equipped with a dual-phase air purifier, which will remove up to 98% of airborne particulate as small as 10 μm without the use of an external sprinkler. Collected dust and spent scrubber water will be tested for oils and contaminants. If contaminated, it will be treated and stored as similar hazardous waste on site and disposed of by Cyn Environmental, or a similar hazardous waste disposal service. Otherwise it will be disposed of with uncontaminated auto shredder residue (ASR).

3.12 Comprehensive Site Compliance Evaluation

A Comprehensive Site Compliance Evaluation is to be conducted yearly, in accordance with Section IV.L of the Rhode Island Industrial Activity Multi-Sector General Permit (refer to Appendix C for a copy of this document). It should be noted that inspections and/or maintenance conducted during the Comprehensive Site Compliance

Evaluation may be used in place of that interval's course(s) of action required in Section 3.3 Site Inspections and Maintenance when schedules overlap.

A list of areas and equipment to be inspected and maintained as necessary is as follows:

- Conduct an overall site walk to inspect good housekeeping practices. Attention should be paid to evidence of daily sweeping and trash pick-up per the daily requirements found in the above Section 3.3 Inspections and Maintenance and Section 3.10 Waste, Garbage and Floatable Debris.
- Inspect the facility entrances and exits for evidence of sweeping/vacuuming/cleaning of these areas per the quarterly maintenance requirements found in the above Section 3.3 Site Inspections and Maintenance and Section 3.11 Dust Generation and Vehicle Tracking of Industrial Materials.
- Inspect all facility vehicles and industrial equipment per the quarterly inspection requirements found in the above Section 3.3 Site Inspections and Maintenance.
- Inspect all vehicle and material storage areas per the daily and weekly inspection requirements found in the above Section 3.3 Site Inspections and Maintenance.
- Inspect the SEDA Racks per the weekly and quarterly inspection requirements found in the above Section 3.3 Site Inspections and Maintenance.
- Inspect the trench drain and all catch basins per the quarterly inspection requirements found in the above Section 3.3 Site Inspections and Maintenance.
- Inspect the Stormceptor water quality unit per the quarterly inspection requirements found in the above Section 3.3 Site Inspections and Maintenance.
- Inspect the underground storage system per the quarterly inspection requirements found in the above Section 3.3 Site Inspections and Maintenance.
- Inspect the Retenu roughing sand filter inlet tank, operational functionality and discharge per the quarterly inspection requirements found in the above Section 3.3 Site Inspections and Maintenance.
- Inspect the armored plunge pool area at the sand filter outlet for signs of scouring and erosion. Reposition and/or install additional rip rap as necessary. Remove accumulated trash, debris or sediment with hand tools or a vacuum truck.

SECTION 4: SCHEDULES AND PROCEDURES FOR STORMWATER MONITORING

4.1 *Benchmark Monitoring*

The results of benchmark monitoring are used primarily to determine the overall effectiveness of the SWPPP in controlling discharges of pollutants to receiving waters. Benchmark values are not viewed as effluent limitations.

An exceedance of a benchmark values does not, in and of itself, constitute a violation of the MSGP. While exceedance of a benchmark value does not automatically indicate that violation of a water quality standard has occurred, it does signal that modifications to the SWPPP may be necessary.

MSGP Sectors	Parameter	Benchmark Monitoring Concentration
N Scrap Recycling and Waste Recycling Facilities (SIC 5015,5093)	Chemical Oxygen Demand (COD)	120 mg/L
	Total Suspended Solids (TSS)	100 mg/L
	Total Recoverable Aluminum	0.75 mg/L
	Total Recoverable Iron	1.0 mg/L
	Total Recoverable Copper	0.0636
	Total Recoverable Lead	0.0816
	Total Recoverable Zinc	0.117

Monitoring Instructions:

1. Monitoring Periods: Quarterly and Yearly

Quarterly monitoring:

May 1st – July 31st, August 1st – October 31st, November 1st – January 31st, February 1st – April 30th

Yearly monitoring:

Results for one year shall be saved and submitted all in one package by July 31st of the year following monitoring.

- 2. Collection and Analysis of Sample:** Take the minimum of one grab sample from the discharge associated with industrial activity resulting from a storm event with at least 0.1 inch of precipitation, providing the interval from the preceding measurable storm is at least 72 hours. The 72 hour storm interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72 hour interval is representative for local storm events during the sampling period. Take the grab sample during the first 30 minutes of the discharge. If it is not practicable to take the sample during the first 30 minutes, sample during the first hour of discharge and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the discharge monitoring report to:

**R.I. Department of Environmental Management
 Office of Water Resources, Permits Section
 235 Promenade Street
 Providence, RI 02908**

- 3. Storm Event Data:** Along with the results of the monitoring, the permittee shall provide the date and duration (in hours) of the storm event(s) samples; rainfall measurements or estimates (in inches) of the storm event that generated the sample runoff; the duration between the storm event samples and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge samples.
- 4. Monitoring Sample Location:** Stormwater samples shall be taken at the outlet of the roughing sand filter. This outlet shall be fitted with a spout or port for direct sampling from the discharge pipe. Refer to the Site Plans located in Appendix A for further detail.

SECTION 5: STORMWATER INSPECTIONS

RIRM shall conduct inspections on a regular basis to minimize the likelihood of pollutants leaving the site. The following section describes inspections to be performed in accordance with the MSGP.

Quarterly Visual Inspections: Once each quarter for the entire permit term, RIRM shall perform and document a quarterly visual examination of a storm water discharge associated with industrial activity. The visual examination shall be made during daylight hours (i.e. normal working hours) and in a well-lit area. If no storm event resulted in runoff from the facility during monitoring quarter, RIRM is excused from visual monitoring for that quarter provided RIRM documents in the monitoring records that no runoff occurred. RIRM shall sign and certify the documentation in accordance with the MSGP.

The visual examination shall be made of samples collected within the first 30 minutes (or soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging from the facility. The examination shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. No analytical tests are required to be performed on the samples. All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches of precipitation and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The 72 hour storm interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72 hour interval is representative for local storm events during the sampling period. RIRM shall sign and certify the documentation in accordance with the MSGP and maintain reports onsite within the SWPPP.

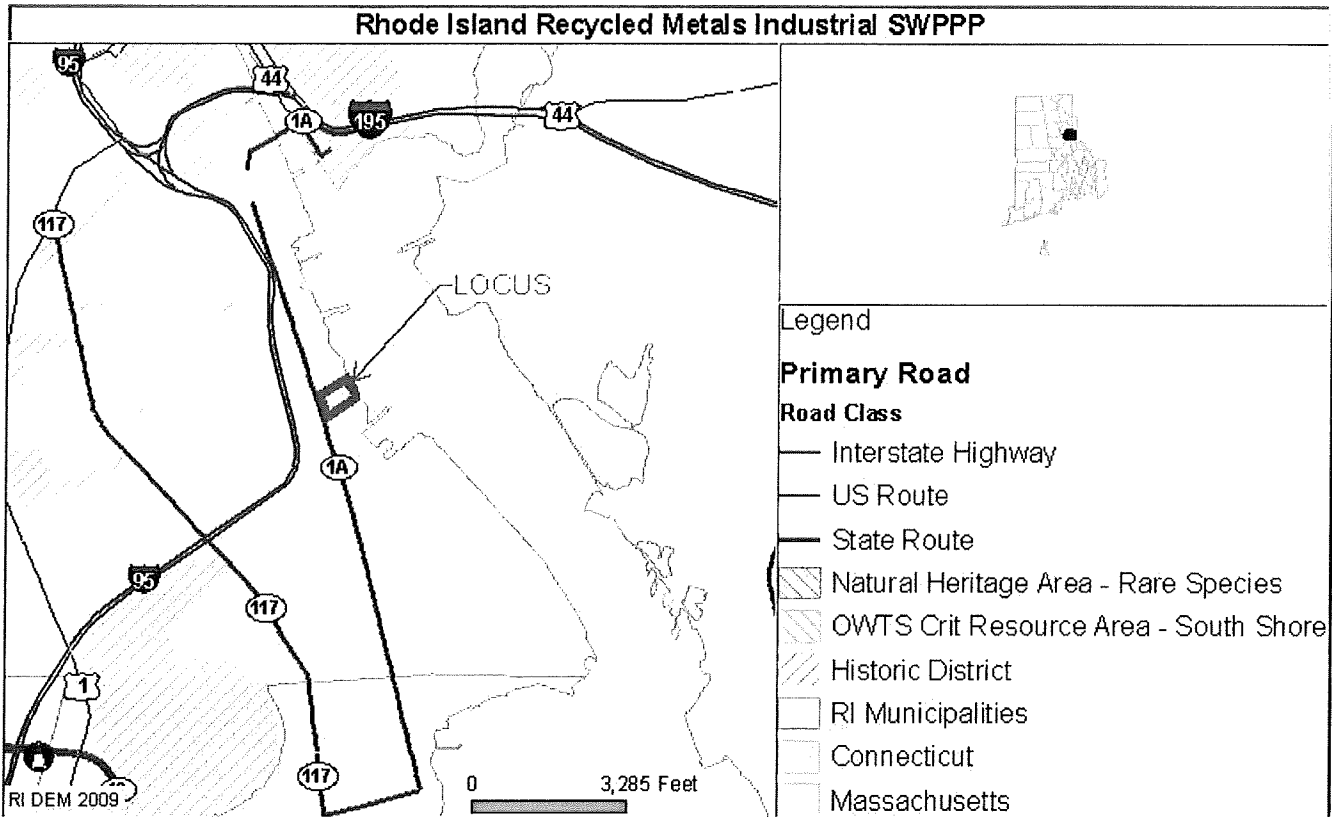
The visual inspection shall be recorded and record shall include at minimum:

- The inspection date and time;
- The name & signatures of the person(s), or the position of the person(s), responsible for inspection;
- The weather information and a description of any discharges occurring at time of inspection;
- Nature of discharge (i.e. runoff or snowmelt)
- Visual quality of the storm water discharge (see paragraph above)
- Any failed control measure needing replacement;
- Any incidents of noncompliance
- Any additional control measure needed to comply with permit

See Appendix F for Sample Inspection Form.

SECTION 6: DOCUMENTATION TO SUPPORT ELIGIBILITY CONSIDERATIONS UNDER OTHER FEDERAL LAWS

6.1 Documentation Regarding Endangered Species.



Source: Rhode Island Environmental Resource Map Tool <http://www.dem.ri.gov/maps/index.htm>

SECTION 7: Recordkeeping

It is Rhode Island Recycled Metals' responsibility to have the following documents at the Field Office and immediately available for agency review upon request:

- A copy of the fully signed and dated Industrial Multi-Sector General Permit. SWPPP, which includes:
 - A copy of any regulatory permits required, such as RIPDES NOI Application, RIDEM Water Quality, CRMC Assent any local city/town permits etc. (see Appendix D and E).
 - Inspection Reports,
- See Appendix F.
 - Corrective Action Log,
- See Appendix F.

- SWPPP Amendment Log,
- See Appendix G.
- Copies of all signed and dated Inspection Reports

SWPPP APPENDICES

Appendix A- SWPPP Site Plan(s)

Appendix B- Equipment Information

- SEDA Double Station Fluid Evacuation Station
- Ing. Bonfiglioli Series 'Drake' 16-ram Mill
- Drainage Pipe Network Capacity and HydroCAD Calculations
- Stormceptor Sizing Report
- Stormceptor Model STC7200 Technical Manual
- StormwaterRx 'Retenu' Basic Filtration System Technical Description
- StormwaterRx 'Retenu' Model 40 Standard Detail
- StormwaterRx 'Retenu' Model 40 Stormwater Treatment BMP Design Basis
- StormwaterRx 'Retenu' Model 40 HydroCAD Report
- StormwaterRx 'Retenu' Operation & Maintenance Manual

Appendix C- Industrial Activity Multi-Sector General Permit

Appendix D- Industrial Activity MSGP Notice of Intent

Appendix E- Copy of Regulatory Permits

- OWR Water Quality Certification
- CRMC Application for State Assent

Appendix F- Site Records

- Quarterly Stormwater Visual Assessment Template and Reports
- Routine Facility Inspection/Maintenance Records
- Comprehensive Site Compliance Evaluation Records
- Significant Leaks & Spills Records
- Employee Training Records
- Corrective Action Log

Appendix G- Industrial Activity SWPPP Amendment Log

Appendix H- Facility Standard Operating Procedures

- Oil & Hazardous Materials Spill Response
- Automotive Fluid – Characterization, Management & Disposal/Recycling
- Previously Submitted Soil Management Plan

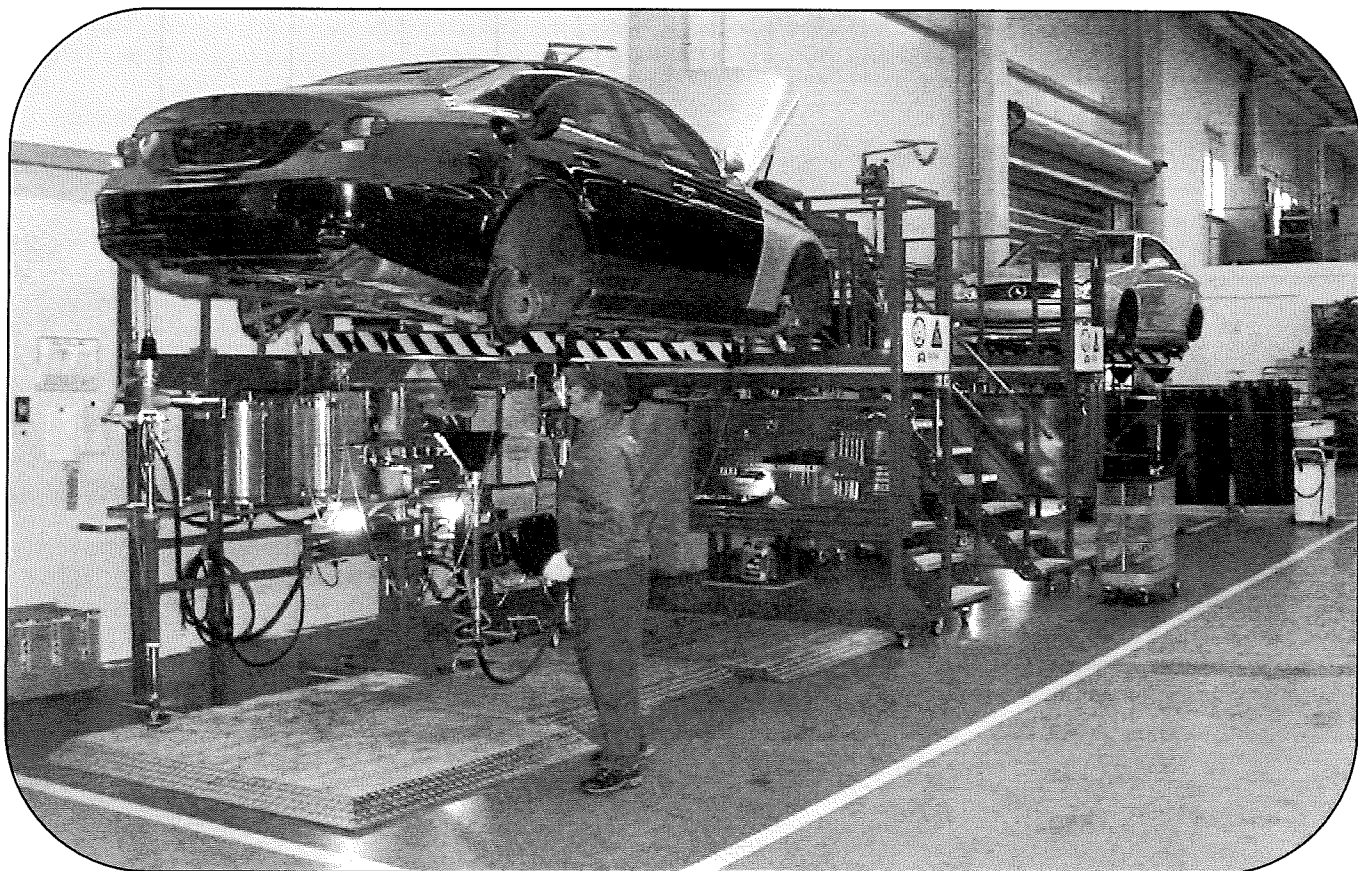
Appendix A

Site Plan(s)

Appendix B

Equipment Information

1. *SEDA Double-Station Fluid Evacuation Station*
2. *Ing. Bonfiglioli Series 'Drake' 16-ram Mill*
3. *Drainage Pipe Network Capacity and HydroCAD Calculations*
4. *Stormceptor Sizing Report*
5. *Stormceptor Model STC7200 Technical Manual*
6. *StormwaterRx 'Retenu' Basic Filtration System Technical Description*
7. *StormwaterRx 'Retenu' Model 40 Standard Detail*
8. *StormwaterRx 'Retenu' Model 40 Stormwater Treatment BMP Design Basis*
9. *StormwaterRx 'Retenu' Model 40 HydroCAD Report*
10. *StormwaterRx 'Retenu' Operation & Maintenance Manual*



The SEDA-Double station for improved efficiency and power.

Up to 100 end of life vehicles per day without operator idle or waiting times. The SEDA-Double station combines two state-of-art SEDA-Single stations resulting in a doubled capacity and an optimized workflow.

Some of the countless advantages derive from the use of powerful suction pumps in combination with the certified SEDA-Tank drilling machine. Customers appreciate the large, unobstructed area of operation, the countless field-tested, component reliability or the incredible range of accessories allowing countless variation possibilities.

Developed as a plug and play component concept the SEDA double station can be tailored to everyone's individual needs and requirements. SEDA's high drainage standards allow you to achieve a drainage rate of 98% with SEDA's numerous certified components.

- Air powered
- Fully scaleable
- Flexible use
- Superior quality
- Easy handling
- Excellent safety
- High efficiency
- Explosion proof
ATEX certificated

➤ **SEDA ORDER DETAILS:**

➤ **Product #: A-SEDA-Double station**



www.seda.at

Details:

- SEDA-Tankdrilling machine x 2

The remarkable Tankdrilling machine drills through gas tanks and sucks out fuel at a rate of up to 20 liters per minute without spilling a drop. Its robust design and ease of use have made it the car dismantlers favorite around the world.

- Moveable staircase x 2

An easy to move adjustable staircase reduces the risk of falling greatly and ensures that vehicles of all sizes can be drained. Largely increasing inputs, the raised platform enables simultaneous drainage from above and below the vehicle.

- Hydraulic tilting vehicle ramp x 2

The 3 ton vehicle ramp can be tilted vertically to access the lowest point of the fuel tank. Drilling allows an extra 1-2 liters of fuel per vehicle to be removed. The fork distance is adjustable enabling easy fit for varying vehicle makes and models.

- Swing arm for fuel & oil removal x 2

With swing arms holding the gas and oil evacuation tools, the overall system achieves higher efficiencies. Accidents are prevented through an entirely unobstructed work area and elimination of tripping or slipping causes. Furthermore the drainage of transmission and engine oil is performed simultaneously.

- Powerful pumps x 2

1 inch EX-rated double diaphragm pumps create a powerful suction for fast evacuation. The drained fluids can be pumped more than 100 meters (horizontal) to distant tanks. Each pump is sound proofed and color coded for quick identification and to create a harmonious work environment.

- Catchment area x 2

The zinc coated anti slip fluid catchment area not only prevents slipping but also accidentally spilled flammable liquids to become a possible ignition source.

- SEDA-closing plugs x 2

The consistent drilling action ensures a consistent drill hole diameter. It is hermetically sealed with a SEDA-closing plug. This prevents even the smallest drop from contaminating your yard.

- SEDA-testing plugs x 2

The patented SEDA-testing plugs for radiator and break fluid pump pressurized air into the system to enable a far better and faster removal rate than through suction alone.

- SEDA-brake fluid pliers x 2

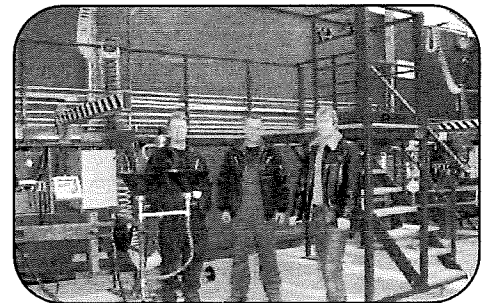
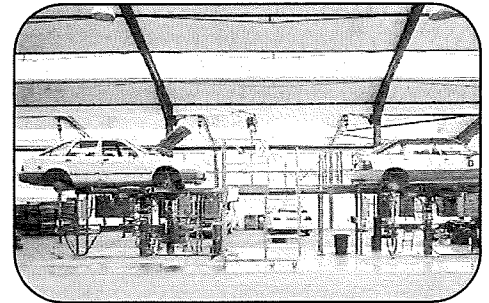
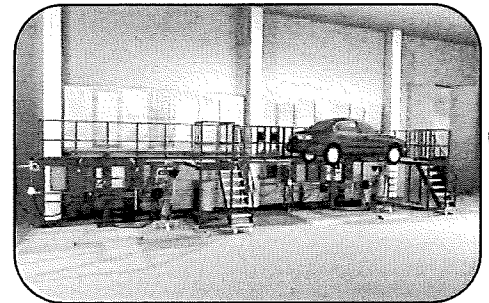
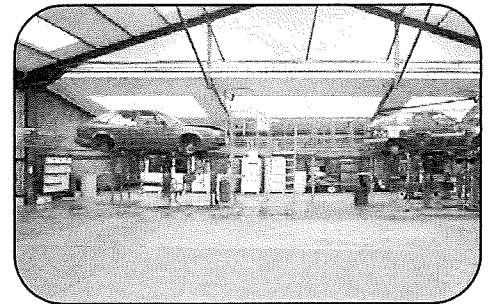
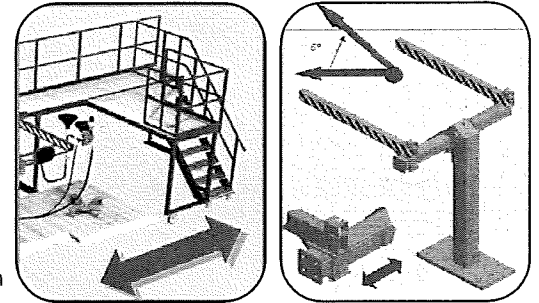
Break fluid is simultaneously and quickly removed via 4 suction boots which are attached to the vehicles' brake nipples. Should the nipples be corroded or broken, the brake fluid can be removed directly from the vehicles' brake line pipes or hoses using either one of two special break line pliers.

- SEDA-Quality control x2

The 7 liter quality control vessel allows a visual check of the fuel quality preventing oil or water contaminated fuel from spoiling your good gas supply.

- Optional: SEDA-Gear box drilling machine

Designed especially for gear boxes without drain screws, differentials or hard to remove sump plugs. Mobile and built tough. The gear box drilling machine makes light work of thick cast iron, steel or aluminum gear boxes.



Technical details:

Air requirements	8,5 bar - > 4.200 liters/min
Consumption Evacuation	38.000 liters/car
Drainage time	8-10 minutes/car

Call us for more information about the SEDA-Double Station Fluid Evacuation Station

www.seda.at



**RECYCLERS
SOURCE**

DRAKE Hammer Mill Shredder System



Ing. Bonfiglioli S.p.A. has garnered a global reputation for hi-quality recycling processing systems. The compact, semi-mobile **DRAKE shredder** is available in a 10, 12, 16 or 20 hammer design with processing capacities of up to 15, 25, 35 or 40 tons/ hour respectively. The DRAKE shredders process loose light iron, pre-cut ferrous materials, entire vehicles and even baled vehicle shells.

- **Semi-mobile design for maximum operational flexibility**
- **Small equipment footprint of approx. 3,000 to 7,000 sqft** (shredder line only)
- **Processing capacity of up to 15/ 25/ 35 / 40 tons per hour**
- **Option of 8 cylinder diesel engine (600/ 905/ 960 HP) or electric motor (500/ 630/ 750 kW)**

Completely equipped with large feeder box, hydraulic mill access, bronze encased heavy duty bearings, Hardox 500 HS Steel Frame, vibrating exit plant, 2 rotating drum magnets, oscillating conveyors, dust exhaust system, air and water filtration and eddy-current-system. Technical assistance for on-site mounting and installation is included in purchase price. From start of installation to processing materials in ONLY 2-3 weeks!!

Manufacturer's warranty includes:

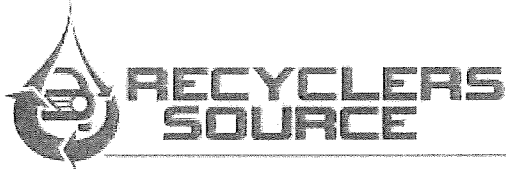
Shredder shaft – 3 years
Structure – 2 years
Moving Parts – 1 year

Info@recyclerssource.com
www.recyclerssource.com

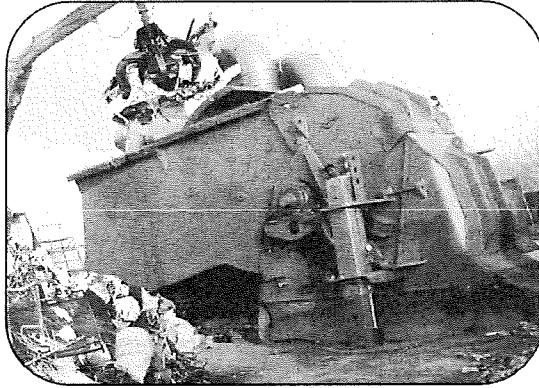
1109 Hall Mines Road
Nelson, BC V1L 1G5

Phone: 877.505.5275
Fax: 877.484.0116

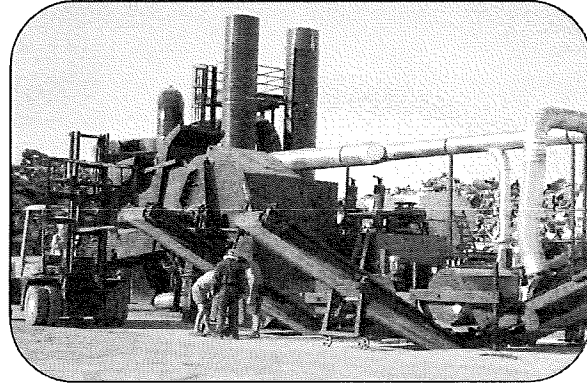
Canada's one-stop ELV equipment supplier for... **SAFETY. ENVIRONMENT. PROFIT.**



DRAKE Hammer Mill Shredder System

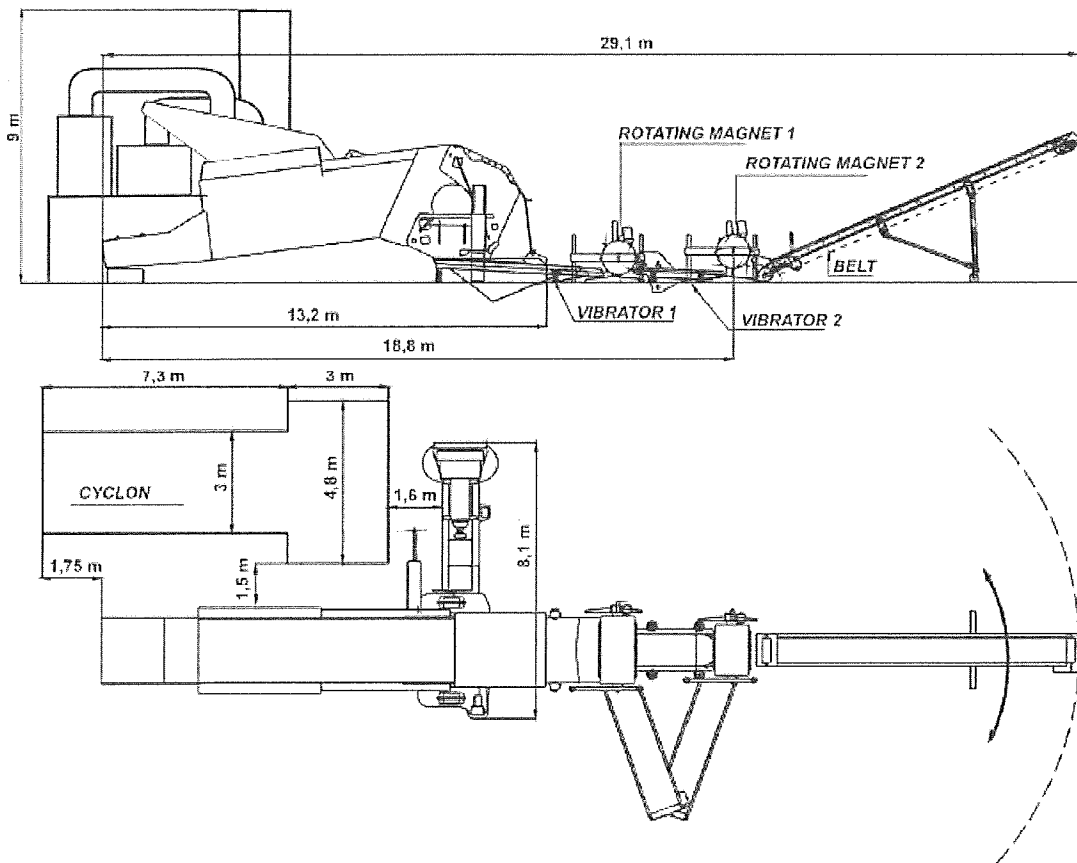


Easy feed hopper



Shredder and magnetic drums

Dimensions – DRAKE 2007/16 (m):



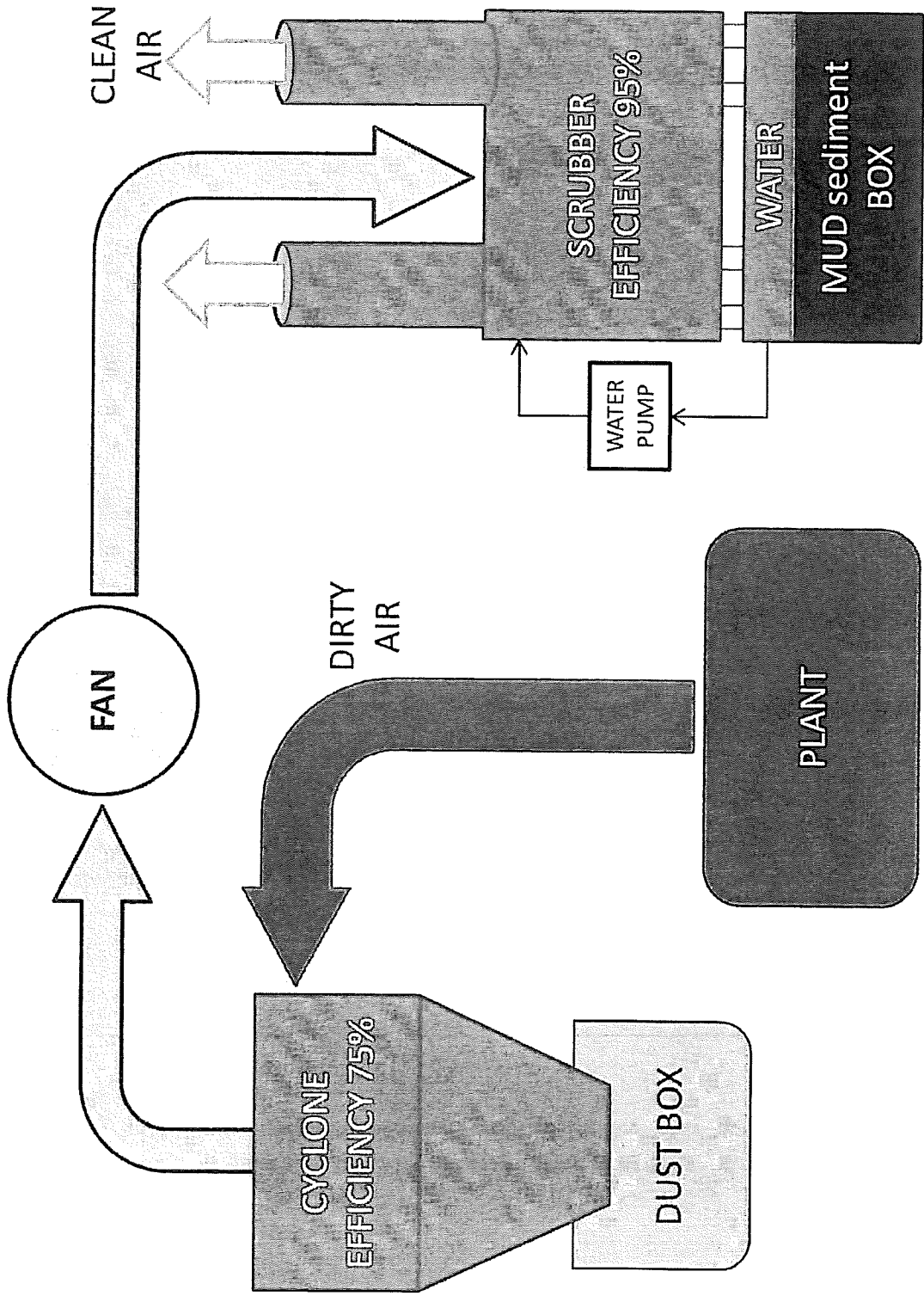
info@recyclerssource.com
www.recyclerssource.com

1109 Hall Mines Road
Nelson, BC V1L 1G5

phone: 877.505.5275
fax: 877.484.0116

Canada's one-stop ELV equipment supplier for... **SAFETY. ENVIRONMENT. PROFIT.**

ANNEX 5.



Ing. Bonfiglioli S.p.A. – Plant SB125



Engine Performance Data

Cummins Inc

Columbus, Indiana 47202-3005
http://www.cummins.com

Industrial

QSK23

FR50055

950 BHP (708 kW) @ 1800 RPM
2,785 lb-ft (3,776 N-m) @ 1400 RPM

Configuration
D893002CX03

CPL Code
2852

Revision
8-Nov-2007

Compression Ratio: **16:1**

Fuel System: **HPI Electronic**

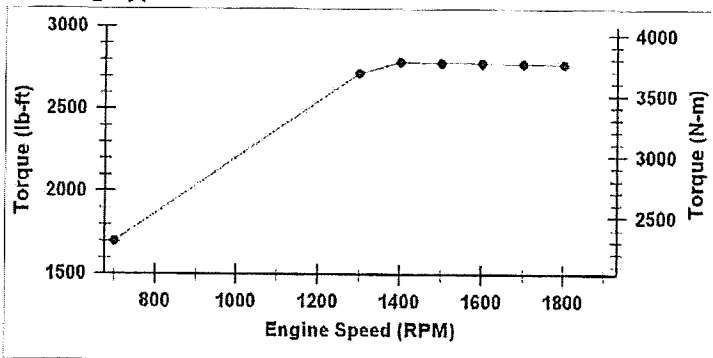
Emission Certification: **U.S. EPA Tier 2, CARB Tier 2 (without Centinel)**

Displacement: **1,404 in3 (23.0 L)**

Aspiration: **Turbocharged and Charge Air Cooled**

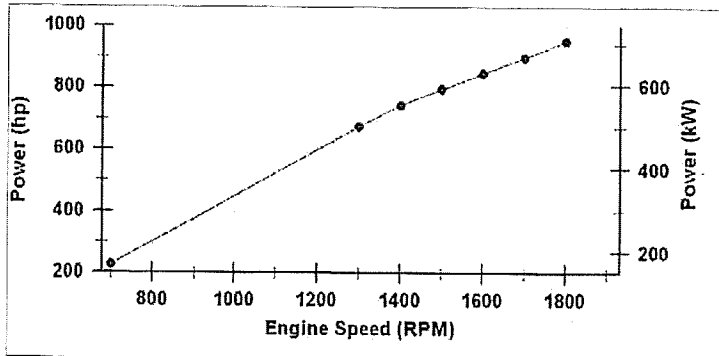
All data is based on the engine operating with fuel system, water pump, and -14.99 in H₂O (-3.73 kPa) inlet air restriction with 6 in (152 mm) inner diameter, and with 2.06 in Hg (7 kPa) exhaust restriction with 8 in (203 mm) inner diameter; not included are alternator, fan, optional equipment and driven components. Coolant flows and heat rejection data based on coolants as 50% ethylene glycol/50% water. All data is subject to change without notice.

Rating Type: Intermittent



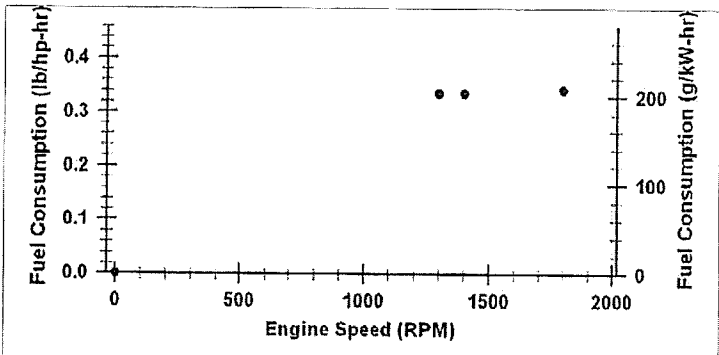
Torque Output

RPM	lb-ft	N-m
700	1,700	2,305
1,300	2,715	3,681
1,400	2,785	3,776
1,500	2,782	3,772
1,600	2,779	3,768
1,700	2,775	3,762
1,800	2,772	3,758



Power Output

RPM	hp	kW
700	227	169
1,300	672	501
1,400	742	553
1,500	795	593
1,600	847	632
1,700	898	670
1,800	950	708



Fuel Consumption

RPM	lb/hp-hr	g/kW-hr
1,300	0.335	204
1,400	0.335	204
1,800	0.342	208

Curves shown above represent gross engine performance capabilities obtained and corrected in accordance with SAE J1995 conditions of 29.61 in Hg (100 kPa) barometric pressure [300ft (91m) altitude] 77 deg F (25 deg C) inlet air temperature, and 0.30 in Hg (1kPa) water vapor pressure with No. 2 diesel fuel. The engine may be operated up to 4,000 ft (1,219 m) altitude before electronic derate is applied.

STATUS FOR CURVES AND DATA: Limited-(measured data)

TOLERANCE: Within +/- 5 %

CHIEF ENGINEER:

Chad Pruitt

Bold entries revised after 1-Jul-2007

Cummins Confidential

Intake Air System

Maximum allowable air temperature rise over ambient at Intake Manifold (Naturally Aspirated Engines) or Turbo Compressor inlet (Turbo-charged Engines): (This parameter impacts emissions, LAT and/or altitude capability)

18 delta deg F 10 delta deg C

Cooling System

Maximum intake manifold temperature at 25 deg C (77 F) ambient

140 deg F 60 deg C

Maximum allowable pressure drop across charge air cooler and OEM CAC piping (IMPD):

4 in-Hg 14 kPa

Maximum Intake Manifold Temperature Differential (Ambient to IMT) (IMTD):

63 delta deg F 35 delta deg C

Intake manifold temperature for Fan-ON

122 deg F

Maximum coolant temperature for engine protection controls

221 deg F

105 deg C

Maximum coolant operating temperature at engine outlet (max. top tank temp):

212 deg F

100 deg C

Exhaust System

Maximum exhaust back pressure:

3 in-Hg

10 kPa

Recommended exhaust piping size (inner diameter):

8 in

203 mm

Lubrication System

Nominal operating oil pressure

@ minimum low idle

15 psi

103 kPa

@ maximum rated speed

65 psi

448 kPa

Minimum engine oil pressure for engine protection devices

@ minimum low idle

7 psi

48 kPa

Fuel System

Fuel cooling requirements (with diesel fuel)

Maximum heat rejection to return fuel at max. coolant and inlet fuel temperature:

1,050 BTU/min

18 kW

@ fuel return flow rate of:

1,300 lb/hr

590 kg/hr

@ fuel return temperature prior to cooler:

278 deg F

137 deg C

Maximum supply fuel flow:

1,479 lb/hr

671 kg/hr

Maximum return fuel flow:

1,300 lb/hr

590 kg/hr

Engine fuel compatibility (consult Service Bulletin #3379001 for appropriate use of other fuels)

DF1, DF2

Maximum fuel inlet pressure:

3 psi

21 kPa

Performance Data

Maximum low idle speed:

800 RPM

Minimum low idle speed:

700 RPM

Minimum engine speed for full load sustained operation:

1,600 RPM

	Rated Power		Maximum Power		Torque Peak	
Engine Speed	1,800 RPM				1,400 RPM	
Output Power	950 hp	708 kW			742 hp	554 kW
Torque	2,772 lb-ft	3,758 N-m			2,785 lb-ft	3,776 N-m
Friction Horsepower	134 hp	100 kW			84 hp	63 kW
Intake Manifold Pressure	76 in-Hg	256 kPa			56 in-Hg	187 kPa
Turbo Comp. Outlet Pressure	80 in-Hg	270 kPa			58 in-Hg	196 kPa
Turbo Comp. Outlet Temperature	392 deg F	200 deg C			338 deg F	170 deg C
Inlet Air Flow	1,988 ft ³ /min	938 L/s			1,466 ft ³ /min	692 L/s
Charge Air Flow	148.4 lb/min	67.3 kg/min			108 lb/min	49 kg/min
Exhaust Gas Flow	5,263 ft ³ /min	2,484 L/s			4,009 ft ³ /min	1,892 L/s
Exhaust Gas Temperature	901 deg F	483 deg C			963 deg F	517 deg C
Maximum Fuel Flow to Pump	1,265 lb/hr	574 kg/hr			1,021 lb/hr	463 kg/hr
Heat Rejection to Coolant	13,438 BTU/min	236 kW			10,390 BTU/min	183 kW
Heat Rejection to Fuel						
Heat Rejection to Ambient	5,022 BTU/min	88 kW			3,878 BTU/min	68 kW
Heat Rejection to Exhaust	32,865 BTU/min	578 kW			25,619 BTU/min	450 kW
**Steady State Smoke						

**When operating Naturally Aspirated engines above SAE J1995 conditions, it should be noted that smoke levels will increase due to combustion inefficiencies associated with a reduction in the air to fuel mixture.

Bold entries revised after 1-Jul-2007

Cummins Confidential

Cranking System (Cold Starting Capability)

Unaided Cold Start:

Minimum cranking speed	100 RPM	
Minimum ambient temperature for unaided cold start	18 deg F	-7.8 deg C
Bare Engine cranking torque at minimum unaided cold start temperature:	724 lb-ft	982 N-m

Aided Cold Start:

Minimum ambient temperature with Grid Heater only	-9 deg F	-23 deg C
Cold starting aids available	Intake Manifold Heater	
Maximum parasitic load at 10 deg F @		

Noise Emissions

Right Side	105 dBa
Left Side	105 dBa
Front	103 dBa

Estimated Free Field Sound Pressure Level at 3.28ft (1m) and Full-Load Governed Speed
(Excludes Noise from Intake, Exhaust, Cooling System and Driven Components)

Change Log

Date	Author	Change Description
5/18/2007	Steven J Beem	Type 3 data for 950 and 860 Hp ratings
10/30/2007	Steven J Beem	Original Datasheet creation from Type III data received from the Industrial Power Alliance (IPA)

End of Report

Bold entries revised after 1-Jul-2007

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BOLOGNA - ITALIA

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www.ingbonfiglioli.it service@ingbonfiglioli.it
P. IVA: 00651101206 C.F. 03693640371

Point 1.

Air Flow 35903 cfm
Contaminants emission 20 mg/Nm³
Potential
emission contaminant 2,69 lb/hr

Points 2. 3.

PLANT FEATURES		ASPIRATION UNIT AND DUST ABATEMENT FOR "BONFIGLIOLI" GRINDER	
Model			
ABATEMENT	1° STEP	Dry - CYCLONE SEPARATOR	
	2° STEP	Wet way - SCRUBBER	
		Sleeve filter	
FAN OUTPUT FLOW		Nm ³ /h	61.000
STACK AREA		m ²	1,13 x 2 = 2,26
STACK HEIGHT		m	9
EXIT PLANT CONTAMINANT CONCENTRATION	mg/Nm ³	1) 20 mg/Nm ³	
PRODUCED WASTE	Type	(ex. dusts, slush, ecc.) 1) SOLID WASTE (DUST) FROM THE CYCLONE SEPARATOR. 2) SOLID WASTE (MUD) AND EXHAUSTED SOLUTION FROM THE FILTERING IN THE SCRUBBER.	

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www.ingbonfiglioli.it service@ingbonfiglioli.it
P. IVA: 00651101206 C.F. 03693640371

Ref.	CYCLONE SEPARATOR												
Emission Class	n°	E1											
Emission temperature	°c	ENVIRONMENT											
Stack height	m	9											
Design max flow	Nm ³ /h	61.000											
Stack Area	m ²	1,13 x 2	= 2,26										
% in peso di mater. particolato con dim. ≥ 10 µm	%												
Density Contaminant in Flow	mg/Nm ³	entrance	1.600 MAX										
		exit	400										
Pressure drop in cyclone	mm. c.a.	60 ~ 80											
Cyclone type	<input checked="" type="checkbox"/> Single stadium <input type="checkbox"/> Multicyclone <div style="text-align: right;">nr sector</div> <div style="text-align: right;">nr elements per sector</div>												
Dimensioni caratteristiche (mm)													
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">D <u>Ø2340</u></td> <td style="width: 50%;">E <u>Ø1000</u></td> <td colspan="2" rowspan="4" style="text-align: center; vertical-align: middle;"> </td> </tr> <tr> <td>L <u>2800</u></td> <td>A <u>1000</u></td> </tr> <tr> <td>H <u>3600</u></td> <td>B <u>800</u></td> </tr> <tr> <td>S <u>1500</u></td> <td>I <u>Ø1150</u></td> </tr> </table>				D <u>Ø2340</u>	E <u>Ø1000</u>			L <u>2800</u>	A <u>1000</u>	H <u>3600</u>	B <u>800</u>	S <u>1500</u>	I <u>Ø1150</u>
D <u>Ø2340</u>	E <u>Ø1000</u>												
L <u>2800</u>	A <u>1000</u>												
H <u>3600</u>	B <u>800</u>												
S <u>1500</u>	I <u>Ø1150</u>												
Informazioni aggiuntive:		ABATEMENT EFFICIENCY GUARANTEED BY THE MANUFACTURER 75% IN NORMAL WORKING CONDITIONS AND GOOD MAINTENANCE											

Ing. BONFIGLIOLI S.p.A.

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www.ingbonfiglioli.it service@ingbonfiglioli.it
P. IVA: 00651101206 C.F. 03693640371

Ref.	SCRUBBER		
Emission Class	Nr	E1	
Emission temperature	°C	AMBIENT	
Stack height	m	9	
Design flow	Nm ³ /h	61.000	
Stack Area	m ²	1,13 x 2 =	2,26
Pressure drop in scrubber	mm. c.a.	80 -150	
Density Contaminant in Flow	mg/Nm ³	entrance	400
		exit	20
Water flow	m ³ /h	108	
Water Pressure	ate	5	
<input checked="" type="checkbox"/> Altro	SCRUBBER - FLOODED TRAY		
Additional Informations:	ABATEMENT EFFICIENCY GUARANTEED BY THE MANUFACTURER 95% IN NORMAL WORKING CONDITIONS AND GOOD MAINTENANCE		

GSA (Environmental Safety Group)

Messrs.

Ing. Bonfiglioli S.p.A.
Via Sant'Andrea, 11
40050 Castello d'Argile
(BOLOGNA)

Establishment of the acoustic emissions of the
machine:
"16-RAM MILL"
owned by Ing. Bonfiglioli S.p.A.

15.04.2009

Technician in charge
Mr. Lorenzo Pellegatti (Eng)

Stamp of the
ENGINEERS ASSOCIATION OF THE PROVINCE OF BOLOGNA
LORENZO PELLEGGATTI (ENGINEER)
SPECIALIST DEGREE
Section: A
No. 3519/A
Civil, environmental, industrial, information sectors

INDEX

1. INTRODUCTION	3
2. SOURCE TESTED	3
3. INSTRUMENTS	4
4. ACOUSTIC DATA	4

Enclosed documents

- Mill lay-out with test points
- Phonometric measurement diagrams
- Phonometer calibration certificate
- Certificate of the technician in charge

1. INTRODUCTION

The survey herein aims at establishing the acoustic emissions produced by the operation of the crusher denominated "16-Ram mill" manufactured by Ing. Bonfiglioli S.p.A.

2. SOURCE TESTED

The source tested is the following:

(photo)

The mill, operated by an electric motor, is connected to the extraction system (brown, right-hand side of picture) and to a diesel generator (blue, left-hand side of picture).

The measurements were carried out with the generator and the mill running simultaneously, in 4 measuring points, one on each side of the machine; two measurements were carried out in each point, placing the microphone at two different heights: 2 and 4 meters.

Subsequently, in the same points, the noise produced by just the generator was measured.

The machine tested is a mill with 16 rams belonging to Ing. Bonfiglioli S.p.A., equipped with VEM electric motor of 70 kW.

The diesel generator is a Perkins model P 2000 A.

The machine was supplied with mixed metal material.

3 INSTRUMENTS

The phonometric tests were carried out using instruments in class I, compliant with the specifications of standards IEC 651 and 804:

Type	Brand	Serial no.	Calibration date	Calibration certificate no.
Integrator phonometer	Larson Davis Mod.2800	566	02.02.2009	4071
Microphone	Larson Davis Mod. 2541	5408	02.02.2009	4071
Pre-amplifier	Larson Davis Mod.PRM 900C	0486	02.02.2009	4071
Calibrator	Bruel & Kjaer Mod. 4230	1169874	02.02.2009	4072

The phonometer was calibrated before and after the tests and no deviations between the two values were noticed.

The instruments were calibrated at the premises of SIT, no. 163 Arcore (MI)

4. ACOUSTIC DATA

The tests were carried out on April 9th, 2009 at the headquarters of Ing. Bonfiglioli S.p.A. in Via Sant'Andrea no. 11 in Castello d'Argile (BO) in the outdoor area at the back of the factory of Ing. Bonfiglioli S.p.A.

Point P1 is situated 10 meters from the electric motor of the mill;

Point P2 is situated 10 meters from the rear end of the mill;

Point P3 is situated 10 meters from the crusher, on the side opposite the mill's motor;

Point P4 is situated 10 meters from the crusher, at the front of the mill.

The table that follows indicates the acoustic pressure levels measured in the 4 test points and at heights of 2 and 4 meters, the acoustic levels measured in the same points related to the noise produced by the generator and the acoustic levels attributed, by the difference between the two measurements, to the operation of just the mill, in each point.

The values measured are indicated in the table that follows:

Point	Height of microphone	Acoustic level dB(A) of mill + generator	Acoustic level dB(A) of generator	Acoustic level dB(A) of mill (calculated)
P1	2 m	94.7	86.4	94.0
	4 m	94.0	87.2	93.0
P2	2 m	89.2	71.9	89.1
	4 m	88.3	73.4	88.2
P3	2 m	94.0	80.3	93.8
	4 m	93.0	81.5	92.7
P4	2 m	97.3	87.4	96.8
	4 m	96.4	89.0	95.5

The assistant technician
Ms. Lorenza Guerzoni (Dr.)

The technician in charge
Mr. Lorenzo Pellegatti (Eng)

Stamp of the ENGINEERS ASSOCIATION OF THE PROVINCE
OF BOLOGNA
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Via Betlemme, 23/A
40017 S.GIOVANNI IN PERSICETO (BO)
Tel. 051.825.033

MILL LAY-OUT WITH TEST POINTS

EXTRACTOR

LOADING HOPPER

MILL

MOTOR

VIBRATORS

MAGNET

MAIN ELECTRICAL CONTROL CABINET

CONVEYOR BELTS

Ing. Bonfiglioli S.p.A.
16-ram mill with Perkins Diesel Generator P2000A

P1 Height = 2 m

Leq = 94.7 dB(A)

Lineare = Linear

Laboratorio Certificazioni = Certification Laboratory
Italia = Italy

Estratto = Abstract

Pressione = Pressure

Temperatura = Temperature

Umidità relativa = Relative humidity

Strumento = Instrument

Costruttore = Manufacturer

Modello = Model

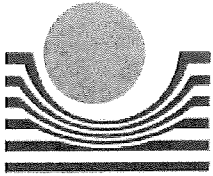
N.Serie/Matricola = Serial number

Fonometro = Phonometer

Microfono = Microphone

Preamplificatore Mic = Microphone preamplifier

Calibratore = Calibrator



centroventilazione srl

Via dell'Industria 1/A - 61032 FANO (PU)

Tel. 0721/808968 r.a. - Fax 0721/800199

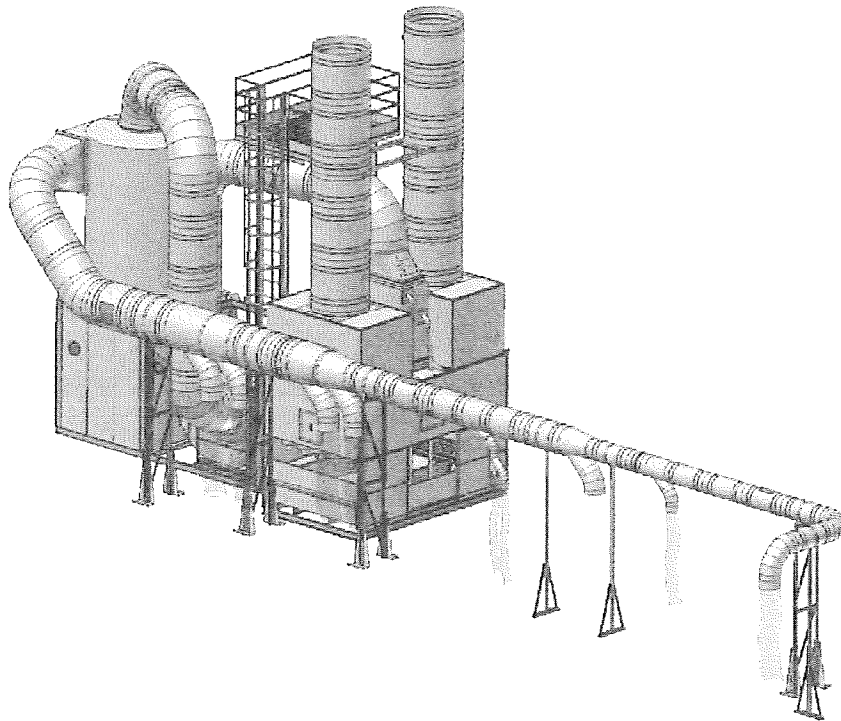
Capitale sociale € 10.000,00 i.v.

Reg. Impr. Pesaro-Urbino, Cod. Fisc. e P. Iva: n. 00173870411

E-Mail: info@centroventilazione.com

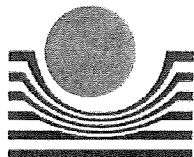
DUST COLLECTION SYSTEM MODEL CV-SB150-1L FOR "BONFIGLIOLI GRINDING MILL"

Documentation supplied with the collector unit



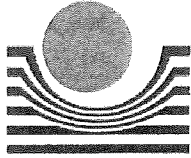
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1 USE OF THE DUST COLLECTOR

1.1 Introduction

This manual contains instructions and warnings and constitutes the documentation supplied with the product as an essential instrument for the efficient future use of the dust collector in conditions of safety, taking also into consideration the points of possible reinstallation.

The manual provides a detailed description of all the characteristics and information required by an authorised user in order to check and maintain the functionality of the plant, and above all to prevent the emergence of risks and consequent accidents involving personnel authorised to use the plant, therefore

it is strongly recommended to keep this manual close at hand

This documentation was prepared to be attached to the specific certification to supply to the authorised operator.

The aim is to provide a gradual introduction to the plant, allowing quick access to the various topics discussed.

The documentation as created to allow rapid and comprehensive consultation, especially in the event of having to deal with contingent situations that may emerge during use of the plant.

Authorised personnel are required to read the present documentation before being allowed to use the dust collector

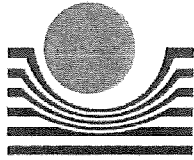
specifically, said authorised personnel must:

protect their personal safety, by means of prevention, becoming familiar with the risks, hazards, and prohibitions associated with the modes of operation of the plant,

gain a good understanding of the use of the dust collector before starting to operate it

1.2 Description

THE DUST COLLECTION SYSTEM is designed and built to remove solid contaminants from dust-laden air by means of a suction system in combination with various collection systems : dry cyclone and wet scrubbing system.



1 USE OF THE DUST COLLECTOR

1.3 NOTES

PRECAUTIONS

The operations preceding initial erection of the dust collector are the specific responsibility of the manufacturer, which is informed of all the associated safety practices; the present manual contains the relevant information to allow the customer to move the plant to a new location in response to contingent requirements.

Before relocating the dust collector, the intended place of reinstallation must be checked from the standpoint of safety:

the chosen place must be sized in such a way as to accommodate the plant and all the auxiliary equipment required for its use; it must also be sufficiently spacious to allow access for maintenance interventions to be carried out in safety, as provided for by technical standard EN 292-2 p.6.2.1. ;

the place of installation must also offer the permissible environmental values to ensure optimal operation in terms of humidity, temperature, and all the other parameters set down in technical standard EN 292-2 p. 5.5.1. b.

2 FUNDAMENTALS

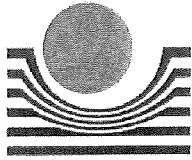
2.1 Foreword

The dust collector is built in compliance with EC regulations in observance of the relative quality requirements and Safety Prescriptions

The construction systems employed, in conjunction with stringent internal testing, guarantee the quality and safety of the product.

Initial assembly is always carried out by the skilled personnel of **Centroventilazione**; said company will prohibit the plant from being started until it has been fully installed, including the safety devices required by law;

the plant can be started up only following receipt of the relevant authorisation from **Centroventilazione**, which will be issued once the construction testing phase has been completed successfully.



2 FUNDAMENTALS

2.2 Precautions..... Part A

After installing the dust collector and once the manufacturer has carried out the relative tests, to prevent delays or downtimes the customer must start up the plant and check that it is working correctly : specifically, the customer must check the equipment installed on the plant, including power units, assemblies, and so forth, connected to the energy supplies (compressed air, electrical power, hydraulics).

If the relative check reveals any malfunctioning of mechanical parts, consult the manufacturer so that the necessary adjustments can be carried out.

The customer must comply with all the Prescriptions and indications given in the Manual supplied by the Manufacturer.



Caution

The manufacturer declines all liability in the case of inobservance

2.2 Precautions..... Part B

If the dust collector is to be used for more than one work shift in the same day, to ensure it provides constant and lasting duty, and to guarantee optimal conditions of safety, the frequency of checks and maintenance operations regarding parts subject to wear must be doubled.

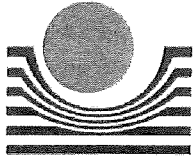


Caution

The Manufacturer is not responsible, under any circumstances, for damage or faults caused by incorrect use of the dust collector: this disclaimer is valid especially if any of the Prescriptions given below are not observed

UNSUITABLE OPERATING CONDITIONS LEADING TO DANGEROUS SITUATIONS

- connection of the unit to an electrical mains system that does not comply with Electrical System Safety regulations;
 - start-up of the unit if the safety devices are malfunctioning;
 - tampering with mechanical parts; tampering with protections; and tampering with safety signs and decals;
 - incompatibility of replaced material compared to the original material supplied by the manufacturer.
-



2 FUNDAMENTALS

2.2 Precautions..... Part B



Caution

In the event of replacement of parts or spare parts for the dust collector, always use exclusively the manufacturer's genuine original parts;
If you are unable to procure parts that are identical to the genuine original parts, consult the manufacturer, which will assess whether proposed similar parts offer technical performance that is compatible with the specifications of the original parts



N.B.:

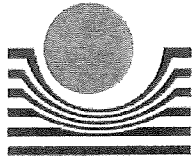
Centroventilazione – The manufacturer reserve the right to make any changes it deems fit to the units of its construction, for technical, commercial and/or organisational requirements, without affecting any of the main technical and safety characteristics set down in the documentation.

Technical data – The drawings and data given in the present manual are not binding. The drawings and data are valid at the date of printing, as appearing on the cover of this manual.

Technical assistance – Technical assistance services are provided directly by **Centroventilazione**.

All requests for technical services will be processed as rapidly as possible, taking account of existing commitments and work schedules, and the clauses of the contract determining the warranty conditions and work conditions entered into with the principal.

Urgent interventions – To facilitate rapid and effective response to service requests, the requesting company should always specify the serial number and the model as shown on the nameplate of the dust collector.



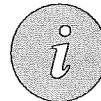
2 FUNDAMENTALS

2.2 Precautions Part C

The **graphic symbols** in this manual are all accompanied by specific comments and have been included to emphasize compliance with safety requirements; the symbols are included, singly or repeatedly, to alert the user who is to work on the unit and the persons operating in the vicinity, of the Instructions for use, which must be complied with at all times.



Caution



Important Note



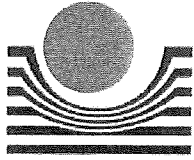
Obligatory



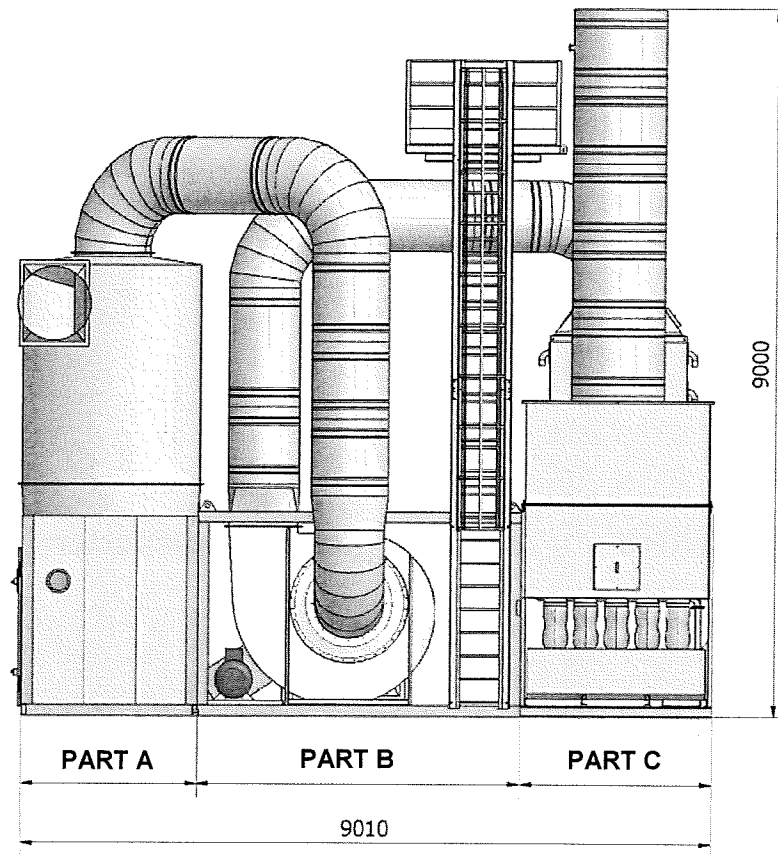
Prohibited



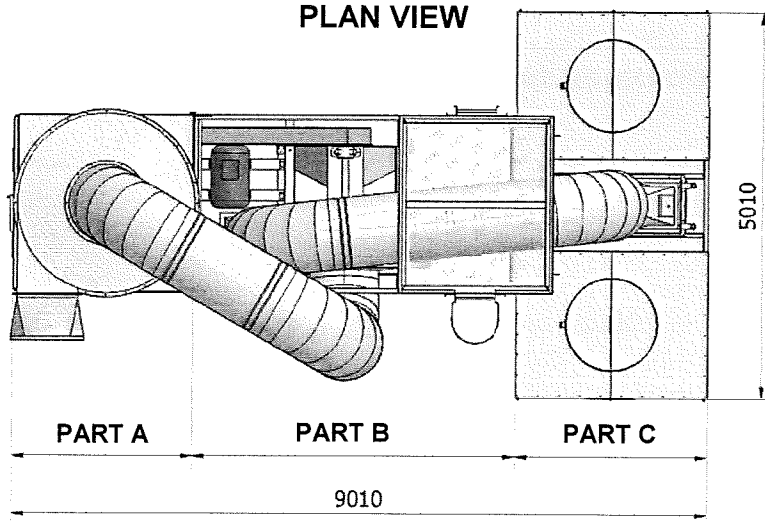
Recommended

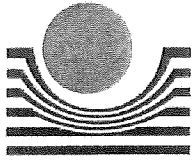


DUST COLLECTOR UNIT



PLAN VIEW





3 CONSTRUCTION FEATURES

3.1 Salient technical data

Type

THE DUST COLLECTOR is designed and built to remove solid particulate from dust-laden air.

Plant model **CV-SB150-1L**

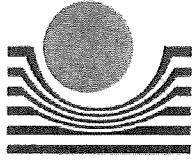
Manufacturer : **Centroventilazione Srl Fano (PU)**

General dimensions

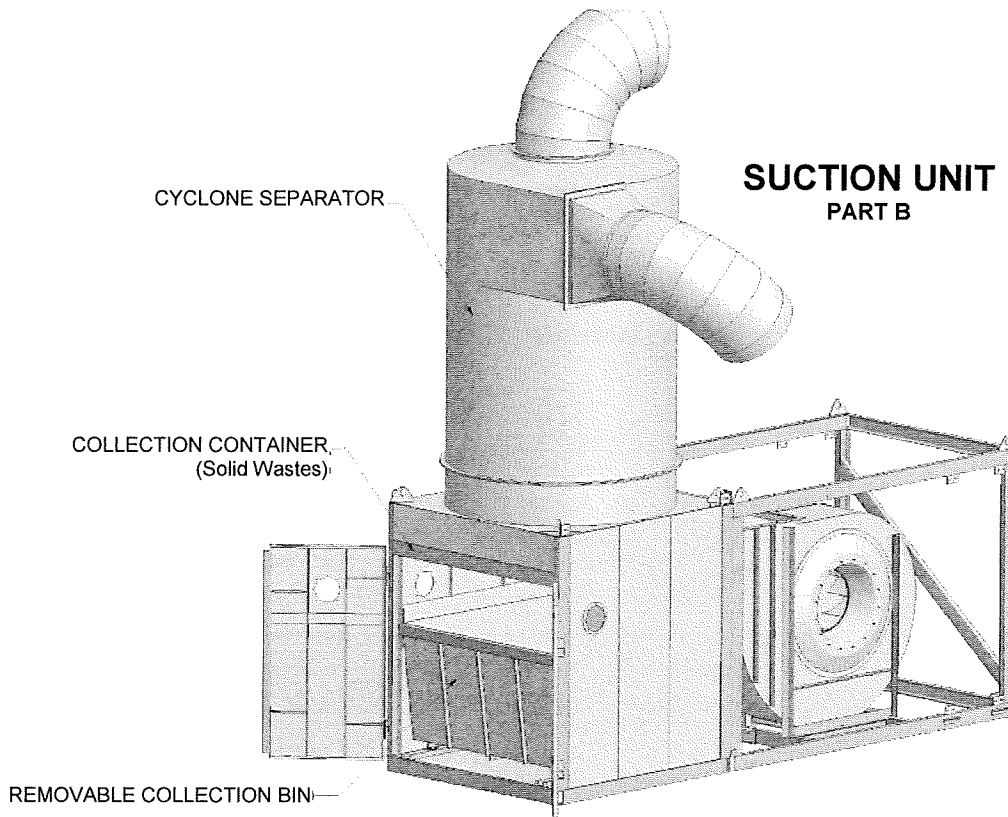
Max. height	m	9,000	
Max footprint = after erection	m	9,010 x 5,010	
Floor-standing structure		YES	
Estimated total weight of assembled unit	t	17	Approx
Noise level			
Next to the plant	dB	≤ 80	

Specific data

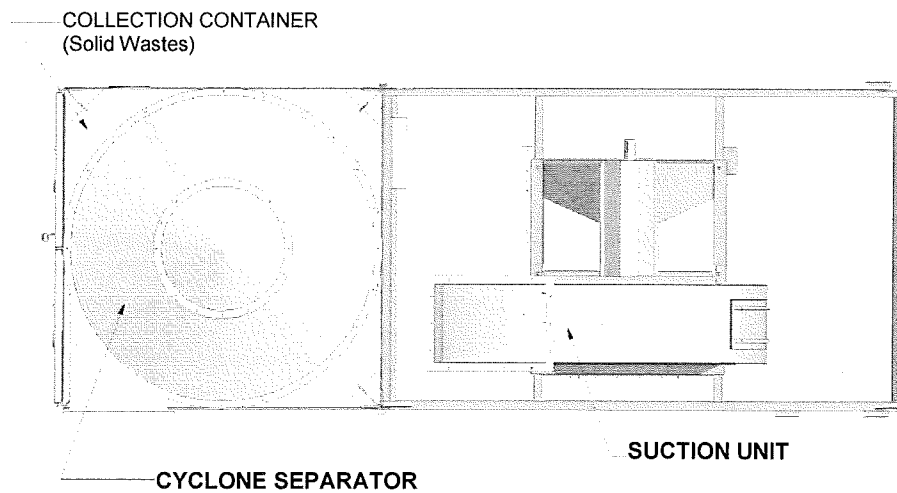
Expulsion	no.	2	
Expulsion temperature	°C	ambient	
Expulsion elevation	m	9	
Maximum design airflow	m ³ /h	61,000	
Expulsion stacks total cross section	m ²	1.13 x 2 = 2.26	
Type of particulate intercepted and removed from the airflow		dust	

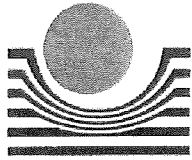


**DUST PRE-COLLECTOR
PART A**



PLAN VIEW





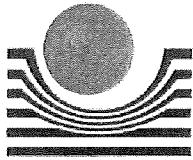
3 CONSTRUCTION FEATURES

3.2 General technical data

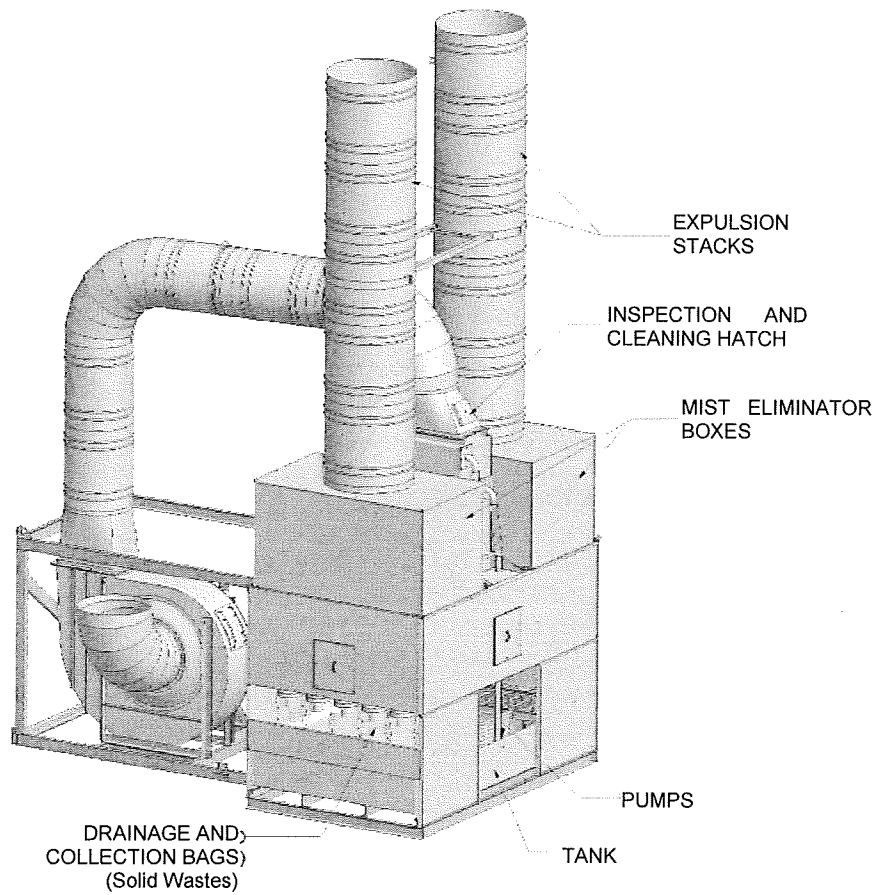
Dust collector part A – Dust pre-collector			
Lower unit Collection container (solid wastes)			
Footprint	mm	2,310 x 2,310	
Total height of container and cyclone unit (not including ducts)	mm	6,000	
Removable bin access doors	no.	2	mm 2,100x 1,200
Removable bin	H = mm 1.145	no.	1 mm 2,090x 1,970
Upper unit..... Cyclone separator			
Footprint (circular)	Dia Ø	mm	2,340
Cyclone separator total height		mm	3,700
Cyclone separator specific data			
Cyclone type			Single
Pressure drop	w.g.	60 ... 80	
Wastes produced		solid wastes	
Additional information	Manufacturer guaranteed capture rate of 75% in normal operating conditions with correctly executed maintenance in relation to dust parameter.		
Estimated total weight of Part A	t	3.7	dNa 3.626

Dust collector part B – Suction unit

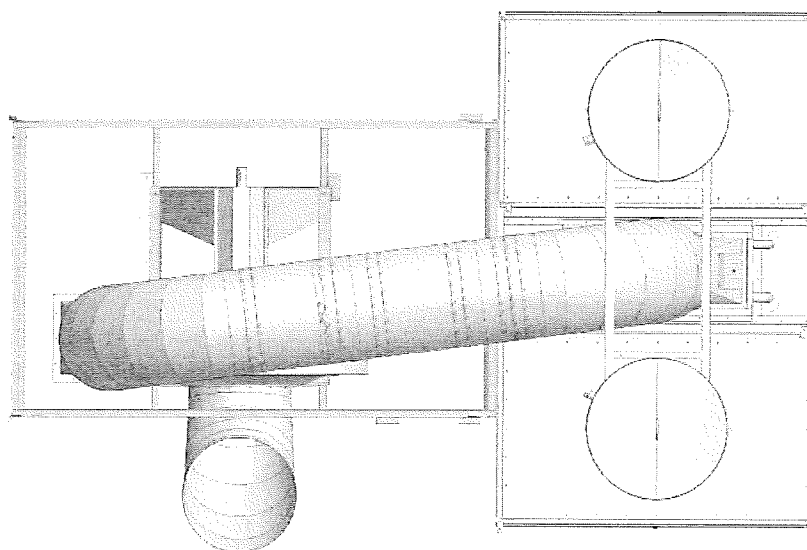
Centrifugal fan - Model ART 1401	no.	1	
Max. height	mm	2,700	
Footprint	mm	4,200 x 2,310	
Protections			
Fixed fancase with inspection port	no.	1	
Inspection port dimensions	mm	450 x 300	
Soundproofing	YES	Present	
Motor			
4-pole three-phase B3	no.	Not fitted	
Voltage	V	/	
Power	kW	/	
Current	Amp	/	
Speed	rpm	/	
Orientation	Rh	/	

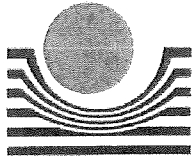


PARTS B-C



PLAN VIEW





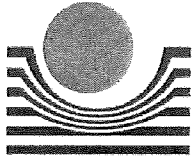
3 CONSTRUCTION FEATURES

3.2 General technical data

Dust collector part B – Suction unit

Transmission				
Motor shaft	Dia Ø	mm	Not fitted	
Motor pulley	Dia Ø	mm	/	
Drive pulley grooves		no.	/	sect /
Drive pulley bush		type	/	
Fan shaft	Dia Ø	mm	80	
Fan pulley	Dia Ø	mm	315	
Fan pulley grooves		no.	6	sect C
Fan pulley bush		type	3535 F80	
Vee belts		no.	/	sect /
Suction data				
Airflow capacity		m ³ /h	61,000	
Total static pressure		mm/w.g.	400	
Fan speed		rpm	1,174	
Ladder and landing				
Foot irons and relative protection made in compliance with the prescriptions of Italian decree DPR 547/ 55 art. 17	n°	1	H = mm	8,400
Gangway with protective parapet made in compliance with the prescriptions of Italian decree DPR 547/ 55 art. 26 and installed 6.6 m above ground	no.	1	Dimensions in mm	2,300x2,000 H = 1,200
Estimated total weight of Part B	t	3.2	dNa	3,136

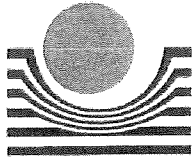
Not fitted = /



3 CONSTRUCTION FEATURES

3.2 General technical data

Dust collector Part C – Metal enclosure with scrubber						
Lower unit Tank unit						
Footprint		mm	5,010 x 2,500			
Total height of tank unit (not including ducts)		mm	5,000			
Water circulators		no.	4			
Supplier : Zenit Spa Modena	Rpm	2.900	kW	1.5	a	3.72
Upper unit Scrubber enclosure						
Bolt-on upper inspection hatches: 1 on each side	no.	4	mm	500x 500		
Mist eliminator boxes	no.	2	mm	2400x 1800		
Scrubber H = 1500 mm	no.	1	mm	710x 1800		
Collection bags n°	10	Ø mm	300	H mm	900	
Scrubber specific data						
Liquid flow rate		m ³ /h	144			
Liquid pressure		atm	5			
Scrubber type	Spray nozzles (three 2"½ nozzles) and baffles.					
Wastes produced	Solid wastes from scrubber filtration. Contaminated particulate washing solution.					
Droplets separator	Labyrinth type					
Additional information	Manufacturer guaranteed capture rate of 95% in normal operating conditions with correctly executed maintenance in relation to dust parameter.					
Estimated total weight of Part C	t	5.5	dNa	5,390		



3 CONSTRUCTION FEATURES

3.3 Dust collector component parts

The dust collector is incorporated in a loading frame structure made of adequately sized steel beams and profiles, calculated to support the weight of the unit and the load resulting from the ductwork.

Type

The dust collector is of the passive type in that there are no transmissions for combined actions, and the component parts, arranged by mechanical assemblies, are not connected to any form of drive actuator.

The component mechanical parts are as follows:

- fan equipped with drive shaft and pulley
- three pumps installed in the collection tank.

The unit is composed of three parts:

1) A Dust pre-collector with suction line

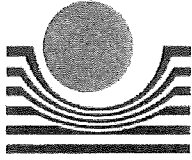
- upper unit : Dust pre-collector with dry cyclone separator.
- lower unit : **Solid wastes** collection container with mobile storage bin (removable).

2) B Suction unit

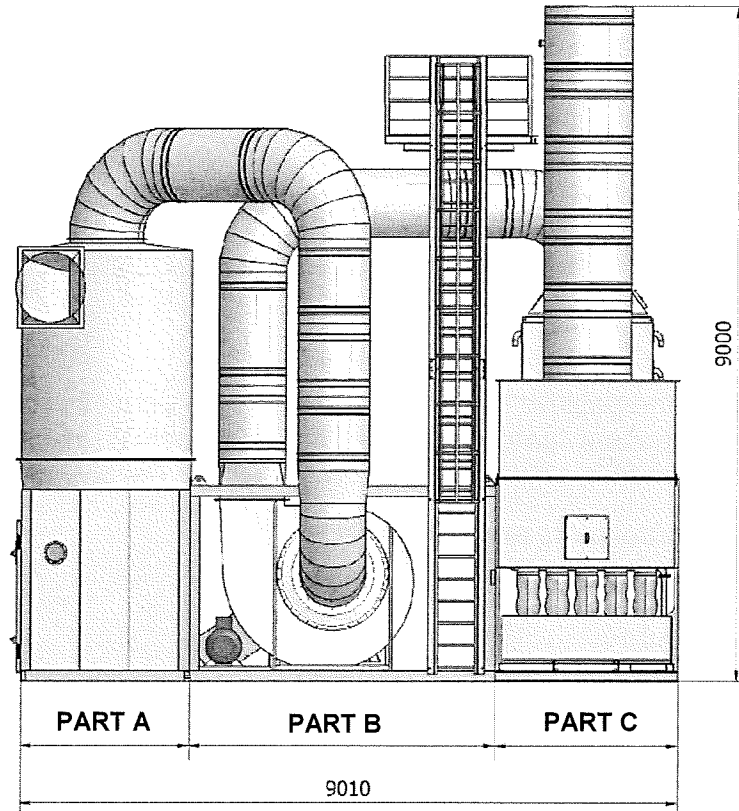
Centrifugal fan

3) C Metal enclosure assembly with wet scrubber

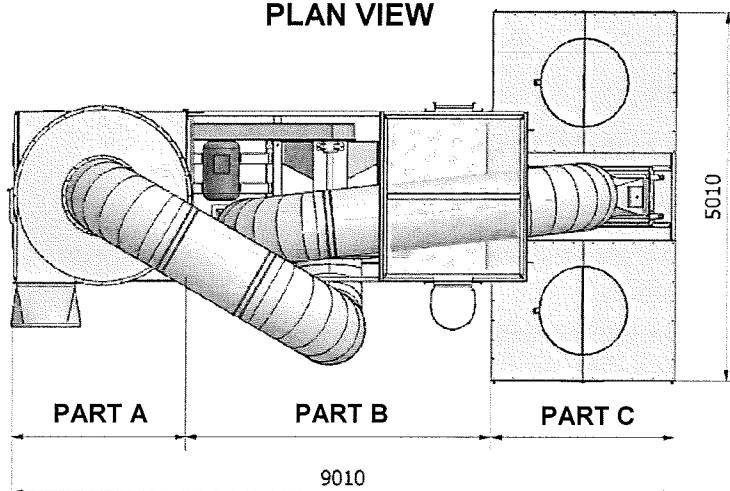
- upper unit : Enclosure with spray nozzle type scrubber and downstream baffles.
 - lower unit : Container with bags for collecting **solid wastes**; Tank for collection and discharge of **spent solution**.
-

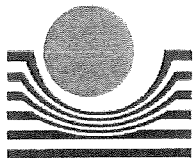


DUST COLLECTOR UNIT



PLAN VIEW





3 CONSTRUCTION CHARACTERISTICS

3.4 Dust collector and connected parts

The unit is composed of a series of assemblies for dust collection by means of combined systems.

The entire dust collector is supplied without any moving mechanical parts.

DUST COLLECTOR

COMPONENT PARTS

A) Dust Pre-collector assembly

Dust pre-collector with cyclone separator.

Collection container with removable collection bin (**solid wastes**)

Suction ducts

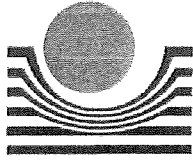
B) Suction unit

Centrifugal fan

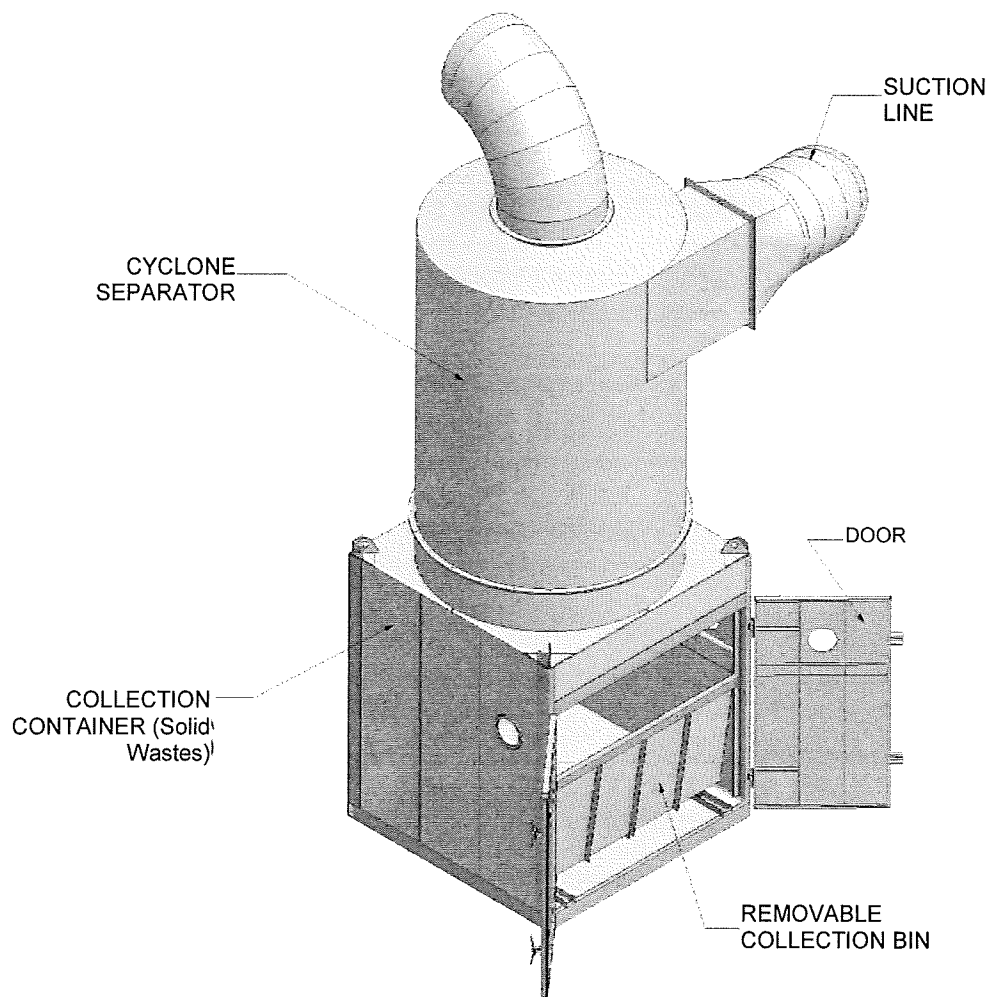
C) Metal enclosure assembly with scrubber

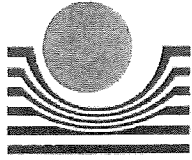
Metal enclosure assembly with spray nozzle type scrubber and downstream baffles

Container with drainage and collection bags (**solid wastes**)
 Circulator pumps for lifting water
 Collection and discharge tank (**spent solution**)



DUST PRE-COLLECTOR
PART A





3 CONSTRUCTION FEATURES

3.4 Dust collector and ancillary parts

Dust Pre-collector Unit..... Part A

The pre-collector unit is composed of:

- **upper unit** composed of a **Cyclone separator** for dry settling of the dust entrained in the extracted airflow.
- **lower unit** composed of a **Dust collection container** which accommodates a removable bin for recovery of heavy particulate.

- **Cyclone separator**

The Separator is composed of two conjoined cylindrical modules made of heavy gauge sheet steel in rolled and welded elements; the exterior features an opening for connection to the suction duct; the configuration is designed, in the initial extraction stage, to perform dry settling of the heavier solid particulate in the airflow, which will be deposited at the bottom of the removable bin in the hopper; the air then ascends and is expelled through the vertical duct, the outlet of which is connected to a duct connected, in turn, to the fan inlet vent.

- **Collection container (solid wastes)**

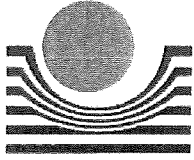
The container is made of pressed and electrowelded sheet steel, mounted to a rugged frame made of steel profiles, prearranged to stand directly on a level and stable floor surface, designed to bear the associated structural dead load.

The box shaped hopper features two large access doors, and a humidification and fire extinguishing system.

The system is composed as follows:

- **internally** : a humidification and fire extinguishing pipe equipped with 4 water spray nozzles;
- **externally** : a control panel connected to the internal pipe and equipped with an isolator valve (gate valve or ball cock) for manual opening / closing of the line, which makes it possible to supply pressurised water directly to the system in order to extinguish any fire outbreaks in the container.

The control panel is also equipped with a solenoid valve with pressure switch, designed to open at programmable times, in order to allow humidification of the heavy particulate in the container.



3 CONSTRUCTION FEATURES

3.4 Dust collector and ancillary parts

Dust Pre-collector Unit..... Part A

– **Removable collection bin**

The bin is made of pressed and electrowelded sheet steel reinforced with robust steel profiles, having capacity of approximately 4 m³, with 4 fixed wheels, designed to collect the gravity discharge of heavy particulate suspended in the exhausted airstream.

The bin is located inside the collection container under the discharge hopper.

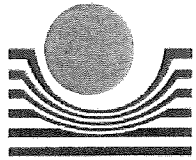
The hopper features a truncated cone Vee shape to optimise the air flow in the container.

– **Suction ducts.**

The suction ducts are composed of a series of galvanized steel sections, normally of circular and decreasing cross section, for connection with the suction points on the grinding mill

If the suction points are mobile the ducts may be equipped with flexible terminal pipes.

Each suction point can be equipped with a manual isolator valve to exclude the unused inlets from the suction circuit.



centroventilazione

Dust collector

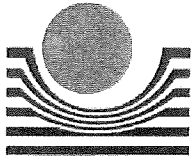
Precautions and operating instructions

3 CONSTRUCTION FEATURES

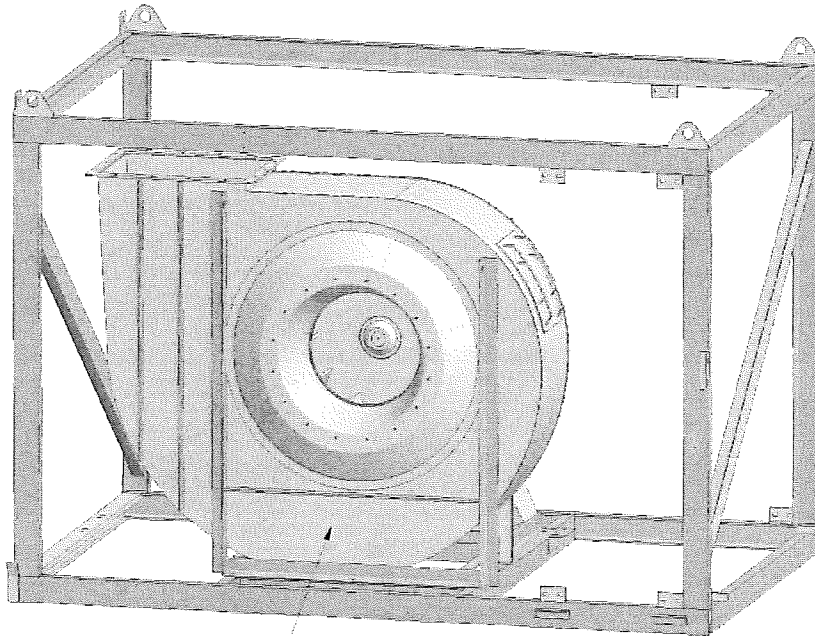
3.4 Dust collector and ancillary parts

Notes

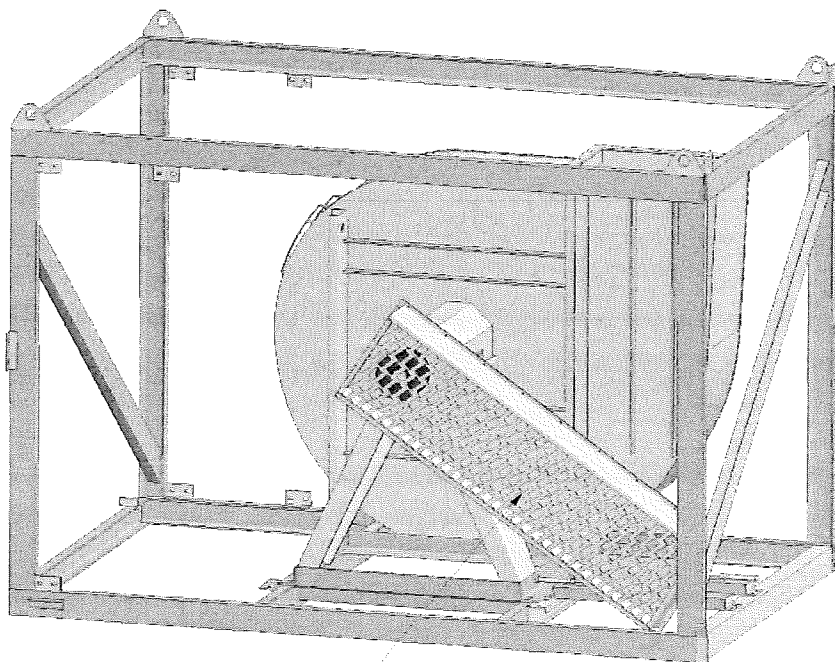
Lined area for notes, consisting of approximately 20 horizontal lines.



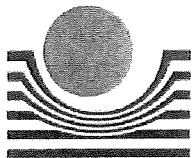
DUST PRE-COLLECTOR PART B



SUCTION UNIT



GUARD



3 CONSTRUCTION FEATURES

3.4 Dust collector and ancillary parts

Suction unit Part B

– Centrifugal fan

For this specific dust collector, the fan is a high efficiency CENTRIFUGAL type specifically designed for handling air with high contents of suspended dust and other particulate.

The Fan is mounted to the frame of part B by the manufacturer, utilising the specifically provided fixing supports.

The centrifugal fan is acquired and installed once the plant has been fully assembled. It is installed on the frame and fixed to the supporting structure (seat), which ensures stability in relation to the vibrations produced by rotation of the impeller.

The fan is composed of:

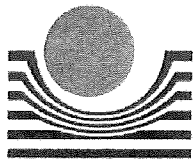
A) an impeller or suction fanwheel

B) a fancase surrounding the impeller

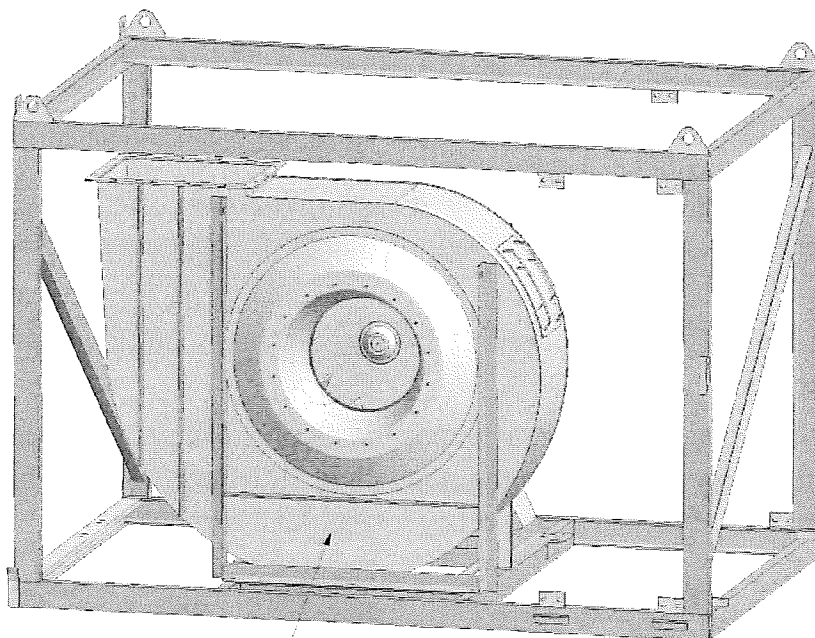
– **The impeller**, which is located inside the fancase, is made of precision welded sheet steel and is dynamically balanced.

– **The fancase**, external to the impeller, is made of heavy gauge sheet steel with specific surface treatment and paint coating, reinforced with stiffening ribs in order to ensure the maximum operating lifetime;

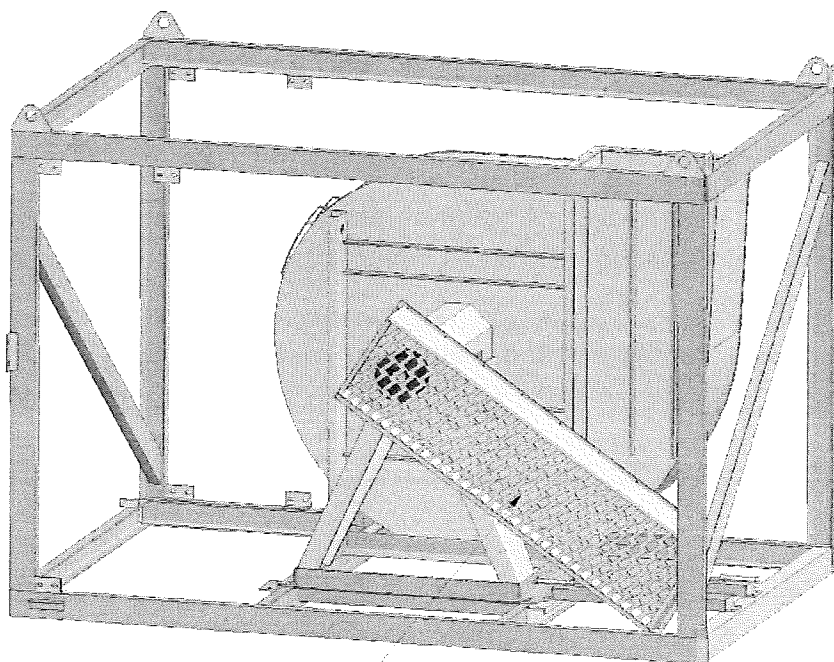
The fancase is completely enclosed, and features an inspection hatch which is closed by means of screws.



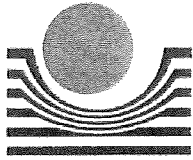
DUST PRE-COLLECTOR PART B



SUCTION UNIT



GUARD



3 CONSTRUCTION FEATURES

3.4 Dust collector and ancillary parts

Suction unit Part B

The suction unit is composed of a centrifugal fan and a motor coupled to a belt and pulley transmission (**the electric motor and transmission assembly are supplied only when specifically requested**) ;

The suction unit is connected to the duct arriving from the Dust pre-collector, Part A; once it has been subjected to an initial dry collection stage (cyclone separator) and therefore the heavier particulate has been intercepted, the airflow is supplied via this duct.

The air is moved by the fan through the duct, which is connected to the dust collector's wet scrubber, which performs the next collection stage by means of a combined air and water spray system; the captured particulate is accumulated in collection bags.

– Ladder and gangway

The manufacturer has equipped the dust collector with **vertical step irons** and relative **gangway** with fall protection, constructed in compliance with the applicable Safety regulations, in order to reach, with ease and safety, the two 3" sampling points located one on each of the two expulsion stacks.

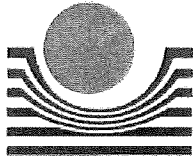
– Motor **only on request**

The electric motor, which is supplied only when specifically requested by the customer, must be installed in the specific seat provided by the manufacturer on the fan frame.

The motor power must be proportional to the suction airflow capacity, with specifications in compliance with the type of plant in which the suction unit is to be installed.

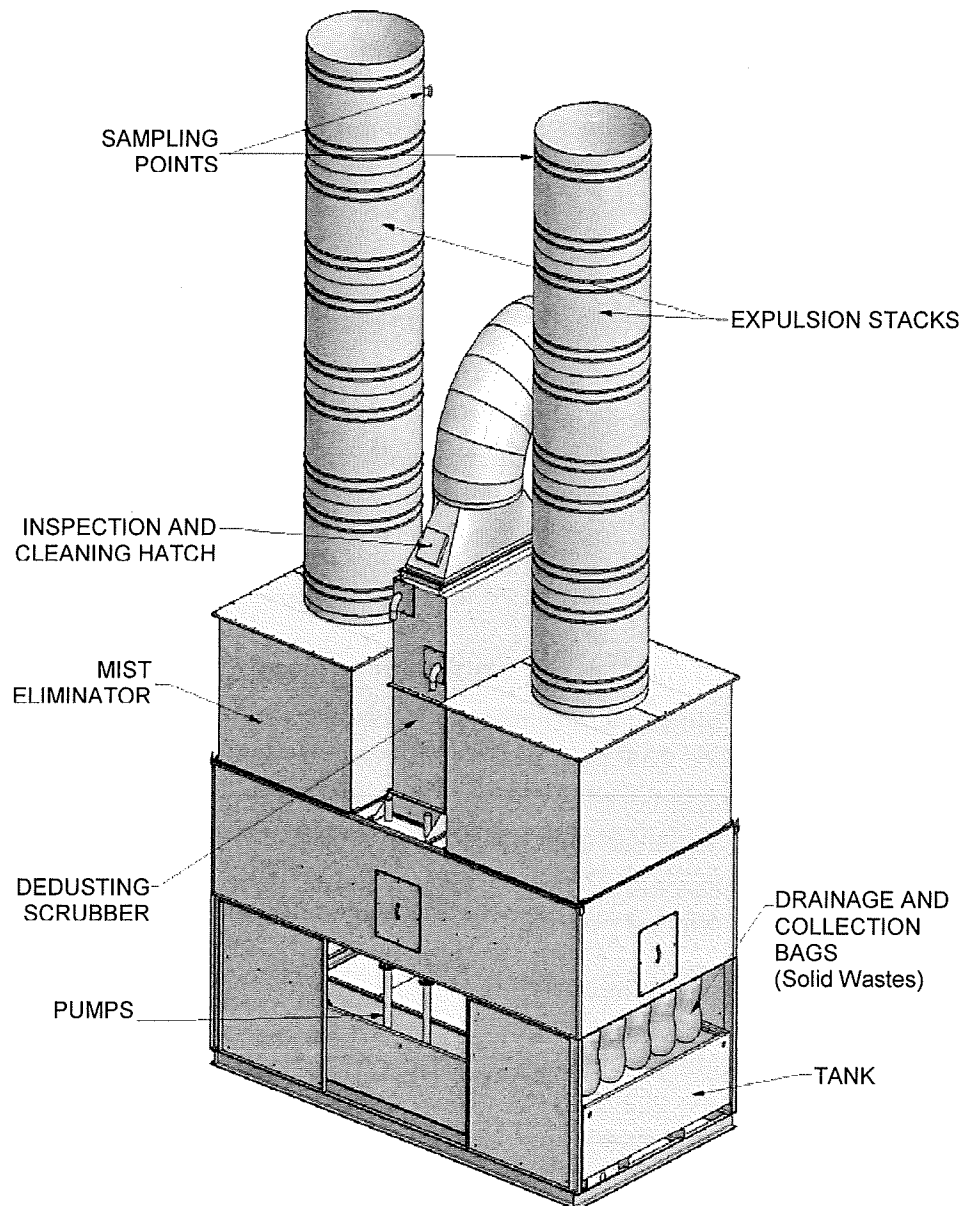
The dust collector is constructed complete with the motor mounting seat and the transmission assembly with relative guards:

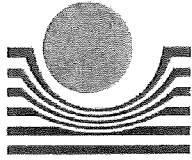
- motor mounting seat
 - motor drive pulley and bush (optional with the motor)
 - transmission guard fixing mounts.
 - transmission guard.
 - fan pulley and bush.
 - Vee belts (optional with the motor)
-



METAL ENCLOSURE WITH SCRUBBER (dust collection)

PART C





3 CONSTRUCTION FEATURES

3.4 Dust collector and ancillary parts

Enclosure assembly with scrubber Part C

The collector unit is constructed and assembled from several parts :

the upper unit is composed

- of an **Enclosure** equipped with a **spray nozzle type scrubber** wherein the spray produced by pressurised water intercepts and removes the dust conveyed in the incoming airflow;
- of **two mist eliminator chambers or boxes** which, during the upward movement of the filtered air, prevent residual water droplets from entering the outlet duct, and allow all the water to be completely recovered.
- a **washing chamber** that captures particulate in water and causes it to flow into the underlying drainage and collecting bags;

the lower unit is composed of an assembled structure the interior of which accommodates

- a **Collection Tank** located at the base of the unit and secured to the frame of the scrubber unit structure; the tank holds the gravity fed water from the drainage bags.

The water collected in the tank is then transferred upwards by means of 4 pumps;

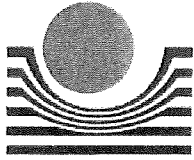
- **four pumps** located in the tank for recirculation of the collected water, lifting it and forcing it under pressure through a pipe to the interior of the scrubber where it is once again atomized and expelled through the nozzles ;

- **the array of drainage bags** fixed (gravity system) above the collection tank, which retain the dust removed from by the atomized water in the scrubber unit above.

The drainage bags accumulate all solid parts and allow the egress only of the water, which drips into the underlying collection tank

The bags are made of durable nylon designed to support the weight of the deposited sludge.

- **expulsion stacks**: the dedusted airflow from the collection plant follows and expulsion route that leads from the scrubbing enclosure through the two mist eliminator boxes and then up the two expulsion stacks before reaching the external atmosphere; the expulsion stacks are equipped with 3" diameter sampling points for checks and analyses, which can be reached easily by means of the step irons and relative gangway.
-



3 CONSTRUCTION FEATURES

3.5 Electrical components

Electrical components

– **All the pumps on the unit are of the same type**

- Installed pumps
- three-phase asynchronous motor
 - installed in the scrubber enclosure tank
 - all the pumps bear a CE nameplate showing the characteristics and protection rating: the rating shown on the nameplate is IP68

Supply and layout

The pumps are acquired from the manufacturer, which retains the certification documentation and original manuals at its offices.

Copies of these documents are supplied attached to this documentation.

Hook-up to the electrical mains

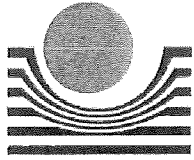


Caution

It is the responsibility of the customer and/or the electrical installer appointed by the customer, to size and **select the control cabinet** and to make the settings and integrations of the controls, devices and wiring **to be used** for the electrical hook-up of the dust collector to the grinding plant. It is the Customer's responsibility to choose the motor to be fitted, any relevant safety accessories, and the remaining systems for integration on the basis of the type of plant on which the dust collector is to be installed, **checking, first, that the electrical mains line in the premises in which the dust collector is installed is already in compliance with local and national electrical safety regulations.**

– **Ambient conditions of the electrical cabinet**

the control panel or master disconnect switch, to be installed on the dust collector, must feature anti-moisture protection rating of at least **IP 55**, against the penetration of dust, vapour and water spray.



3 CONSTRUCTION FEATURES

3.5 Electrical components

Hook-up to the electrical mains

Given the presence of humidity produced by the dust collector, the electrical panel must be installed in a protected position well away from the moisture and not on a surface that may give rise to vibration.



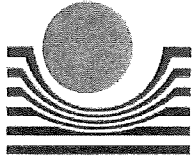
Caution

- 1) Check that the mains voltage in the installation site is compatible with the devices to which the connection is made.

The hook-up must be carried out by a qualified electrician, for whose work the customer will assume liability, including connection of the electrical supply to the motor terminals.

It is strongly recommended to install an “on-load” type breaker switch between the mains supply line and the connection with the plant

- 2) The hook-up works must always be carried out with the power feeding line disconnected.
 - 3) It is the responsibility of the customer or the appointed installer to make the mandatory connection of the protective earth conductor before making any further hook-ups.
 - 4) It is the responsibility of the customer or of the installer to size and select certified devices and materials to be used for connections of the motor, the pumps, the solenoid valve, and the other electrical components.
 - 5) The connection must also take account of the section of the cables, which must be sized in compliance with the nominal power of the dust collector, which is calculated by taking account of the consumption relative to all the devices necessary for operation of the unit.
-



3 CONSTRUCTION FEATURES

3.6 Safety devices



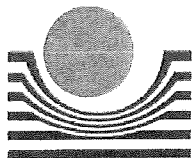
N.B.

- **The Safety** of the control panel, or the start switch, is of significant importance; for this reason the electrical and electronic components that will be accommodated in the panel must guarantee conditions of safe functioning for operators and for the plant, and must be **certified as required by the relevant Standards**.
- **Motor** – The motor is supplied only when requested by the customer; customers who supply and install the motor must adopt motor power that is appropriate in relation to the plant and must ensure that the motor bears CE certification and carries a CE rating plant and offers protection rating equivalent to or higher than **IP 55**.
- **Pumps** – The pumps are supplied by the manufacturer; It is the responsibility of the customer to make the connections between the pumps present in the tank assembly and the relative control cabinet.



Warnings concerning the power circuits

- **Against current overloads** – The control cabinet to which the dust collector is connected, designed to protect the plant circuits and the circuits of the connected electrical equipment (motors, solenoid valves, etc.), against current overloads, must be equipped with one or more protection systems depending on the number of components and the degree of complexity of the plant, by means of: **thermal magnetic cut-outs, fused circuit breakers** – The dust collector is of the single type (i.e. it is equipped with a single motor) : to protect against current overloads, the control cabinet must be equipped with a **motor protector** or alternative system performing an equivalent function.
 - **Low voltage control circuits** – The control cabinet to which the control circuit is interfaced, with the **pushbutton panel** (indicator lights, pushbuttons, selectors and/or detection or interlock systems), **must be equipped with a specific transformer** to feed power to the low voltage **24** or **48V** controls, as specified in the applicable Electrical safety regulations and standards.
 - **Voltage dropouts** – **After a power loss** (voltage drop and failure of the supply of electrical power), when the power returns on the mains line **the plant must never restart spontaneously**.
-



4 TRANSPORT AND HANDLING

4.1 General warnings

– Loading

Loading of the components of the dust collector varies from project to project, so the organisation and positioning on the transport vehicle is carried out at the discretion of the manufacturer, which is aware of the specific dimensions and weight of each individual component.

If the customer decides to relocate the system after the initial erection, it can consult the manufacturer for information on all the relative data to ensure the relocation transportation can be carried out in conditions of the utmost safety.

– Transport



Warnings for transport

It is obligatory to anchor the disassembled parts of the dust collector on the transport vehicle, arranging any other goods present on the vehicle to prevent possible collisions during the journey.

It is obligatory to fix the parts inside the vehicle using exclusively the specified bracketing points of the dust collector.

If said points are insufficient to ensure complete stability, use structural parts as anchor points.

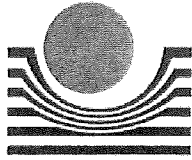
It is prohibited to remove the packing once the parts making up the dust collector have been transported, except in the presence of the Manufacturer's technical personnel.

– Handling



Caution

**AFTER DISASSEMBLY OF THE SYSTEM FOR RELOCATION,
THE SAME RULES CONCERNING TRANSPORT ARE
APPLICABLE, ALSO IN THE EVENT OF HANDLING IN THE NEW
PLACE OF INSTALLATION**



4 TRANSPORT AND HANDLING

4.1 General warnings

– Loading and unloading



Warning, during the operations

It is obligatory to keep all persons not directly involved in the loading or unloading operations well clear of the areas of transit and operation of transport and lifting machines (cranes, forklifts, travelling cranes).

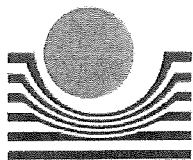
It is obligatory to establish a safety distance at least 3 m from the perimeter of the manoeuvring area, marking the area with specific red and white indicator tape.

It is obligatory, prior to starting manoeuvres, to inform the operators of handling equipment (cranes, forklifts, etc.) of the locations of persons on the ground for signalling duties.

It is obligatory to ensure all operators participating in the work are equipped with the protective equipment required by law to protect against injury to the head, the feet, the hands, and all other parts of the body at risk in the event of accidents.

It is prohibited for persons to stand or transit in the path of the units during loading and unloading procedures.

It is obligatory that the operators of handling equipment perform all movements with caution, avoiding abrupt acceleration or manoeuvres that could result in falling or slipping of loads.



5 ERECTION

5.1 Dust collector unit

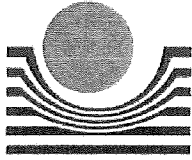
The unit is supplied by **Centroventilazione**, which has already assembled it in its works.

Installation, functional checks and final testing of the dust collector in all its parts are generally carried out by the technical personnel of Centroventilazione in the presence of the customer.

This makes it possible to check correct operation of the dust collector.

During the testing procedure all the functions of the components of the dust collector are explained, together with the controls and operations required for correct management and maintenance of said components.

In the case of subsequent disassembly for relocation in a different site, always consult the manufacturer, which has all the technical data required and, if so requested, can provide trained personnel to perform the new installation.



6 CONNECTIONS

6.1 Systems of connection to the mechanical units



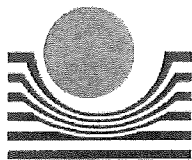
CAUTION

The connections to the mechanical unit (dust collector) must be performed in accordance with the sequence shown in the following table

SUPPLIES - CONNECTIONS

The connection procedures include wiring of electrical parts and safety systems and they are to be performed by the Customer.

1. Power unit	a. Electrical b. Pneumatic c. Hydraulic	a. Motors V 400/ 50 Hz..... Absent Pumps V 400/ 50 Hz..... n° 4 Solenoid valve..... n° 1 Pressure switch..... n° 1 b. Power pack 220/400 V... Absent c. Power pack 220/400 V... Absent
2. Detector unit type A	Automations	a. Sensors..... NO b. Limitswitches NO c. Photocells..... NO
3. Detector unit type B	Safety	a. Flashing beacons NO b. Emergency Stop..... NO c. Interlock NO



6 CONNECTIONS

6.2 Hook-up to the electrical mains



Caution

it is the responsibility of the **CUSTOMER** and/or the persons it appoints, to size and select suitable devices for electrical installations to be used in the management of the dust collector.



Caution

before proceeding, the technicians authorised by the **CUSTOMER** must make sure that mains power has been completely disconnected and that the mains feeding line is in compliance with Electrical safety regulations.



Caution

The customer is responsible for preparing a power feeding line that is commensurate with the installed power of the unit;

the installation is the exclusive responsibility of authorised and qualified technicians chosen by the customer:

firstly the technicians must earth the system in compliance with statutory regulations, and then check the efficiency of the earthing system;

they must also always install a **CIRCUIT BREAKER** close to the suction unit (fan)

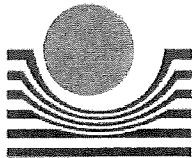
.....**because**

before performing any servicing work operators or maintenance personnel are obliged to disconnect the unit from the mains power supply.



IMPORTANT NOTE

All parts relative to the electrical system must be identified in the annex of the installer company authorised by the **CUSTOMER**.



6 CONNECTIONS

6.3 Connection to the Control cabinet

The **Control cabinet (not present on the dust collector)**, is the enclosure containing all the devices that connect and protect the power actuators (motors, power units,...), the safety systems (barriers, doors, guards) and the controls for management the system operating modes.



Caution

It is the responsibility of the customer and/or the electrical installer to size and select the control cabinet and to make the settings and integrations of the safety components, the controls, the devices and wiring **to be used** for the electrical hook-up of the dust collector to the grinding plant. It is therefore the Customer's responsibility to choose and fit any safety accessories and the remaining systems for integration on the basis of the type of plant on which the dust collector is to be installed,

checking, first, that the electrical mains line is in compliance Safety regulations.

– Ambient conditions of the control cabinet

the control cabinet to be installed on the dust collector must feature an anti-moisture protection rating of at least **IP 55**, against the penetration of dust, vapour and water spray; the cabinet must be installed in a protected location well away from surfaces that may generate vibration.

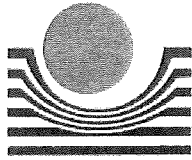


Caution

- 1) Check that the mains voltage in the installation site is compatible with the devices to which the connection is made.

The hook-up must be carried out by a qualified electrician, for whose work the customer will assume liability, including connection of the electrical supply to the motor terminals.

- 2) The connection works must always be carried out with the power feeding line disconnected.
 - 3) It is the responsibility of the customer or the appointed installer to make the mandatory connection of the protective earth conductor before making any further hook-ups.
 - 4) It is the responsibility of the customer or the installer to size and select certified devices and materials to use for connections of the motor and any other electrical parts, in accordance with the technical construction characteristics shown on the Certification plates, which must be in compliance with electrical certifications and diagrams.
-



7 CHECKS

7.1 Preliminary steps before and after commissioning



Warning !

Before starting any parts of the system
carry out the preliminary checks

Preliminary checks

1) Check after installation

During erection operations make sure that no tools or other work material have been left in or around moving parts.

2) Threaded fasteners

Check the tightness of threaded fasteners: baffles, impeller bearings, foundations, and correct tensioning of the drive belts.

3) Motor rotation

It is the responsibility of the customer, after having installed the motor, to transmit a brief current pulse to check the direction of run of the impeller, observing the arrow on the fancase; if the impeller rotates in the wrong direction disconnect the power immediately and remake the connections correctly.

4) Suction

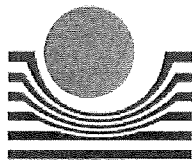
Check the efficiency of the suction points.

5) Noise

The noise generated by the suction unit motor is no higher than 80 dbA lep; operators are obliged to use personal protective equipment: earplugs, hearing defenders, etc.

6) Emission of particulate into the atmosphere

The system is equipped with a combined particulate interception system : cyclone separator pre-collector (solid wastes) – dust scrubber with drainage and collection bags (solid wastes) – collection tank (spent solution) – that guarantee an excellent level of dust collection such as to ensure that the airflow discharged into atmosphere is in compliance with statutory legislation. The two expulsion stacks located above the mist eliminator boxes are equipped with 3" sampling ports for checks and analyses.

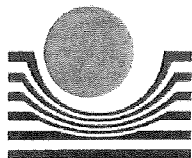


8 ANOMALIES

8.1 Troubleshooting

<i>Problem</i>	<i>Possible causes</i>	<i>Corrective actions</i>
Insufficient airflow	Suction nozzles or ducts partially blocked	Check and clean by means of the hatches (fig. 1 – ref. 1)
	Impeller partly fouled	Check and clean by means of the hatch (fig. 2 – ref. 5)
	Drive belts slack or worn	Tension or renew belts
Insufficient water flow rate	Tank filter mesh and pumps clogged	Check and clean filter mesh and pumps (fig. 2 – ref. 8, 9)
	Water level too low in tank	Replenish water level in tank
	Scrubber spray nozzles clogged (no. 3 nozzles size 2"½)	Clean spray nozzles (fig. 1 – ref. 3, 4)
Fan vibration	Impeller partly fouled	Check and clean by means of the hatch (fig. 2 – ref. 5)
	Worn bearings	Check and, if necessary, renew bearings.

9 MAINTENANCE



9.1 Mechanical parts

Precautions



Caution

1

Before performing maintenance on the dust collector:

- disconnect the electrical power supply completely, remove the power-on key, if present, from the power panel and keep it on your person until maintenance work is terminated, or put it in a safe place where it cannot be accessed by unauthorised persons.
- always display notices worded as follows on all sides of the unit :
MAINTENANCE IN PROGRESS
- if present, remove the drive belts from the pulleys

2 Maintenance personnel

Maintenance work must be carried out by qualified personnel with knowledge of the plant, who must be authorised beforehand in accordance with safety practices (Law 81/08).

3 Apparel of maintenance personnel

Maintenance must be carried out only when wearing suitable apparel : maintenance workers must wear overalls suitable for maintenance duties (tight-fitting; loose overalls with loose appendages are not permitted); maintenance workers must also wear safety footwear.

4 Provisions for maintenance tasks

Before performing any maintenance actions delimit the area of work and display warning notices : **MAINTENANCE IN PROGRESS**

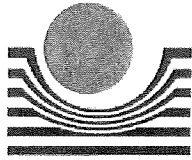
CAUTION – Maintenance work should never be carried out by just one person :

- if maintenance work is entrusted to just one person, delimit the area of intervention and display the notices stating **WARNING: MAINTENANCE IN PROGRESS**
- if maintenance is carried out by more than one technician, all technicians must be informed of the different roles assigned, and they must never allow the plant to be restarted unless they are all present and in visual contact with each other.

5 Checks

After terminating all types of maintenance work, first close any guards or hatches that were opened and always check that :

- the interior of the unit is free of rags, tools or any other materials utilised for maintenance with regard to the parts inspected.



9 MAINTENANCE

9.1 Mechanical parts



Caution

All the operations listed below must be performed with the plant completely de-energised; it is also obligatory to remove the on/off key, if present, from the power panel and keep it on your person until maintenance work is terminated, or put it in a safe place where it cannot be accessed by unauthorised persons.

Cleaning the Ducts

- A** At the end of each shift – check for the present of deposits that may accumulate in the ducts by means of the inspection hatches (n° 8) with which the ducts are provided (fig. 1 – ref. 1).



Caution

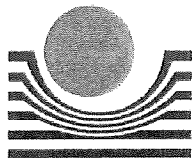
the accumulation of debris in the ducts will increase the load on the duct structures; inspect the ducts as prescribed and if you find accumulated deposits disassemble the ducts and remove the material.

Fan: drive belts tension and cleaning

- B** After the first week of duty check tensioning of the drive belts: tension the belts as described in the Operating manual supplied by F.Ili Ferrari ** (page 31, heading 7.3).
- C** Thereafter, every 60 days repeat the check and readjust if necessary

Bearings : lubrication and checks

- D** After the first 24 hours of duty inject grease into the bearings until it seeps out from the supports.
- E** Lubrication – observe the specified intervals which must be more frequent if the plant is functioning in a place that is dusty, humid, or in the presence of a corrosive atmosphere: consult the User Manual of F.Ili Ferrari ** (page 28, heading 7.1).
-



9 MAINTENANCE

9.1 Mechanical parts



Caution

All the operations listed below must be performed with the plant completely de-energised; it is also obligatory to remove the on/off key, if present, from the power panel and keep it on your person until maintenance work is terminated, or put it in a safe place where it cannot be accessed by unauthorised persons.

Checking and cleaning parts in contact with fluid

F The fan or impeller must be inspected periodically because the accumulation of dust deposits can cause vibration with consequent malfunctioning and wear of bearings, mechanical parts and the impeller :

observe the prescriptions given in the **User Manual of F.lli Ferrari** ** (page 33, heading 7.5), always ensuring that all Safety regulations are observed in full.

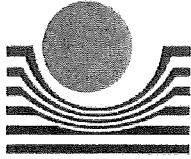
Dust collection bin

G **Checking the mobile bin** – check the bin several times each day by looking through the inspection windows of the container doors (fig. 2 – ref. 10).

H **Unloading the mobile bin** – unload the bin when it is about half- or two thirds full.

WARNING : failure to empty the dust collection bin can result in clogging of the cyclone separator with serious consequences and risks for the entire plant.

N. B. –The notes and Heading marked above with asterisks (**) can be found in the Instruction Manual of the Suction unit of F.lli Ferrari ventilatori industriali S.p.a., supplied with the present manual.



9 MAINTENANCE

9.1 Mechanical parts



Caution

All the operations listed below must be performed with the plant completely de-energised; it is also obligatory to remove the on/off key, if present, from the power panel and keep it on your person until maintenance work is terminated, or put it in a safe place where it cannot be accessed by unauthorised persons.

– Tank

Periodically inspect (every 2 or 3 days) the deposit of accumulated sludge on the bottom of the settling tank (fig. 2 – ref. 7) :

the thickness of this layer of sludge should always be less than 50 mm;

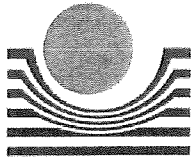
in the event of excessive accumulation – open the drainage valve and allow the contents to flow into a specific decanting tank to separate the water from the pollutant sludge (fig. 2 – ref. 6)

- empty all water from the tank
- remove the deposited sludge
- replenish the water level in the tank



Caution

Liquid effluent must be disposed of in compliance with statutory environmental legislation by an authorised recycling company, or must be consigned to a treatment plant for processing.



9 MAINTENANCE

9.1 Mechanical parts



Caution

All the operations listed below must be performed with the plant completely de-energised; it is also obligatory to remove the on/off key, if present, from the power panel and keep it on your person until maintenance work is terminated, or put it in a safe place where it cannot be accessed by unauthorised persons.

– Checking the pumps



Caution

If the force of the water jet diminishes, check the pumps, the tank filter mesh, the water level, and possible clogging of the nozzles in the Scrubber (n. three 2"½ spray nozzles): if this fails to solve the problem, consult the manufacturer.

(Refer to the enclosed electric pumpset manual).

– Emptying and renewing the drainage bags

Once the sludge contents of the bags reaches approximately one fifth of their height, they must be removed and emptied, and then refitted to the outlets and secured with snap clamps (fig. 1 – ref. 2).

The bags must be renewed when they have deteriorated excessively, as evidenced by the fact that a deteriorated bag will tend to hold not only the normal sludge but also an excessive quantity of water.

For correct use of the bags, they should be frequently moved manually.

– Checking and cleaning the Scrubber

At least once a month, check:

- the spray nozzles (no. three 2"½ nozzles) located at the top of the scrubber (fig. 1 – ref. 3, 4).
- the washing tank, the accumulations and the sludge build-ups detected on the deflectors and the water drainage outlets, which must be removed by means of a pressurised water jet.

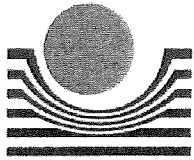
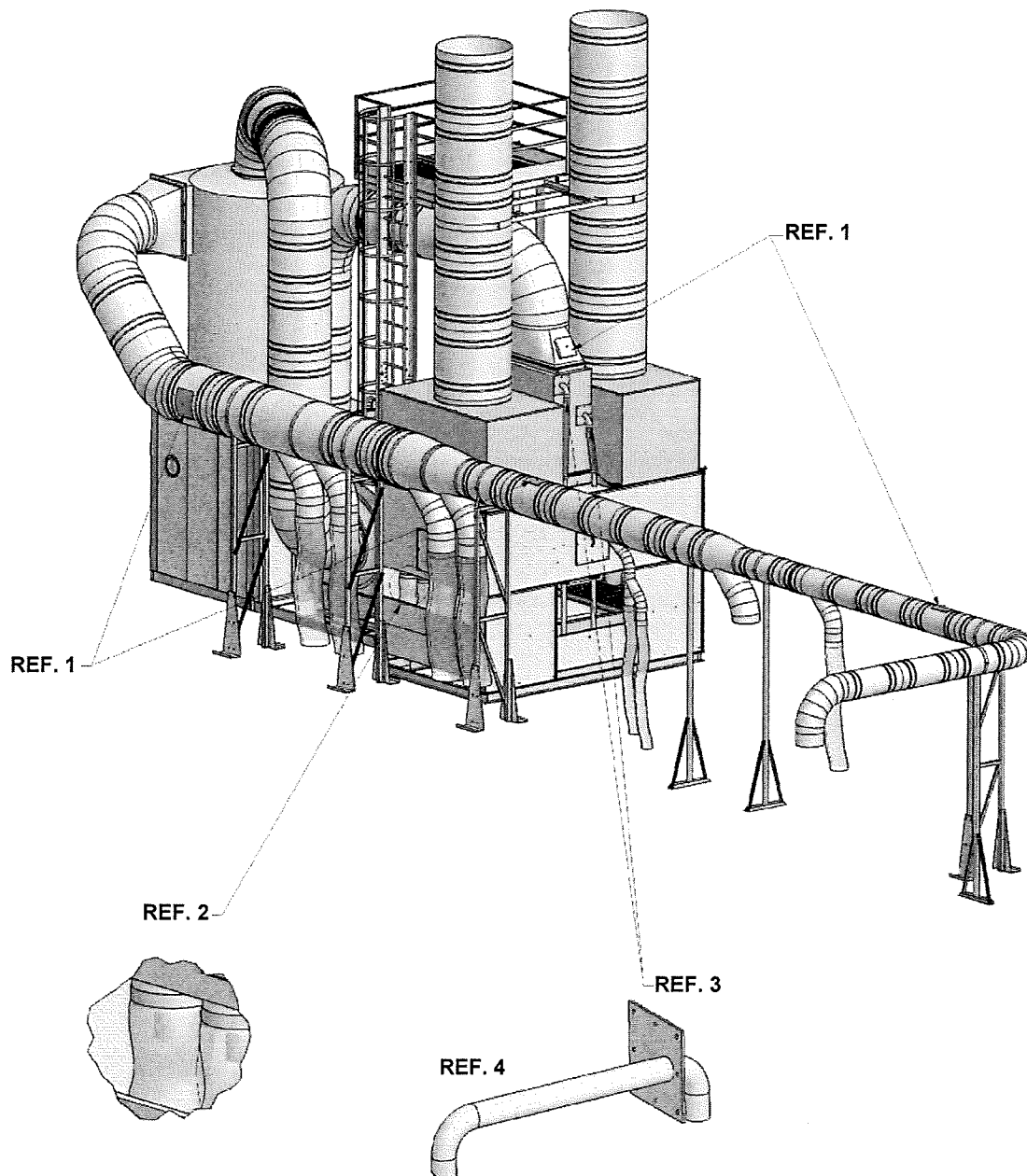


FIGURE 1
References for faults and maintenance



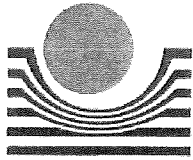
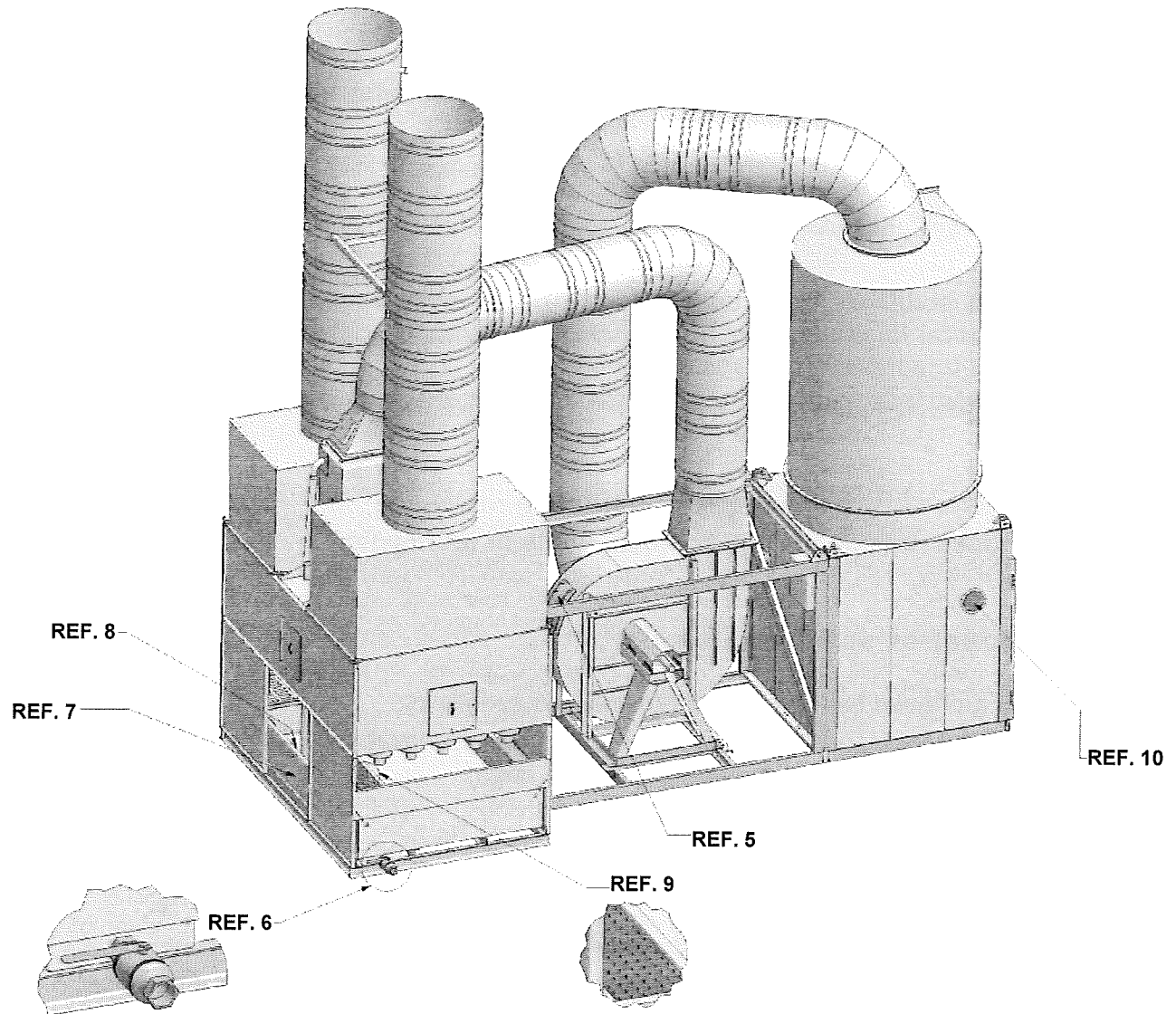
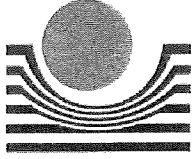


FIGURE 2
References for faults and maintenance





10 DISPOSAL OF SPENT MATERIALS

10.1 Disposal of liquids

The liquid contained in the tank is a spent solution of water and decanted sludge recovered from the scrubbing process



Caution

the spent solution must be disposed of in compliance with statutory environmental legislation by an authorised recycling company, or must be consigned to a treatment plant for processing.



Caution

This plant does not contain any liquid coolants or lubricants.

10.2 Disposal of solid wastes

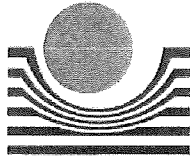
The wastes produced by the filtration process are as follows:

- the solid wastes deposited in the container or in the removable bin;
- the sludge obtained on emptying the drainage bags.



Caution

- Solid wastes and sludge must be disposed of in compliance with statutory environmental legislation by an authorised recycling company, or must be consigned to a treatment plant for processing.**
-



11 SCRAPPING AND DISMANTLING

11.1 Scrapping and dismantling



Ecological Note

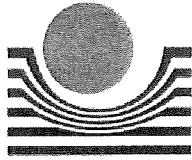
If the dust collector is to be scrapped it must be dismantled by a trained person and the work must be conducted in such a way as to avoid harming the environment and to protect the safety of the operators responsible for treating the resulting component parts. The treatment of the component parts must be differentiated, separating the materials in accordance with the following list:

Metal parts

Careful sorting of metal parts will ensure they can be subsequently recycled.

Parts made of plastic or plastic derivatives

Parts made of plastic or derived from petroleum or other synthetic materials must not be dispersed in the environment or combusted. Instead, their disposal must be carried out in compliance with national and local environmental legislation.



12 PREVENTION SIGNALS

12.1 General observations



Caution

The prevention signals constitute a supplementary measure rather than an alternative to the safety protections, which must not be removed under any circumstances.

In the event of damage, illegibility or defacing, the safety signs must be renewed immediately.

The safety signs affixed to the plant must comply with EEC Directives No. 77/576 and 79/640 to further enhance the safety conditions of operators

On this subject, refer to the provisions of Italian decree **D.P.R. 547/55**, art. 4, 47, 48, 49.

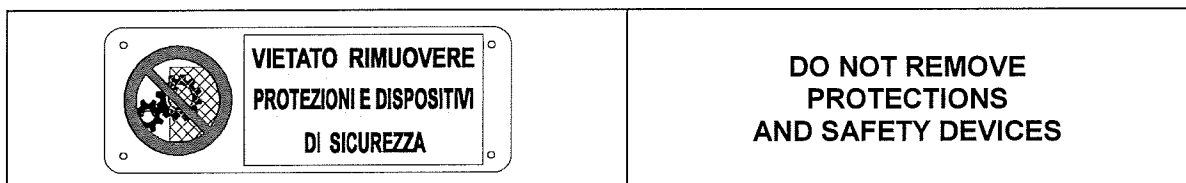
12.2 Prohibition signals



THE FOLLOWING ACTIONS ARE STRICTLY PROHIBITED

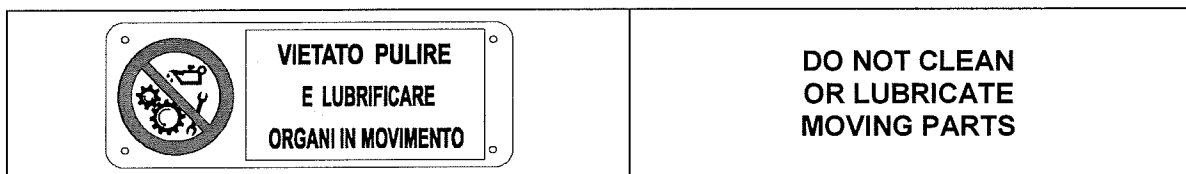
remove

the safety devices, including protections, photocells, sensors, and all prevention signs; in addition, in the event of poor legibility due to deterioration it is obligatory to replace the safety signs



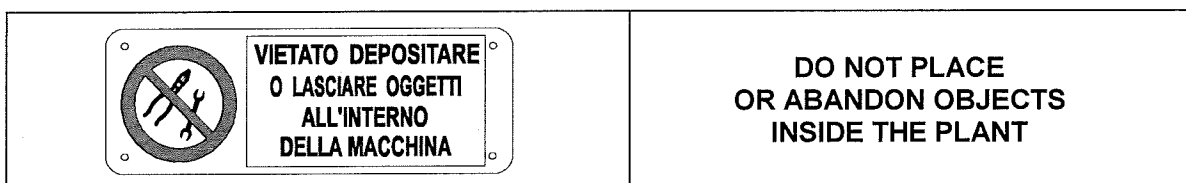
perform work

on the machine when it is in movement, in order to : perform cleaning, lubrication, greasing, recording, or repairs

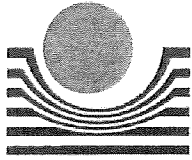


deposit

extraneous objects or tools on the machine, or start the machine before having checked inside it to ensure that no such materials are present



On this subject, refer to the provisions of **Italian decree D.P.R. 547/55**, art. 4, 47, 48, 49.



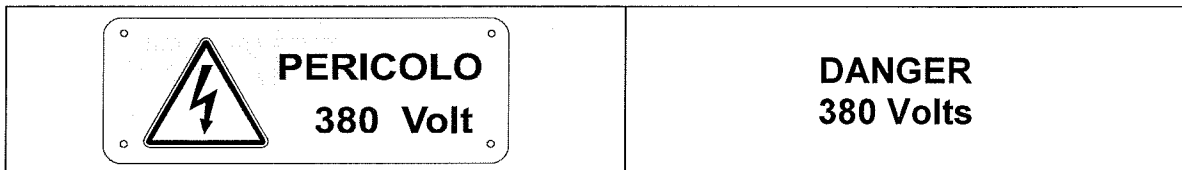
12 PREVENTION SIGNALS

12.3 Danger signals

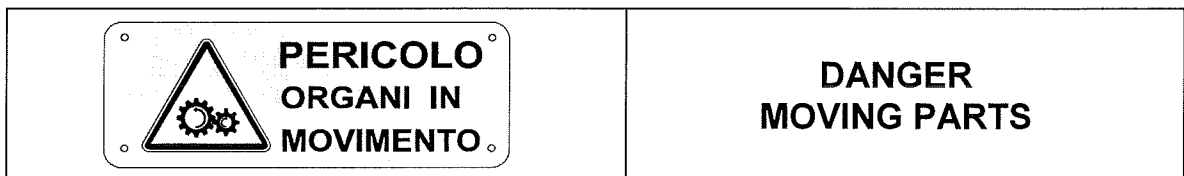


it is OBLIGATORY

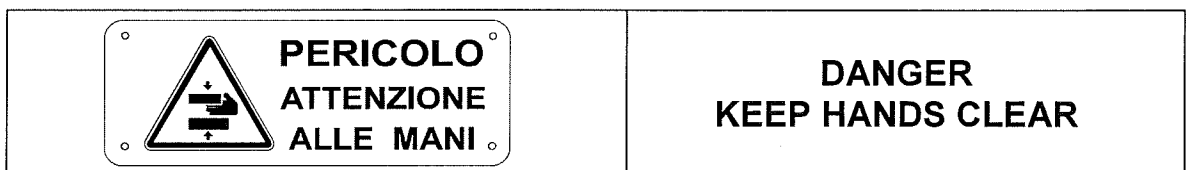
to observe the areas indicated by the signs highlighting the presence of electrical power; the signs show the utilisation voltage (CEI 44-5 p. 3.1.1); the doors of the electrical cabinets; the devices on which the signs are mounted must be locked with keys or secured by threaded fasteners

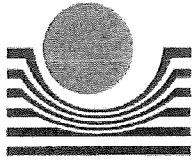


comply with the areas marked by the signs indicating the presence of moving parts; the signs identify an inviolable limit beyond which access is prohibited due to the presence of extreme danger.



comply with the areas marked by the signs indicating the presence of mechanical parts presenting a crushing hazard; the signs identify an inviolable limit beyond which access is prohibited due to the presence of extreme danger.





12 PREVENTION SIGNALS

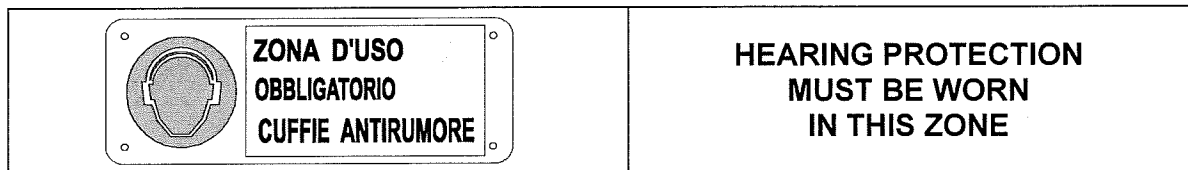
12.4 Obligation signals



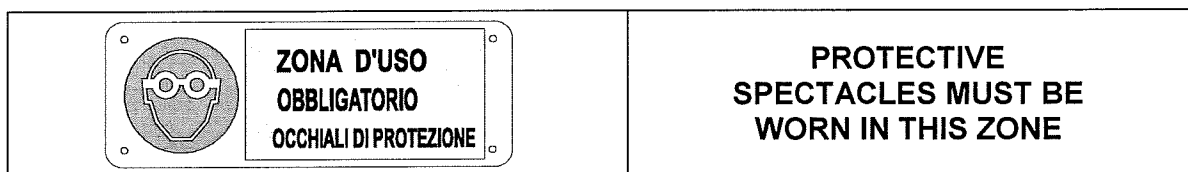
OBLIGATORY

comply with the personal prevention signs that advise the operator on which equipment is to be used to protect himself from contingent hazards :

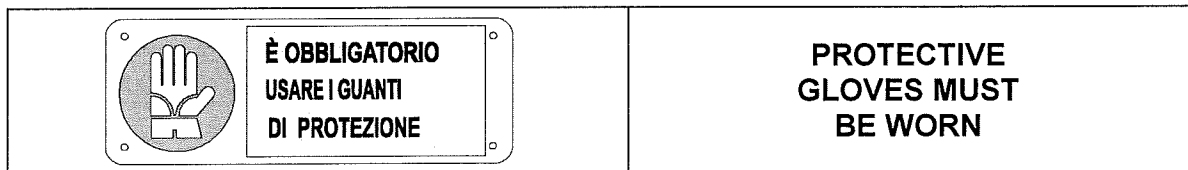
noise, when the levels are higher than 80 db



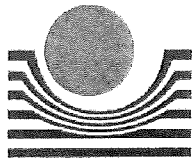
projection of objects, when eyes must be protected due to the presence of dust-laden air or projections caused by cleaning performed using compressed air



extrusion, when the hands must be protected due to the presence of sharp parts (sheet metals, splinters, ...)



On this subject, refer to the provisions of Italian decree D.P.R. 547/55, art. 4, 47, 48, 49.



13 DOCUMENTATION – LIST OF ANNEXES

13.1 Documentation

DUST COLLECTOR PROJECTexecuted by

Centroventilazione S.r.l.

THE PROJECT, IN RELATION TO WHICH THE MANUFACTURER RESERVES ALL RIGHTS, IS NOT BINDING AND MAY BE SUBJECT TO MODIFICATION ON THE BASIS OF MEASURES DEEMED TO BE NECESSARY, UTILISING DIFFERENT COMPONENTS AND EQUIPMENT, WITHOUT PREJUDICE TO THE QUALITY AND FUNCTIONALITY OF THE PLANT.

- PROJECT ASSEMBLY DRAWINGS (*)
- DETAILS (*)
- REPORTS (*)

CERTIFICATIONS OBTAINED by the manufacturer

- MANUFACTURER'S DECLARATION OF CONFORMITY TYPE **B**
- ACCOMPANYING DOCUMENTATION

CONSTRUCTER AND MANUFACTURER OF THE DUST COLLECTOR.....

Centroventilazione S.r.l.

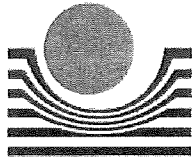
- INFRASTRUCTURE AND FRAMES, PARTS A B C MADE OF STEEL PROFILES
- CONTAINER AND CYCLONE ASSY. IN PRESSED AND WELDED SHEET STEEL (*)
- REMOVABLE BIN IN PRESSED AND WELDED SHEET STEEL (*)
- SCRUBBER AND TANK IN PRESSED AND WELDED SHEET STEEL (*)
- CONNECTING DUCTS IN GALVANIZED SHEET STEEL (*)
- SUCTION DUCTS IN GALVANIZED SHEET STEEL (*)

COMPONENTS UTILIZED acquired by the manufacturer

- QUALITY CERTIFICATES OF THE MAIN COMPONENTS (*) ..

NOTES

(*) DOCUMENTS PRESENT IN THE TECHNICAL DOCUMENTATION RETAINED BY THE MANUFACTURER



13 DOCUMENTATION – LIST OF ANNEXES

13.2 Main components acquired by the manufacturer

CENTRIFUGAL FAN supplied by

F.lli Ferrari Ventilatori industriali S.p.a. Arzignano (VI) Via Marchetti, 28

ELECTRIC PUMPSETS.....supplied by

ZENIT S.p.a. Via Dell'Industria 15 - 41018 S. Cesario Modena (MO)

13.3 Annexed documentation

1) F.lli Ferrari Ventilatori industriali S.p.a. Arzignano (VI) Via Marchetti, 28

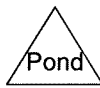
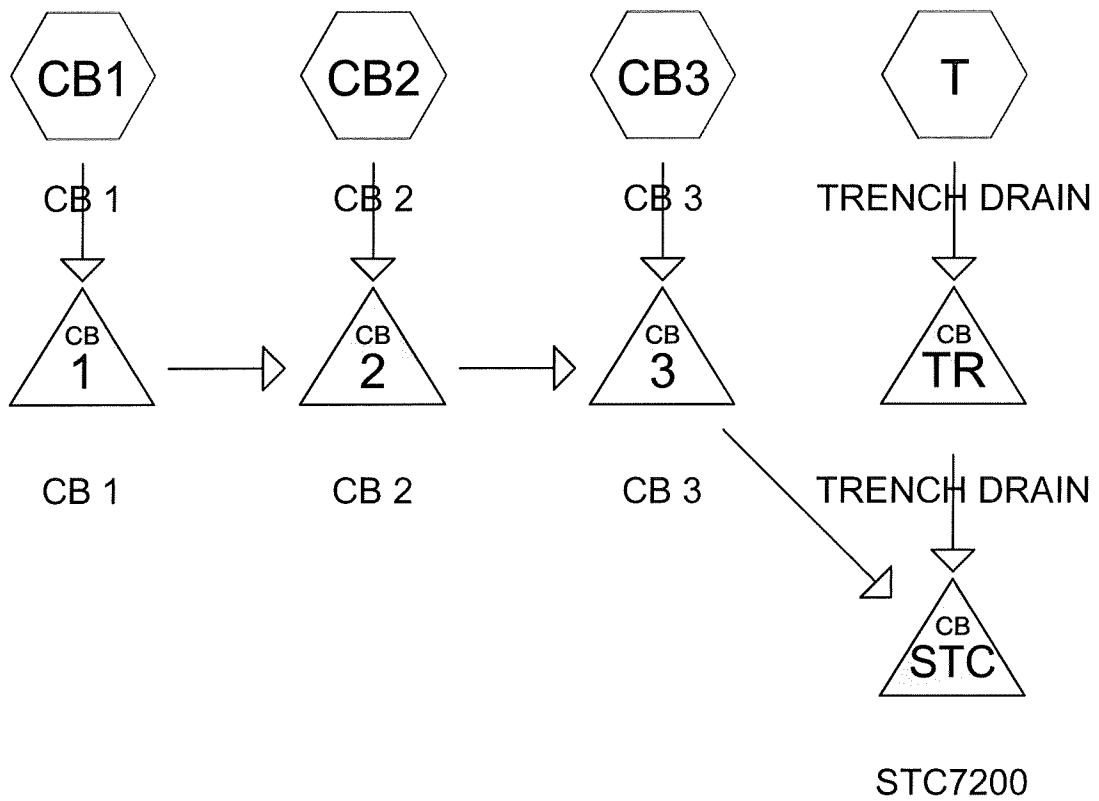
– MANUFACTURER'S DECLARATION OF CONFORMITY TYPE **B**

– DOCUMENTATION ACCOMPANYING THE FAN

2) ZENIT Spa Via Dell'Industria 15 - 41018 S. Cesario Modena (MO)

– CE DECLARATION OF CONFORMITY

– OPERATING AND MAINTENANCE MANUAL



Summary for Pond 1: CB 1

Inflow Area = 676 sf, 100.00% Impervious, Inflow Depth > 4.51" for 10 year event
 Inflow = 0.08 cfs @ 12.01 hrs, Volume= 254 cf
 Outflow = 0.08 cfs @ 12.01 hrs, Volume= 254 cf, Atten= 0%, Lag= 0.0 min
 Primary = 0.08 cfs @ 12.01 hrs, Volume= 254 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 9.74' @ 12.01 hrs
 Flood Elev= 11.72'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.59'	12.0" Round Culvert L= 116.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.59' / 7.97' S= 0.0140 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.08 cfs @ 12.01 hrs HW=9.74' TW=8.57' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 0.08 cfs @ 1.05 fps)

CivilTools ROUND PIPE HYDRAULICS

Calculations for a round pipe flowing full or partially full

ROUND PIPE HYDRAULIC CALCULATIONS	
Pipe Diameter (D):	12 Inches
Pipe Slope:	1.40%
Manning's 'n':	0.013
Full Velocity (Vf):	5.367 ft/sec.
Pipe Capacity (Qf):	4.216 cfs
Design Q (Qd, cms):	0.08 cfs
Qd/Qf:	1.9%
Depth Ratio:	9.5%
Vd/Vf:	39.0%
Flow Depth (d):	1 Inches
Flow Velocity (Vd):	2.09 ft/sec.
Slope for full flow:	0.00%

Summary for Pond 2: CB 2

Inflow Area = 9,443 sf, 100.00% Impervious, Inflow Depth > 4.66" for 10 year event
 Inflow = 1.12 cfs @ 12.03 hrs, Volume= 3,669 cf
 Outflow = 1.12 cfs @ 12.03 hrs, Volume= 3,669 cf, Atten= 0%, Lag= 0.0 min
 Primary = 1.12 cfs @ 12.03 hrs, Volume= 3,669 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 8.60' @ 12.03 hrs
 Flood Elev= 10.52'

Device	Routing	Invert	Outlet Devices
#1	Primary	7.97'	12.0" Round Culvert L= 116.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.97' / 6.35' S= 0.0140 ' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.08 cfs @ 12.03 hrs HW=8.59' TW=7.40' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 1.08 cfs @ 2.11 fps)

CivilTools ROUND PIPE HYDRAULICS

Calculations for a round pipe flowing full or partially full

ROUND PIPE HYDRAULIC CALCULATIONS	
Pipe Diameter (D):	12 Inches
Pipe Slope:	1.40%
Manning's 'n':	0.013
Full Velocity (Vf):	5.367 ft/sec.
Pipe Capacity (Qf):	4.216 cfs
Design Q (Qd, cms):	1.12 cfs
Qd/Qf:	26.6%
Depth Ratio:	35.2%
Vd/Vf:	84.5%
Flow Depth (d):	4 Inches
Flow Velocity (Vd):	4.54 ft/sec.
Slope for full flow:	0.10%

Summary for Pond 3: CB 3

Inflow Area = 19,449 sf, 100.00% Impervious, Inflow Depth > 4.66" for 10 year event
 Inflow = 2.32 cfs @ 12.03 hrs, Volume= 7,558 cf
 Outflow = 2.32 cfs @ 12.03 hrs, Volume= 7,558 cf, Atten= 0%, Lag= 0.0 min
 Primary = 2.32 cfs @ 12.03 hrs, Volume= 7,558 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 7.43' @ 12.03 hrs
 Flood Elev= 9.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.35'	12.0" Round Culvert L= 173.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.35' / 3.93' S= 0.0140 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.22 cfs @ 12.03 hrs HW=7.40' TW=6.29' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 2.22 cfs @ 2.83 fps)

CivilTools ROUND PIPE HYDRAULICS

Calculations for a round pipe flowing full or partially full

ROUND PIPE HYDRAULIC CALCULATIONS	
Pipe Diameter (D):	12 Inches
Pipe Slope:	1.40%
Manning's 'n':	0.013
Full Velocity (Vf):	5.367 ft/sec.
Pipe Capacity (Qf):	4.216 cfs
Design Q (Qd, cms):	2.32 cfs
Qd/Qf:	55.0%
Depth Ratio:	52.9%
Vd/Vf:	102.4%
Flow Depth (d):	6 Inches
Flow Velocity (Vd):	5.50 ft/sec.
Slope for full flow:	0.42%

Summary for Pond TR: TRENCH DRAIN

Inflow Area = 113,648 sf, 100.00% Impervious, Inflow Depth > 4.66" for 10 year event
 Inflow = 13.56 cfs @ 12.04 hrs, Volume= 44,157 cf
 Outflow = 13.56 cfs @ 12.04 hrs, Volume= 44,157 cf, Atten= 0%, Lag= 0.0 min
 Primary = 13.56 cfs @ 12.04 hrs, Volume= 44,157 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 7.39' @ 12.06 hrs
 Flood Elev= 8.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.59'	24.0" Round Culvert L= 132.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 4.59' / 3.93' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.12 cfs @ 12.04 hrs HW=7.25' TW=6.38' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 11.12 cfs @ 3.54 fps)

CivilTools ROUND PIPE HYDRAULICS

Calculations for a round pipe flowing full or partially full

ROUND PIPE HYDRAULIC CALCULATIONS	
Pipe Diameter (D): 24	Inches
Pipe Slope: 0.50%	
Manning's 'n': 0.013	
Full Velocity (Vf): 5.092	ft/sec.
Pipe Capacity (Qf): 15.996	cfs
Design Q (Qd, cms): 13.56	cfs
Qd/Qf: 84.8%	
Depth Ratio: 70.7%	
Vd/Vf: 112.2%	
Flow Depth (d): 17	Inches
Flow Velocity (Vd): 5.71	ft/sec.
Slope for full flow: 0.36%	

Summary for Pond STC: STC7200

Inflow Area = 133,097 sf, 100.00% Impervious, Inflow Depth > 4.66" for 10 year event
 Inflow = 15.85 cfs @ 12.04 hrs, Volume= 51,715 cf
 Outflow = 15.85 cfs @ 12.04 hrs, Volume= 51,715 cf, Atten= 0%, Lag= 0.0 min
 Primary = 15.85 cfs @ 12.04 hrs, Volume= 51,715 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 6.43' @ 12.04 hrs
 Flood Elev= 9.57'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.68'	24.0" Round Culvert L= 3.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 3.68' / 3.65' S= 0.0100 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=15.35 cfs @ 12.04 hrs HW=6.37' (Free Discharge)
 ↑ **1=Culvert** (Barrel Controls 15.35 cfs @ 4.89 fps)

CivilTools ROUND PIPE HYDRAULICS

Calculations for a round pipe flowing full or partially full

ROUND PIPE HYDRAULIC CALCULATIONS	
Pipe Diameter (D): 24	Inches
Pipe Slope: 1.00%	
Manning's 'n': 0.013	
Full Velocity (Vf): 7.201	ft/sec.
Pipe Capacity (Qf): 22.622	cfs
Design Q (Qd, cms): 15.85	cfs
Qd/Qf: 70.1%	
Depth Ratio: 61.7%	
Vd/Vf: 108.2%	
Flow Depth (d): 15	Inches
Flow Velocity (Vd): 7.79	ft/sec.
Slope for full flow: 0.49%	



Stormceptor Sizing Detailed Report

PCSWMM for Stormceptor

Project Information

Date	7/27/2012
Project Name	Rhode Island Recycled Metals
Project Number	7400.0
Location	Providence, R.I.

Stormwater Quality Objective

This report outlines how Stormceptor System can achieve a defined water quality objective through the removal of total suspended solids (TSS). Attached to this report is the Stormceptor Sizing Summary.

Stormceptor System Recommendation

The Stormceptor System model STC 7200 achieves the water quality objective removing 80% TSS for a Fine (organics, silts and sand) particle size distribution.

The Stormceptor System

The Stormceptor oil and sediment separator is sized to treat stormwater runoff by removing pollutants through gravity separation and flotation. Stormceptor's patented design generates positive TSS removal for all rainfall events, including large storms. Significant levels of pollutants such as heavy metals, free oils and nutrients are prevented from entering natural water resources and the re-suspension of previously captured sediment (scour) does not occur.

Stormceptor provides a high level of TSS removal for small frequent storm events that represent the majority of annual rainfall volume and pollutant load. Positive treatment continues for large infrequent events, however, such events have little impact on the average annual TSS removal as they represent a small percentage of the total runoff volume and pollutant load.

Stormceptor is the only oil and sediment separator on the market sized to remove TSS for a wide range of particle sizes, including fine sediments (clays and silts), that are often overlooked in the design of other stormwater treatment devices.



Small storms dominate hydrologic activity, US EPA reports

"Early efforts in stormwater management focused on flood events ranging from the 2-yr to the 100-yr storm. Increasingly stormwater professionals have come to realize that small storms (i.e. < 1 in. rainfall) dominate watershed hydrologic parameters typically associated with water quality management issues and BMP design. These small storms are responsible for most annual urban runoff and groundwater recharge. Likewise, with the exception of eroded sediment, they are responsible for most pollutant washoff from urban surfaces. Therefore, the small storms are of most concern for the stormwater management objectives of ground water recharge, water quality resource protection and thermal impacts control."

"Most rainfall events are much smaller than design storms used for urban drainage models. In any given area, most frequently recurrent rainfall events are small (less than 1 in. of daily rainfall)."

"Continuous simulation offers possibilities for designing and managing BMPs on an individual site-by-site basis that are not provided by other widely used simpler analysis methods. Therefore its application and use should be encouraged."

– US EPA Stormwater Best Management Practice Design Guide, Volume 1 – General Considerations, 2004

Design Methodology

Each Stormceptor system is sized using PCSWMM for Stormceptor, a continuous simulation model based on US EPA SWMM. The program calculates hydrology from up-to-date local historical rainfall data and specified site parameters. With US EPA SWMM's precision, every Stormceptor unit is designed to achieve a defined water quality objective.

The TSS removal data presented follows US EPA guidelines to reduce the average annual TSS load. Stormceptor's unit process for TSS removal is settling. The settling model calculates TSS removal by analyzing (summary of analysis presented in Appendix 2):

- Site parameters
- Continuous historical rainfall, including duration, distribution, peaks (Figure 1)
- Interevent periods
- Particle size distribution
- Particle settling velocities (Stokes Law, corrected for drag)
- TSS load (Figure 2)
- Detention time of the system

The Stormceptor System maintains continuous positive TSS removal for all influent flow rates. Figure 3 illustrates the continuous treatment by Stormceptor throughout the full range of storm events analyzed. It is clear that large events do not significantly impact the average annual TSS removal. There is no decline in cumulative TSS removal, indicating scour does not occur as the flow rate increases.

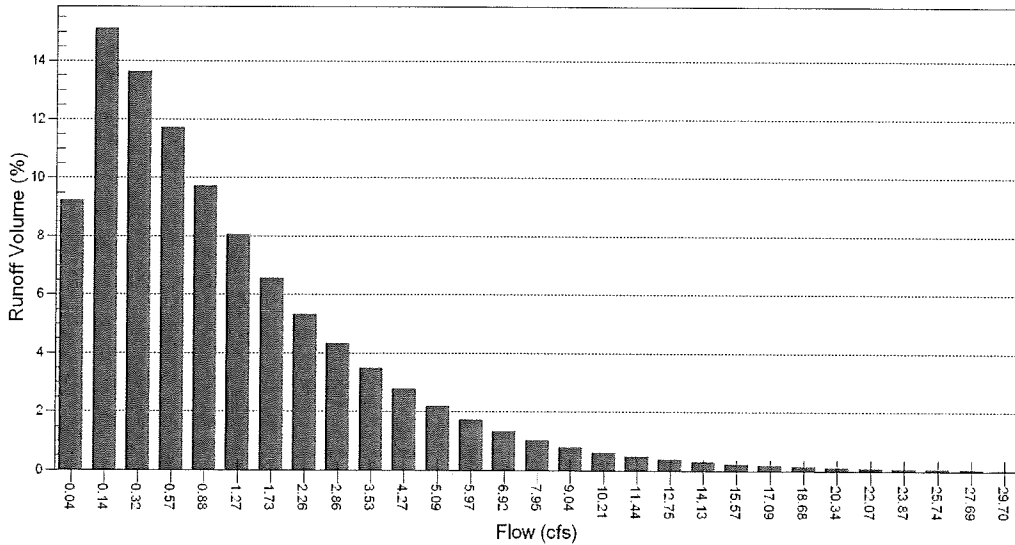


Figure 1. Runoff Volume by Flow Rate for PROVIDENCE WSO AIRPORT – RI 6698, 1948 to 2005 for 5.18 ac, 100% impervious. Small frequent storm events represent the majority of annual rainfall volume. Large infrequent events have little impact on the average annual TSS removal, as they represent a small percentage of the total annual volume of runoff.

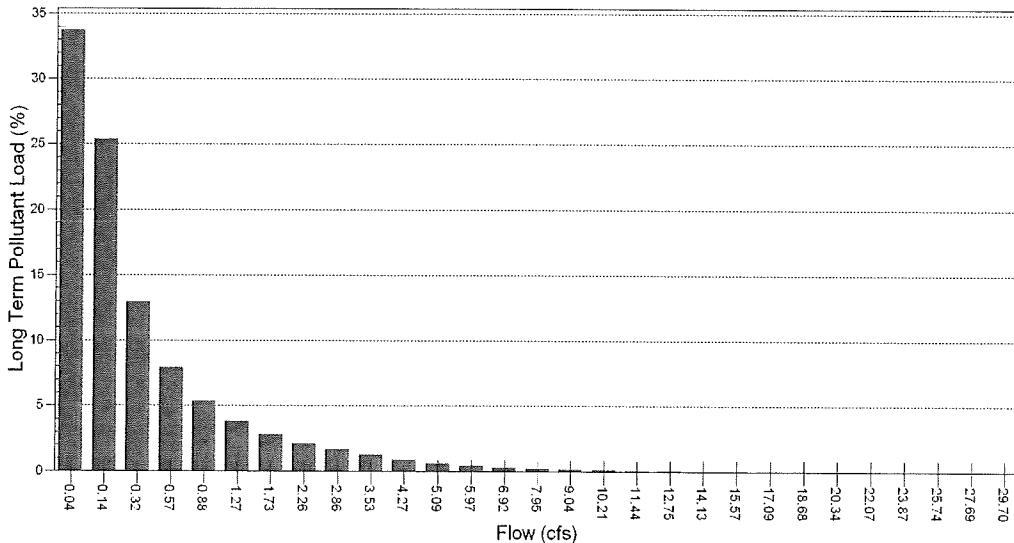


Figure 2. Long Term Pollutant Load by Flow Rate for PROVIDENCE WSO AIRPORT – 6698, 1948 to 2005 for 5.18 ac, 100% impervious. The majority of the annual pollutant load is transported by small



frequent storm events. Conversely, large infrequent events carry an insignificant percentage of the total annual pollutant load.

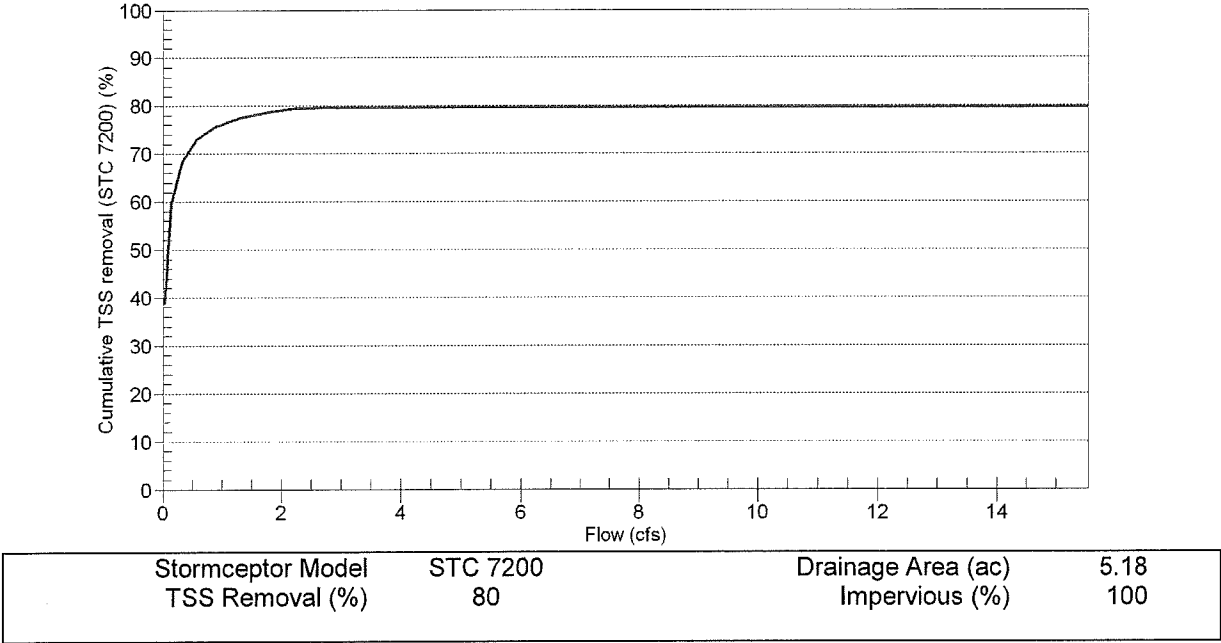


Figure 3. Cumulative TSS Removal by Flow Rate for PROVIDENCE WSO AIRPORT – 6698, 1948 to 2005. Stormceptor continuously removes TSS throughout the full range of storm events analyzed. Note that large events do not significantly impact the average annual TSS removal. Therefore no decline in cumulative TSS removal indicates scour does not occur as the flow rate increases.



Appendix 1 Stormceptor Design Summary

Project Information

Date	7/27/2012
Project Name	Rhode Island Recycled Metals
Project Number	7400.0
Location	Providence, R.I.

Designer Information

Company	Coneco Engineers & Scientists
Contact	David Guerriero, E.I.T.

Notes

N/A

Drainage Area

Total Area (ac)	5.18
Imperviousness (%)	100

The Stormceptor System model STC 7200 achieves the water quality objective removing 80% TSS for a Fine (organics, silts and sand) particle size distribution.

Rainfall

Name	PROVIDENCE WSO AIRPORT
State	RI
ID	6698
Years of Records	1948 to 2005
Latitude	41°43'19"N
Longitude	71°25'57"W

Water Quality Objective

TSS Removal (%)	80
-----------------	----

Upstream Storage

Storage (ac-ft)	Discharge (cfs)
0	0

Stormceptor Sizing Summary

Stormceptor Model	TSS Removal %
STC 450i	54
STC 900	65
STC 1200	65
STC 1800	65
STC 2400	71
STC 3600	71
STC 4800	76
STC 6000	76
STC 7200	80
STC 11000	84
STC 13000	84
STC 16000	87



Particle Size Distribution

Removing silt particles from runoff ensures that the majority of the pollutants, such as hydrocarbons and heavy metals that adhere to fine particles, are not discharged into our natural water courses. The table below lists the particle size distribution used to define the annual TSS removal.

Fine (organics, silts and sand)								
Particle Size	Distribution	Specific Gravity	Settling Velocity		Particle Size	Distribution	Specific Gravity	Settling Velocity
µm	%		ft/s		µm	%		ft/s
20	20	1.3	0.0013					
60	20	1.8	0.0051					
150	20	2.2	0.0354					
400	20	2.65	0.2123					
2000	20	2.65	0.9417					

Stormceptor Design Notes

- Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor.
- Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal.
- Only the STC 450i is adaptable to function with a catch basin inlet and/or inline pipes.
- Only the Stormceptor models STC 450i to STC 7200 may accommodate multiple inlet pipes.
- Inlet and outlet invert elevation differences are as follows:

Inlet and Outlet Pipe Invert Elevations Differences

Inlet Pipe Configuration	STC 450i	STC 900 to STC 7200	STC 11000 to STC 16000
Single inlet pipe	3 in.	1 in.	3 in.
Multiple inlet pipes	3 in.	3 in.	Only one inlet pipe.

- Design estimates are based on stable site conditions only, after construction is completed.
- Design estimates assume that the storm drain is not submerged during zero flows. For submerged applications, please contact your local Stormceptor representative.
- Design estimates may be modified for specific spills controls. Please contact your local Stormceptor representative for further assistance.
- For pricing inquiries or assistance, please contact Rinker Materials 1 (800) 909-7763 www.rinkerstormceptor.com





**Appendix 2
Summary of Design Assumptions**

SITE DETAILS

Site Drainage Area

Total Area (ac)	5.18	Imperviousness (%)	100
-----------------	------	--------------------	-----

Surface Characteristics

Width (ft)	950
Slope (%)	2
Impervious Depression Storage (in.)	0.02
Pervious Depression Storage (in.)	0.2
Impervious Manning's n	0.015
Pervious Manning's n	0.25

Infiltration Parameters

Horton's equation is used to estimate infiltration	
Max. Infiltration Rate (in/hr)	2.44
Min. Infiltration Rate (in/hr)	0.4
Decay Rate (s ⁻¹)	0.00055
Regeneration Rate (s ⁻¹)	0.01

Maintenance Frequency

Sediment build-up reduces the storage volume for sedimentation. Frequency of maintenance is assumed for TSS removal calculations.	
Maintenance Frequency (months)	12

Evaporation

Daily Evaporation Rate (inches/day)	0.1
-------------------------------------	-----

Dry Weather Flow

Dry Weather Flow (cfs)	No
------------------------	----

Upstream Attenuation

Stage-storage and stage-discharge relationship used to model attenuation upstream of the Stormceptor System is identified in the table below.

Storage ac-ft	Discharge cfs
0	0



PARTICLE SIZE DISTRIBUTION

Particle Size Distribution

Removing fine particles from runoff ensures the majority of pollutants, such as heavy metals, hydrocarbons, free oils and nutrients are not discharged into natural water resources. The table below identifies the particle size distribution selected to define TSS removal for the design of the Stormceptor System.

Fine (organics, silts and sand)							
Particle Size μm	Distribution %	Specific Gravity	Settling Velocity ft/s	Particle Size μm	Distribution %	Specific Gravity	Settling Velocity ft/s
20	20	1.3	0.0013				
60	20	1.8	0.0051				
150	20	2.2	0.0354				
400	20	2.65	0.2123				
2000	20	2.65	0.9417				

PCSWMM for Stormceptor
Grain Size Distributions

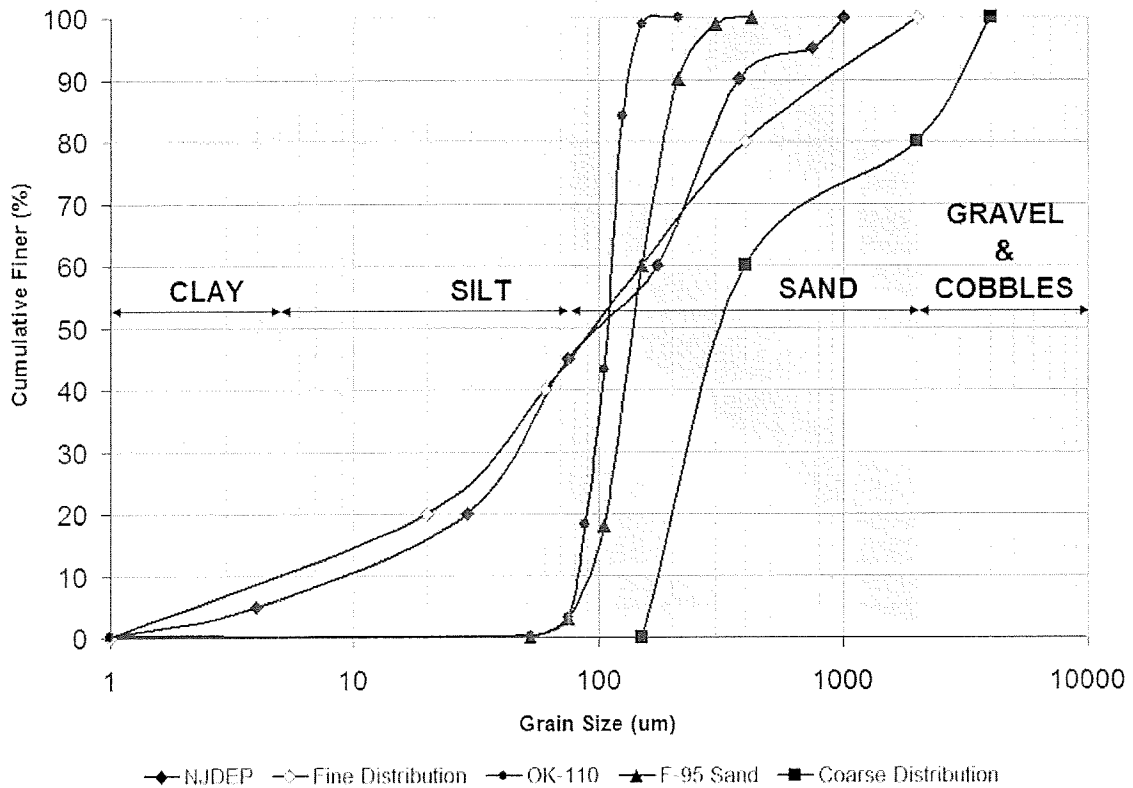


Figure 1. PCSWMM for Stormceptor standard design grain size distributions.



TSS LOADING

TSS Loading Parameters

TSS Loading Function	Buildup / Washoff
----------------------	-------------------

Parameters

Target Event Mean Concentration (EMC) (mg/L)	125
Exponential Buildup Power	0.4
Exponential Washoff Exponential	0.2

HYDROLOGY ANALYSIS

PCSWMM for Stormceptor calculates annual hydrology with the US EPA SWMM and local continuous historical rainfall data. Performance calculations of the Stormceptor System are based on the average annual removal of TSS for the selected site parameters. The Stormceptor System is engineered to capture fine particles (silts and sands) by focusing on average annual runoff volume ensuring positive removal efficiency is maintained during all rainfall events, while preventing the opportunity for negative removal efficiency (scour).

Smaller recurring storms account for the majority of rainfall events and average annual runoff volume, as observed in the historical rainfall data analyses presented in this section.

Rainfall Station

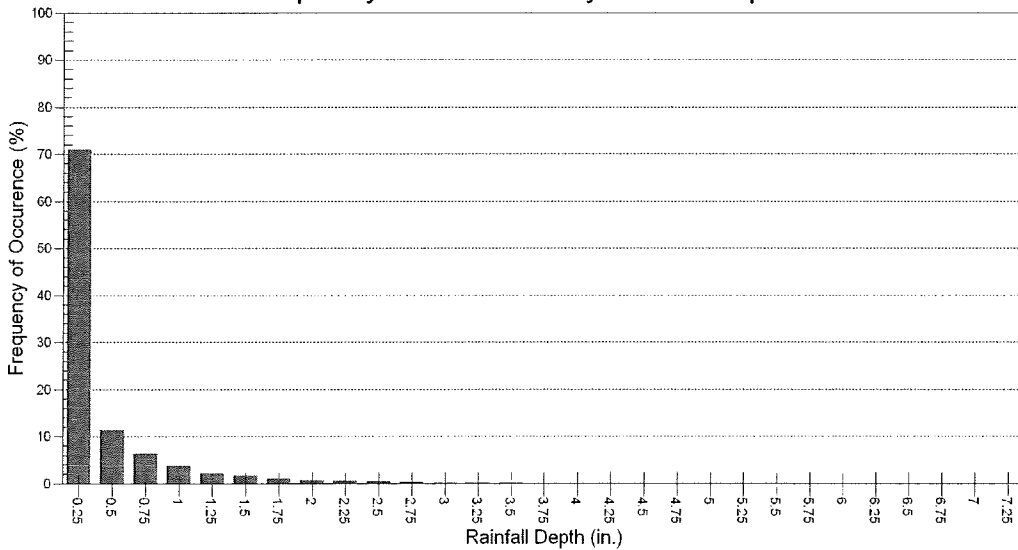
Rainfall Station	PROVIDENCE WSO AIRPORT		
Rainfall File Name	RI6698.NDC	Total Number of Events	8949
Latitude	41°43'19"N	Total Rainfall (in.)	2585.3
Longitude	71°25'57"W	Average Annual Rainfall (in.)	44.6
Elevation (ft)		Total Evaporation (in.)	247.8
Rainfall Period of Record (y)	58	Total Infiltration (in.)	0.0
Total Rainfall Period (y)	58	Percentage of Rainfall that is Runoff (%)	92.5



Rainfall Event Analysis

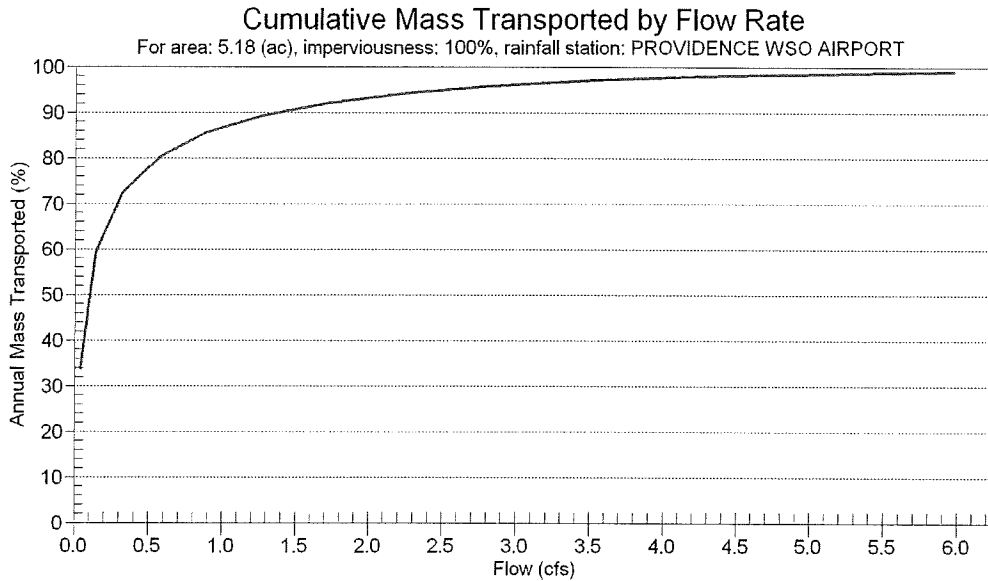
Rainfall Depth in.	No. of Events	Percentage of Total Events %	Total Volume in.	Percentage of Annual Volume %
0.25	6350	71.0	402	15.6
0.50	1021	11.4	370	14.3
0.75	560	6.3	347	13.4
1.00	343	3.8	302	11.7
1.25	199	2.2	223	8.6
1.50	148	1.7	203	7.8
1.75	91	1.0	148	5.7
2.00	65	0.7	122	4.7
2.25	58	0.6	123	4.8
2.50	33	0.4	78	3.0
2.75	29	0.3	76	2.9
3.00	13	0.1	37	1.4
3.25	12	0.1	37	1.5
3.50	8	0.1	27	1.0
3.75	4	0.0	14	0.6
4.00	1	0.0	4	0.2
4.25	4	0.0	16	0.6
4.50	3	0.0	13	0.5
4.75	0	0.0	0	0.0
5.00	3	0.0	15	0.6
5.25	1	0.0	5	0.2
5.50	0	0.0	0	0.0
5.75	0	0.0	0	0.0
6.00	0	0.0	0	0.0
6.25	0	0.0	0	0.0
6.50	0	0.0	0	0.0
6.75	1	0.0	7	0.3
7.00	0	0.0	0	0.0
7.25	0	0.0	0	0.0
7.50	1	0.0	7	0.3
7.75	0	0.0	0	0.0
8.00	0	0.0	0	0.0
8.25	1	0.0	8	0.3
>8.25	0	0.0	0	0.0

Frequency of Occurrence by Rainfall Depths



Pollutograph

Flow Rate	Cumulative Mass
cfs	%
0.035	33.9
0.141	59.3
0.318	72.3
0.565	80.2
0.883	85.5
1.271	89.3
1.73	92.1
2.26	94.2
2.86	95.9
3.531	97.1
4.273	98.0
5.065	98.6
5.968	99.0
6.922	99.3
7.946	99.5
9.041	99.6
10.206	99.7
11.442	99.8
12.749	99.9
14.126	99.9
15.574	99.9
17.092	100.0
18.681	100.0
20.341	100.0
22.072	100.0
23.873	100.0
25.744	100.0
27.687	100.0
29.7	100.0
31.783	100.0



Stormceptor[®] -----STC

Technical Manual

Rinker
MATERIALS™

Stormceptor Design Notes

- Only the STC 450i is adaptable to function with a catch basin inlet and/or inline pipes.
- Only the Stormceptor models STC 450i to STC 7200 may accommodate multiple inlet pipes.

Inlet and outlet invert elevation differences are as follows:

Inlet and Outlet Pipe Invert Elevations Differences			
Inlet Pipe Configuration	STC 450i	STC 900 to STC 7200	STC 11000 to STC 16000
Single inlet pipe	3 in. (75 mm)	1 in. (25 mm)	3 in. (75 mm)
Multiple inlet pipes	3 in. (75 mm)	3 in. (75 mm)	Only one inlet pipe.

Maximum inlet and outlet pipe diameters:

Inlet/Outlet Configuration	Inlet Unit STC 450i	In-Line Unit STC 900 to STC 7200	Series* STC 11000 to STC 16000
Straight Through	24 inch (600 mm)	42 inch (1050 mm)	60 inch (1500 mm)
Bend (90 degrees)	18 inch (450 mm)	33 inch (825 mm)	33 inch (825 mm)

- The inlet and in-line Stormceptor units can accommodate turns to a maximum of 90 degrees.
- Minimum distance from top of grade to crown is 2 feet (0.6 m)
- Submerged conditions. A unit is submerged when the standing water elevation at the proposed location of the Stormceptor unit is greater than the outlet invert elevation during zero flow conditions. In these cases, please contact your local Stormceptor representative and provide the following information:
 - Top of grade elevation
 - Stormceptor inlet and outlet pipe diameters and invert elevations
 - Standing water elevation
- Stormceptor head loss, $K = 1.3$ (for submerged condition, $K = 4$)

For technical assistance and pricing, please contact:

Rinker Materials – Concrete Pipe Division

Tel: 800-909-7763

www.rinkerstormceptor.com

Stormceptor®

-----STC

Design Worksheet

PROJECT INFORMATION

Date: _____ Project Number: _____ Project Name: _____ City/Town: _____ Development Type: _____ Province: _____	Total Drainage Area: _____ acres Impervious: _____ % Upstream Quantity Control (A2): YES NO Is the unit submerged (C4): YES NO Describe Land Cover: _____ Describe Land Use: _____
---	---

A. DESIGN FOR TOTAL SUSPENDED SOLIDS REMOVAL

Units are sized for TSS removal. All units are designed for spills capture for hydrocarbon with a specific gravity of 0.86.

A1. Identify Water Quality Objective:

Desired Water Quality Objective: _____ % Annual TSS Removal

A2. If upstream quantity control exists, identify stage storage and discharge information:

	Elevation (ft)	Storage (acre-feet)	Discharge (ft ³ /s)
Permanent Water Level	_____	_____	_____
5 year	_____	_____	_____
10 year	_____	_____	_____
25 year	_____	_____	_____
100 year	_____	_____	_____

A3. Select Particle Size Distribution:

Fine Distribution

Coarse Distribution

Fine Distribution		Coarse Distribution	
Particle Size um	Distribution %	Particle Size um	Distribution %
20	20	150	60
60	20	400	20
150	20	2000	20
400	20		
2000	20		

User Defined Particle Size Distribution

Identify particle size distribution (please contact your local Stormceptor representative)

Particle Size um	Distribution %	Specific Gravity

A4. Enter all parameters from items A1 to A3 into the PCSWMM for Stormceptor to select the model that meets the water quality objective.

SUMMARY OF STORMCEPTOR REQUIREMENTS FOR TSS REMOVAL

Stormceptor Model:	_____
Annual TSS Removed:	_____ %
Annual Runoff Captured:	_____ %

B. STORMCEPTOR SITING CONSIDERATIONS

B1. Difference Between Inlet and Outlet Invert Elevations:

Number of Inlet Pipes	Inlet Unit STC 450	In-line STC 900 to STC 7200	Series STC 11000 to STC 16000
One	3 inches	1 inch	3 inches
>1	3 inches	3 inches	N/A

B2. Other considerations:

Minimum Distance From Top of Grade to Invert Elevation	4 feet
Bends:	The inlet and in-line Stormceptor units can accommodate turns to a maximum of 90 degrees
Multiple Inlet Pipe:	Yes for Inlet and In-Line Stormceptor Units. Please contact your local affiliate for more details
Inlet Covers	Only the STC 450 can accommodate a catch basin frame and cover.

B3. Standard maximum inlet and outlet pipe diameters:

Inlet/Outlet Configuration	Inlet Unit STC 450	In-line STC 900 to STC 7200	Series STC 11000 to STC 16000
Straight Through	24 inch	42 inch	96 inch
Bend	18 inch	33 inch	42 inch

Please contact your local Stormceptor representative for larger pipe diameters.

B4. Submerged conditions:

A unit is submerged when the standing water elevation at the proposed location of the Stormceptor unit is greater than the outlet invert elevation during zero flow conditions. In these cases, please contact your local Stormceptor representative for further assistance.

STORMCEPTOR® QUOTATION AND ORDER FORM

Quotation No: _____
Date: _____

Project Information:

Project Number: _____
Project Name: _____
Closing Date: _____
Jobsite Address: _____
Municipality: _____

Contractor Information

Contact Name: _____
Company: _____
Phone No: _____
Fax No: _____
E-mail: _____

Consultant Information:

Contact Name: _____
Company: _____
Phone No: _____
Fax No: _____
E-mail: _____

Owner Information (Required for Maintenance):

Contact Name: _____
Company: _____
Phone No: _____
Fax No: _____
E-mail: _____

Land Use (Check one):

- Commercial Gas Station Government Industrial Military
 Street Residential Transportation Other _____

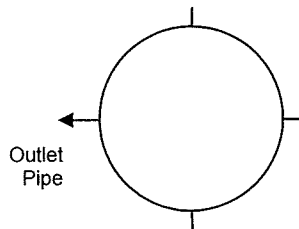
STORMCEPTOR INFORMATION

Structure No.: _____
Top of Grate Elev.: _____
Outlet Invert Elev.: _____
Inlet invert Elev.: _____
Outlet Pipe Material: _____
Inlet Pipe Material: _____

STORMCEPTOR MODEL REQUIRED (circle model number)

INLET SYSTEM

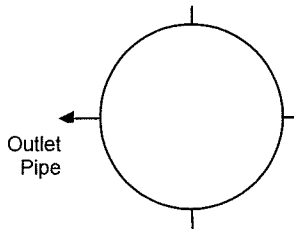
STC 450



Show Orientation of Inlet Pipe

IN-LINE SYSTEM

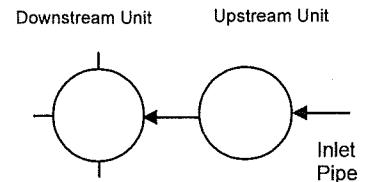
STC 900	STC 1200	STC 1800
STC 2400	STC 3600	STC 4800
STC 6000	STC 7200	



Show Orientation of Inlet Pipe

SERIES SYSTEM

STC 11000	STC 16000
STC 13000	



Show Orientation of Outlet Pipe on Downstream Unit

Please complete the attached form and fax to your local Stormceptor representative
www.rinkerstormceptor.com

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1. About Stormceptor

The Stormceptor® STC (Standard Treatment Cell) was developed by Imbrium™ Systems to address the growing need to remove and isolate pollution from the storm drain system before it enters the environment. The Stormceptor STC targets hydrocarbons and total suspended solids (TSS) in stormwater runoff. It improves water quality by removing contaminants through the gravitational settling of fine sediments and floatation of hydrocarbons while preventing the re-suspension or scour of previously captured pollutants.

The development of the Stormceptor STC revolutionized stormwater treatment, and created an entirely new category of environmental technology. Protecting thousands of waterways around the world, the Stormceptor System has set the standard for effective stormwater treatment.

1.1. Distribution Network

Imbrium Systems has partnered with a global network of affiliates who manufacture and distribute the Stormceptor System. In the United States contact Rinker Materials for additional information concerning the Stormceptor System.

United States

Rinker Materials – Concrete
Pipe Division
6560 Langfield Road
Building 3
Houston TX 77092

Toll Free: 800 909 7763
Fax: 832 590 5399
www.rinkerstormceptor.com

1.2. Patent Information

The Stormceptor technology is protected by the following patents:

- **Australia Patent No.** 693,164 • 693,164 • 707,133 • 729,096 • 779401
- **Austrian Patent No.** 289647
- **Canadian Patent No** 2,009,208 • 2,137,942 • 2,175,277 • 2,180,305 • 2,180,383 • 2,206,338 • 2,327,768 (Pending)
- **China Patent No** 1168439
- **Denmark DK** 711879
- **German DE** 69534021
- **Indonesian Patent No** 16688
- **Japan Patent No** 9-11476 (Pending)
- **Korea** 10-2000-0026101 (Pending)
- **Malaysia Patent No** PI9701737 (Pending)
- **New Zealand Patent No** 314646
- **United States Patent No** 4,985,148 • 5,498,331 • 5,725,760 • 5,753,115 • 5,849,181 • 6,068,765 • 6,371,690
- **Stormceptor OSR Patent Pending** • **Stormceptor LCS Patent Pending**

1.3. Contact Imbrium Systems

Contact us today if you require more information on other products:

Imbrium Systems Corp.

9420 Key West Avenue
Suite 140
Rockville, MD 20850

T 888 279 8826

info@imbriumsystems.com

www.imbriumsystems.com

2. Stormceptor Design Overview

2.1. Design Philosophy

The patented Stormceptor System has been designed to focus on the environmental objective of providing long-term pollution control. The unique and innovative Stormceptor design allows for continuous positive treatment of runoff during all rainfall events, while ensuring that all captured pollutants are retained within the system, even during intense storm events.

An integral part of the Stormceptor design is PCSWMM for Stormceptor - sizing software developed in conjunction with Computational Hydraulics Inc. (CHI) and internationally acclaimed expert, Dr. Bill James. Using local historical rainfall data and continuous simulation modeling, this software allows a Stormceptor unit to be designed for each individual site and the corresponding water quality objectives.

By using PCSWMM for Stormceptor, the Stormceptor System can be designed to remove a wide range of particles (typically from 20 to 2,000 microns), and can also be customized to remove a specific particle size distribution (PSD). The specified PSD should accurately reflect what is in the stormwater runoff to ensure the device is achieving the desired water quality objective. Since stormwater runoff contains small particles (less than 75 microns), it is important to design a treatment system to remove smaller particles in addition to coarse particles.

2.2. Benefits

The Stormceptor System removes free oil and suspended solids from stormwater, preventing spills and non-point source pollution from entering downstream lakes and rivers. The key benefits, capabilities and applications of the Stormceptor System are as follows:

- Provides continuous positive treatment during all rainfall events
- Can be designed to remove over 80% of the annual sediment load
- Removes a wide range of particles
- Can be designed to remove a specific particle size distribution (PSD)
- Captures free oil from stormwater
- Prevents scouring or re-suspension of trapped pollutants
- Pre-treatment to reduce maintenance costs for downstream treatment measures (ponds, swales, detention basins, filters)
- Groundwater recharge protection
- Spills capture and mitigation
- Simple to design and specify
- Designed to your local watershed conditions
- Small footprint to allow for easy retrofit installations
- Easy to maintain (vacuum truck)
- Multiple inlets can connect to a single unit
- Suitable as a bend structure
- Pre-engineered for traffic loading (minimum AASHTO HS-20)
- Minimal elevation drop between inlet and outlet pipes
- Small head loss
- Additional protection provided by an 18" (457 mm) fiberglass skirt below the top of the insert, for the containment of hydrocarbons in the event of a spill.

2.3. Environmental Benefit

Freshwater resources are vital to the health and welfare of their surrounding communities. There is increasing public awareness, government regulations and corporate commitment to reducing the pollution entering our waterways. A major source of this pollution originates from stormwater runoff from urban areas. Rainfall runoff carries oils, sediment and other contaminants from roads and parking lots discharging directly into our streams, lakes and coastal waterways.

The Stormceptor System is designed to isolate contaminants from getting into the natural environment. The Stormceptor technology provides protection for the environment from spills that occur at service stations and vehicle accident sites, while also removing contaminated sediment in runoff that washes from roads and parking lots.

3. Key Operation Features

3.1. Scour Prevention

A key feature of the Stormceptor System is its patented scour prevention technology. This innovation ensures pollutants are captured and retained during all rainfall events, even extreme storms. The Stormceptor System provides continuous positive treatment for all rainfall events, including intense storms. Stormceptor slows incoming runoff, controlling and reducing velocities in the lower chamber to create a non-turbulent environment that promotes free oils and floatable debris to rise and sediment to settle.

The patented scour prevention technology, the fiberglass insert, regulates flows into the lower chamber through a combination of a weir and orifice while diverting high energy flows away through the upper chamber to prevent scouring. Laboratory testing demonstrated no scouring when tested up to 125% of the unit's operating rate, with the unit loaded to 100% sediment capacity (NJDEP, 2005). Second, the depth of the lower chamber ensures the sediment storage zone is adequately separated from the path of flow in the lower chamber to prevent scouring.

3.2. Operational Hydraulic Loading Rate

Designers and regulators need to evaluate the treatment capacity and performance of manufactured stormwater treatment systems. A commonly used parameter is the "operational hydraulic loading rate" which originated as a design methodology for wastewater treatment devices.

Operational hydraulic loading rate may be calculated by dividing the flow rate into a device by its settling area. This represents the critical settling velocity that is the prime determinant to quantify the influent particle size and density captured by the device. PCSWMM for Stormceptor uses a similar parameter that is calculated by dividing the hydraulic detention time in the device by the fall distance of the sediment.

$$v_{SC} = \frac{H}{\theta_H} = \frac{Q}{A_S}$$

Where:

v_{SC} = critical settling velocity, ft/s (m/s)

H = tank depth, ft (m)

θ_H = hydraulic detention time, ft/s (m/s)

Q = volumetric flow rate, ft³/s (m³/s)

A_S = surface area, ft² (m²)

(Tchobanoglous, G. and Schroeder, E.D. 1987. Water Quality. Addison Wesley.)

Unlike designing typical wastewater devices, stormwater systems are designed for highly variable flow rates including intense peak flows. PCSWMM for Stormceptor incorporates all of the flows into its calculations, ensuring that the operational hydraulic loading rate is considered not only for one flow rate, but for all flows including extreme events.

3.3. Double Wall Containment

The Stormceptor System was conceived as a pollution identifier to assist with identifying illicit discharges. The fiberglass insert has a continuous skirt that lines the concrete barrel wall for a depth of 18 inches (457 mm) that provides double wall containment for hydrocarbons storage. This protective barrier ensures that toxic floatables do not migrate through the concrete wall into the surrounding soils.

4. Stormceptor Product Line

4.1. Stormceptor Models

A summary of Stormceptor models and capacities are listed in Table 1.

Table 1. Stormceptor Models

Stormceptor Model	Total Storage Volume U.S. Gal (L)	Hydrocarbon Storage Capacity U.S. Gal (L)	Maximum Sediment Capacity ft ³ (L)
STC 450i	470 (1,780)	86 (330)	46 (1,302)
STC 900	952 (3,600)	251 (950)	89 (2,520)
STC 1200	1,234 (4,670)	251 (950)	127 (3,596)
STC 1800	1,833 (6,940)	251 (950)	207 (5,861)
STC 2400	2,462 (9,320)	840 (3,180)	205 (5,805)
STC 3600	3,715 (1,406)	840 (3,180)	373 (10,562)
STC 4800	5,059 (1,950)	909 (3,440)	543 (15,376)
STC 6000	6,136 (23,230)	909 (3,440)	687 (19,453)
STC 7200	7,420 (28,090)	1,059 (4,010)	839 (23,757)
STC 11000	11,194 (42,370)	2,797 (10, 590)	1,086 (30,752)
STC 13000	13,348 (50,530)	2,797 (10, 590)	1,374 (38,907)
STC 16000	15,918 (60,260)	3,055 (11, 560)	1,677 (47,487)

NOTE: Storage volumes may vary slightly from region to region. For detailed information, contact your local Stormceptor representative.

4.2. Inline Stormceptor

The Inline Stormceptor, Figure 1, is the standard design for most stormwater treatment applications. The patented Stormceptor design allows the Inline unit to maintain continuous positive treatment of total suspended solids (TSS) year-round, regardless of flow rate. The Inline Stormceptor is composed of a precast concrete tank with a fiberglass insert situated at the invert of the storm sewer pipe, creating an upper chamber above the insert and a lower chamber below the insert.

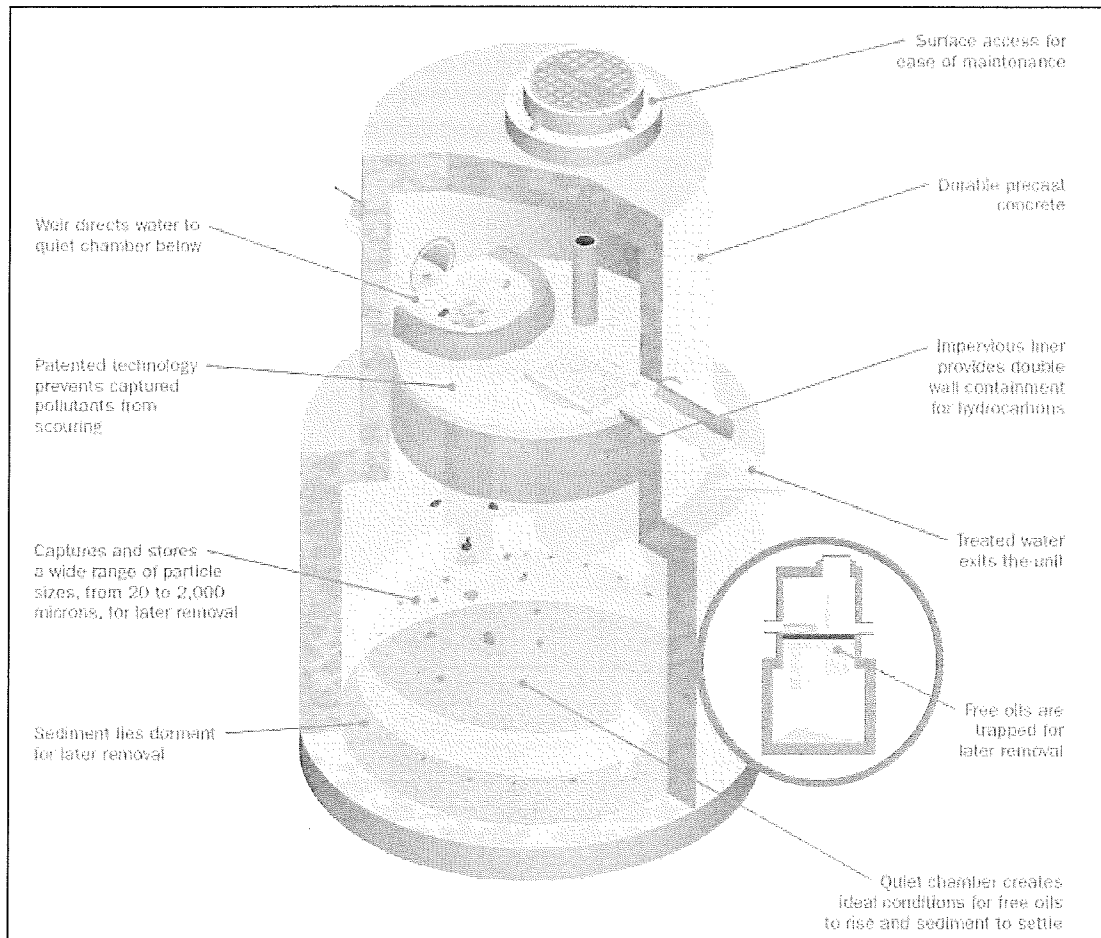


Figure 1. Inline Stormceptor

Operation

As water flows into the Stormceptor unit, it is slowed and directed to the lower chamber by a weir and drop tee. The stormwater enters the lower chamber, a non-turbulent environment, allowing free oils to rise and sediment to settle. The oil is captured underneath the fiberglass insert and shielded from exposure to the concrete walls by a fiberglass skirt. After the pollutants separate, treated water continues up a riser pipe, and exits the lower chamber on the downstream side of the weir before leaving the unit. During high flow events, the Stormceptor System's patented scour prevention technology ensures continuous pollutant removal and prevents re-suspension of previously captured pollutants.

4.3. Inlet Stormceptor

The Inlet Stormceptor System, Figure 2, was designed to provide protection for parking lots, loading bays, gas stations and other spill-prone areas. The Inlet Stormceptor is designed to remove sediment from stormwater introduced through a grated inlet, a storm sewer pipe, or both.

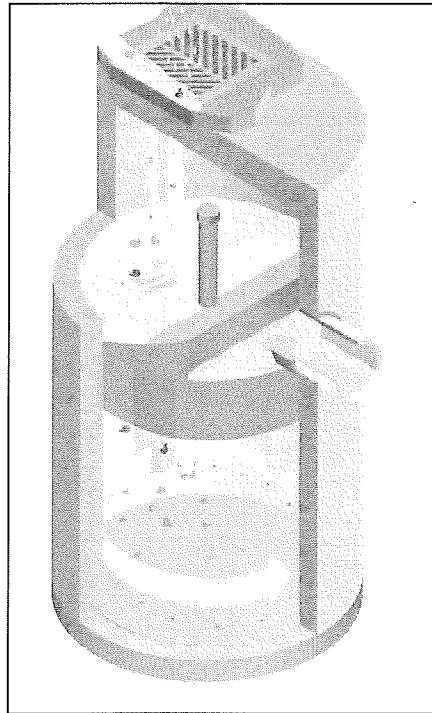


Figure 2. Inlet Stormceptor

The Inlet Stormceptor design operates in the same manner as the Inline unit, providing continuous positive treatment, and ensuring that captured material is not re-suspended.

4.4. Series Stormceptor

Designed to treat larger drainage areas, the Series Stormceptor System, Figure 3, consists of two adjacent Stormceptor models that function in parallel. This design eliminates the need for additional structures and piping to reduce installation costs.

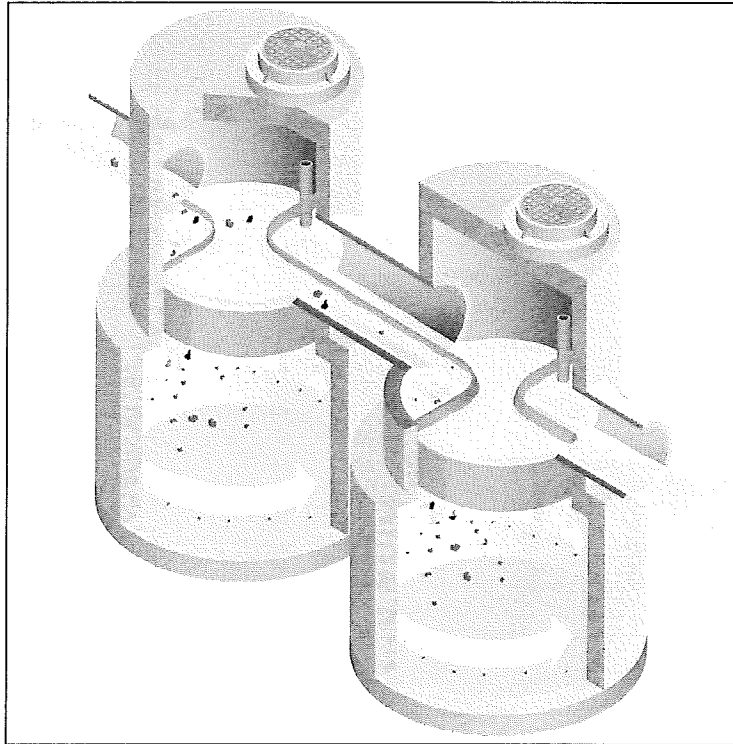


Figure 3. Series System

The Series Stormceptor design operates in the same manner as the Inline unit, providing continuous positive treatment, and ensuring that captured material is not re-suspended.

5. Sizing the Stormceptor System

The Stormceptor System is a versatile product that can be used for many different aspects of water quality improvement. While addressing these needs, there are conditions that the designer needs to be aware of in order to size the Stormceptor model to meet the demands of each individual site in an efficient and cost-effective manner.

PCSWMM for Stormceptor is the support tool used for identifying the appropriate Stormceptor model. In order to size a unit, it is recommended the user follow the seven design steps in the program. The steps are as follows:

STEP 1 – Project Details

The first step prior to sizing the Stormceptor System is to clearly identify the water quality objective for the development. It is recommended that a level of annual sediment (TSS) removal be identified and defined by a particle size distribution.

STEP 2 – Site Details

Identify the site development by the drainage area and the level of imperviousness. It is recommended that imperviousness be calculated based on the actual area of imperviousness based on paved surfaces, sidewalks and rooftops.

STEP 3 – Upstream Attenuation

The Stormceptor System is designed as a water quality device and is sometimes used in conjunction with onsite water quantity control devices such as ponds or underground detention systems. When possible, a greater benefit is typically achieved when installing a Stormceptor unit upstream of a detention facility. By placing the Stormceptor unit upstream of a detention structure, a benefit of less maintenance of the detention facility is realized.

STEP 4 – Particle Size Distribution

It is critical that the PSD be defined as part of the water quality objective. PSD is critical for the design of treatment system for a unit process of gravity settling and governs the size of a treatment system. A range of particle sizes has been provided and it is recommended that clays and silt-sized particles be considered in addition to sand and gravel-sized particles. Options and sample PSDs are provided in PCSWMM for Stormceptor. The default particle size distribution is the Fine Distribution, Table 2, option.

Table 2. Fine Distribution

Particle Size	Distribution	Specific Gravity
20	20%	1.3
60	20%	1.8
150	20%	2.2
400	20%	2.65
2000	20%	2.65

If the objective is the long-term removal of 80% of the total suspended solids on a given site, the PSD should be representative of the expected sediment on the site. For example, a system designed to remove 80% of coarse particles (greater than 75 microns) would provide relatively poor removal efficiency of finer particles that may be naturally prevalent in runoff from the site.

Since the small particle fraction contributes a disproportionately large amount of the total available particle surface area for pollutant adsorption, a system designed primarily for coarse particle capture will compromise water quality objectives.

STEP 5 – Rainfall Records

Local historical rainfall has been acquired from the U.S. National Oceanic and Atmospheric Administration, Environment Canada and regulatory agencies across North America. The rainfall data provided with PCSMM for Stormceptor provides an accurate estimation of small storm hydrology by modeling actual historical storm events including duration, intensities and peaks.

STEP 6 – Summary

At this point, the program may be executed to predict the level of TSS removal from the site. Once the simulation has completed, a table shall be generated identifying the TSS removal of each Stormceptor unit.

Step 7 – Sizing Summary

Performance estimates of all Stormceptor units for the given site parameters will be displayed in a tabular format. The unit that meets the water quality objective, identified in Step 1, will be highlighted.

5.1. PCSWMM for Stormceptor

The Stormceptor System has been developed in conjunction with PCSWMM for Stormceptor as a technological solution to achieve water quality goals. Together, these two innovations model, simulate, predict and calculate the water quality objectives desired by a design engineer for TSS removal.

PCSWMM for Stormceptor is a proprietary sizing program which uses site specific inputs to a computer model to simulate sediment accumulation, hydrology and long-term total suspended solids removal. The model has been calibrated to field monitoring results from Stormceptor units that have been monitored in North America. The sizing methodology can be described by three processes:

1. Determination of real time hydrology
2. Buildup and wash off of TSS from impervious land areas
3. TSS transport through the Stormceptor (settling and discharge). The use of a calibrated model is the preferred method for sizing stormwater quality structures for the following reasons:
 - a. The hydrology of the local area is properly and **accurately** incorporated in the sizing (distribution of flows, flow rate ranges and peaks, back-to-back storms, inter-event times)
 - b. The distribution of TSS with the hydrology is properly and **accurately** considered in the sizing
 - c. Particle size distribution is properly considered in the sizing
 - d. The sizing can be optimized for TSS removal
 - e. The cost benefit of alternate TSS removal criteria can be easily assessed
 - f. The program assesses the performance of all Stormceptor models. Sizing may be selected based on a specific water quality outcome or based on the Maximum Extent Practicable

For more information regarding PCSWMM for Stormceptor, contact your local Stormceptor representative, or visit www.imbriumsystems.com to download a free copy of the program.

5.2. Sediment Loading Characteristics

The way in which sediment is transferred to stormwater can have a considerable effect on which type of system is implemented. On typical impervious surfaces (e.g. parking lots) sediment will build over time and wash off with the next rainfall. When rainfall patterns are

examined, a short intense storm will have a higher concentration of sediment than a long slow drizzle. Together with rainfall data representing the site's typical rainfall patterns, sediment loading characteristics play a part in the correct sizing of a stormwater quality device.

Typical Sites

For standard site design of the Stormceptor System, PCSWMM for Stormceptor is utilized to accurately assess the unit's performance. As an integral part of the product's design, the program can be used to meet local requirements for total suspended solid removal. Typical installations of manufactured stormwater treatment devices would occur on areas such as paved parking lots or paved roads. These are considered "stable" surfaces which have non – erodible surfaces.

Unstable Sites

While standard sites consist of stable concrete or asphalt surfaces, sites such as gravel parking lots, or maintenance yards with stockpiles of sediment would be classified as "unstable". These types of sites do not exhibit first flush characteristics, are highly erodible and exhibit atypical sediment loading characteristics and must therefore be sized more carefully. Contact your local Stormceptor representative for assistance in selecting a proper unit sized for such unstable sites.

6. Spill Controls

When considering the removal of total petroleum hydrocarbons (TPH) from a storm sewer system there are two functions of the system: oil removal, and spill capture.

'Oil Removal' describes the capture of the minute volumes of free oil mobilized from impervious surfaces. In this instance relatively low concentrations, volumes and flow rates are considered. While the Stormceptor unit will still provide an appreciable oil removal function during higher flow events and/or with higher TPH concentrations, desired effluent limits may be exceeded under these conditions.

'Spill Capture' describes a manner of TPH removal more appropriate to recovery of a relatively high volume of a single phase deleterious liquid that is introduced to the storm sewer system over a relatively short duration. The two design criteria involved when considering this manner of introduction are overall volume and the specific gravity of the material. A standard Stormceptor unit will be able to capture and retain a maximum spill volume and a minimum specific gravity.

For spill characteristics that fall outside these limits, unit modifications are required. Contact your local Stormceptor Representative for more information.

One of the key features of the Stormceptor technology is its ability to capture and retain spills. While the standard Stormceptor System provides excellent protection for spill control, there are additional options to enhance spill protection if desired.

6.1. Oil Level Alarm

The oil level alarm is an electronic monitoring system designed to trigger a visual and audible alarm when a pre-set level of oil is reached within the lower chamber. As a standard, the oil

level alarm is designed to trigger at approximately 85% of the unit's available depth level for oil capture. The feature acts as a safeguard against spills caused by exceeding the oil storage capacity of the separator and eliminates the need for manual oil level inspection. The oil level alarm installed on the Stormceptor insert is illustrated in Figure 4.

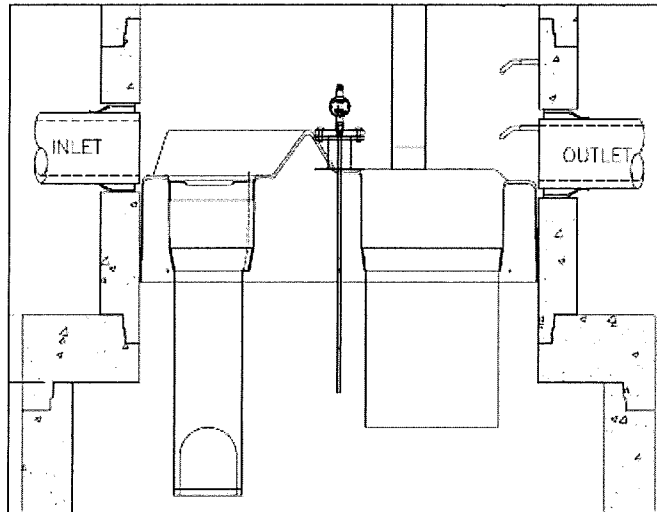


Figure 4. Oil level alarm

6.2. Increased Volume Storage Capacity

The Stormceptor unit may be modified to store a greater spill volume than is typically available. Under such a scenario, instead of installing a larger than required unit, modifications can be made to the recommended Stormceptor model to accommodate larger volumes. Contact your local Stormceptor representative for additional information and assistance for modifications.

7. Stormceptor Options

The Stormceptor System allows flexibility to incorporate to existing and new storm drainage infrastructure. The following section identifies considerations that should be reviewed when installing the system into a drainage network. For conditions that fall outside of the recommendations in this section, please contact your local Stormceptor representative for further guidance.

7.1. Installation Depth Minimum Cover

The minimum distance from the top of grade to the crown of the inlet pipe is 24 inches (600 mm). For situations that have a lower minimum distance, contact your local Stormceptor representative.

7.2. Maximum Inlet and Outlet Pipe Diameters

Maximum inlet and outlet pipe diameters are illustrated in Figure 5. Contact your local Stormceptor representative for larger pipe diameters.

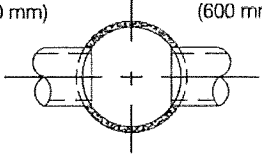
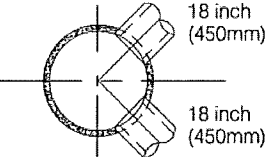
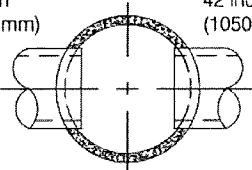
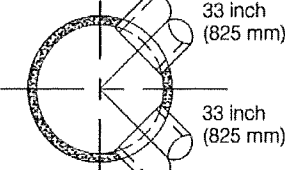
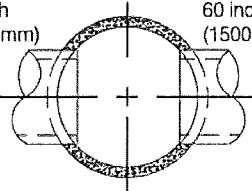
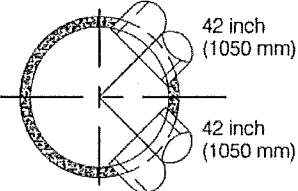
Upper Chamber Diameter	Maximum Pipe Diameters for Straight Through and 90° Bends (Based on Concrete Pipe)	
Inlet Stormceptor	24 inch (600 mm)  24 inch (600 mm)	 18 inch (450mm) 18 inch (450mm)
Inline Stormceptor	42 inch (1050 mm)  42 inch (1050 mm)	 33 inch (825 mm) 33 inch (825 mm)
Inline Stormceptor or Series Stormceptor	60 inch (1500 mm)  60 inch (1500 mm)	 42 inch (1050 mm) 42 inch (1050 mm)

Figure 5. Maximum pipe diameters for straight through and bend applications

*The bend should only be incorporated into the second structure (downstream structure) of the Series Stormceptor System

7.3. Bends

The Stormceptor System can be used to change horizontal alignment in the storm drain network up to a maximum of 90 degrees. Figure 6 illustrates the typical bend situations of the Stormceptor System. Bends should only be applied to the second structure (downstream structure) of the Series Stormceptor System.

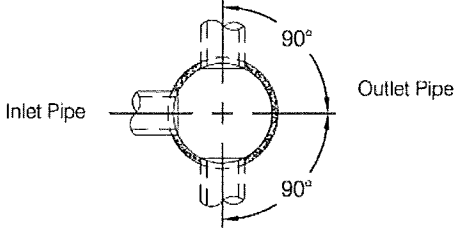
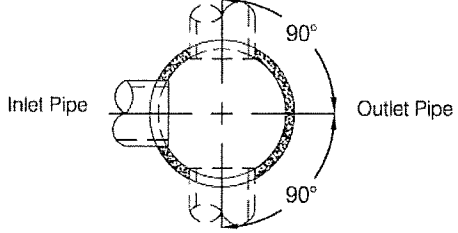
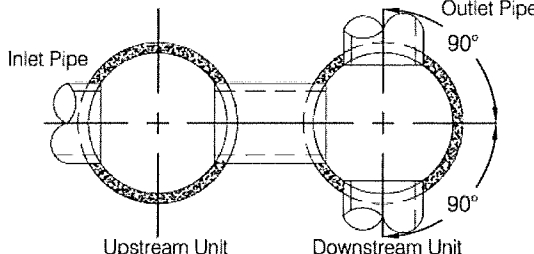
Stormceptor System	Maximum Bend Configurations
Inlet Stormceptor	 <p>The diagram shows a circular stormceptor unit with an inlet pipe on the left and an outlet pipe on the right. Two curved arrows indicate a 90-degree bend from the inlet to the outlet, one above and one below the unit.</p>
Inline Stormceptor	 <p>The diagram shows a circular stormceptor unit with an inlet pipe on the left and an outlet pipe on the right. Two curved arrows indicate a 90-degree bend from the inlet to the outlet, one above and one below the unit.</p>
Series Stormceptor	 <p>The diagram shows two circular stormceptor units connected in series. The first unit on the left is labeled 'Upstream Unit' and has an 'Inlet Pipe' on its left side. The second unit on the right is labeled 'Downstream Unit' and has an 'Outlet Pipe' on its right side. Two curved arrows indicate a 90-degree bend from the inlet of the second unit to its outlet, one above and one below.</p>

Figure 6. Maximum bend angles

7.4. Multiple Inlet Pipes

The Inlet and Inline Stormceptor System can accommodate two or more inlet pipes. The maximum number of inlet pipes that can be accommodated into a Stormceptor unit is a function of the number, alignment and diameter of the pipes and its effects on the structural integrity of the precast concrete. When multiple inlet pipes are used for new developments, each inlet pipe shall have an invert elevation 3 inches (75 mm) higher than the outlet pipe invert elevation.

7.5. Inlet/Outlet Pipe Invert Elevations

Recommended inlet and outlet pipe invert differences are listed in Table 3.

Table 3. Recommended drops between inlet and outlet pipe inverts.

Number of Inlet Pipes	Inlet System	In-Line System	Series System
1	3 inches (75 mm)	1 inch (25 mm)	3 inches (75 mm)
>1	3 inches (75 mm)	3 inches (75 mm)	Not Applicable

7.6. Shallow Stormceptor

In cases where there may be restrictions to the depth of burial of storm sewer systems. In this situation, for selected Stormceptor models, the lower chamber components may be increased in diameter to reduce the overall depth of excavation required.

7.7. Customized Live Load

The Stormceptor system is typically designed for local highway truck loading (AASHTO HS-20). When the project requires live loads greater than HS-20, the Stormceptor System may be customized structurally for a pre-specified live load. Contact your local Stormceptor representative for customized loading conditions.

7.8. Pre-treatment

The Stormceptor System may be sized to remove sediment and for spills control in conjunction with other stormwater BMPs to meet the water quality objective. For pretreatment applications, the Stormceptor System should be the first unit in a treatment train. The benefits of pre-treatment include the extension of the operational life (extension of maintenance frequency) of large stormwater management facilities, prevention of spills and lower total life-cycle maintenance cost.

7.9. Head loss

The head loss through the Stormceptor System is similar to a 60 degree bend at a manhole. The K value for calculating minor losses is approximately 1.3 (minor loss = $k \cdot 1.3v^2/2g$). However, when a Submerged modification is applied to a Stormceptor unit, the corresponding K value is 4.

7.10. Submerged

The Submerged modification, Figure 7, allows the Stormceptor System to operate in submerged or partially submerged storm sewers. This configuration can be installed on all models of the Stormceptor System by modifying the fiberglass insert. A customized weir height and a secondary drop tee are added.

Submerged instances are defined as standing water in the storm drain system during zero flow conditions. In these instances, the following information is necessary for the proper design and application of submerged modifications:

- Stormceptor top of grade elevation
- Stormceptor outlet pipe invert elevation
- Standing water elevation

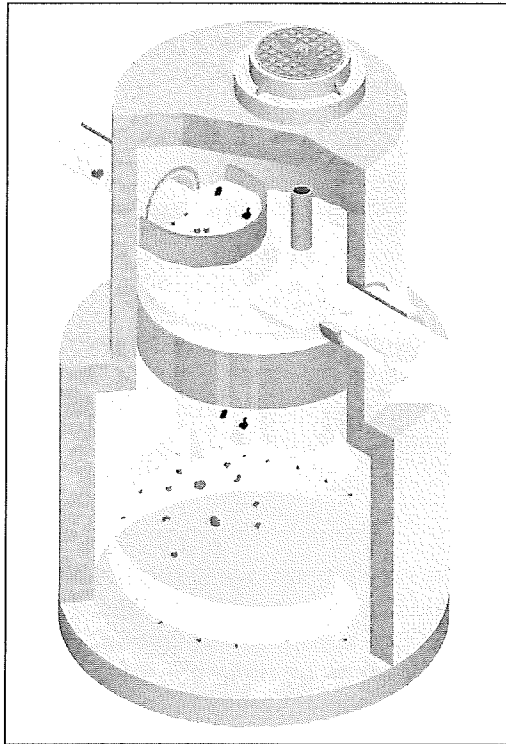


Figure 7. Submerged Stormceptor

8. Comparing Technologies

Designers have many choices available to achieve water quality goals in the treatment of stormwater runoff. Since many alternatives are available for use in stormwater quality treatment it is important to consider how to make an appropriate comparison between “approved alternatives”. The following is a guide to assist with the accurate comparison of differing technologies and performance claims.

8.1. Particle Size Distribution (PSD)

The most sensitive parameter to the design of a stormwater quality device is the selection of the design particle size. While it is recommended that the actual particle size distribution (PSD) for sites be measured prior to sizing, alternative values for particle size should be selected to represent what is likely to occur naturally on the site. A reasonable estimate of a particle size distribution likely to be found on parking lots or other impervious surfaces should consist of a wide range of particles such as 20 microns to 2,000 microns (*Ontario MOE, 1994*).

There is no absolute right particle size distribution or specific gravity and the user is cautioned to review the site location, characteristics, material handling practices and regulatory requirements when selecting a particle size distribution. When comparing technologies, designs using different PSDs will result in incomparable TSS removal efficiencies. The PSD of the TSS removed needs to be standard between two products to allow for an accurate comparison.

8.2. Scour Prevention

In order to accurately predict the performance of a manufactured treatment device, there must be confidence that it will perform under all conditions. Since rainfall patterns cannot be predicted, stormwater quality devices placed in storm sewer systems must be able to withstand extreme events, and ensure that all pollutants previously captured are retained in the system.

In order to have confidence in a system’s performance under extreme conditions, independent validation of scour prevention is essential when examining different technologies. Lack of independent verification of scour prevention should make a designer wary of accepting any product’s performance claims.

8.3. Hydraulics

Full scale laboratory testing has been used to confirm the hydraulics of the Stormceptor System. Results of lab testing have been used to physically design the Stormceptor System and the sewer pipes entering and leaving the unit. Key benefits of Stormceptor are:

- Low head loss (typical k value of 1.3)
- Minimal inlet/outlet invert elevation drop across the structure
- Use as a bend structure
- Accommodates multiple inlets

The adaptability of the treatment device to the storm sewer design infrastructure can affect the overall performance and cost of the site.

8.4. Hydrology

Stormwater quality treatment technologies need to perform under varying climatic conditions. These can vary from long low intensity rainfall to short duration, high intensity storms. Since a treatment device is expected to perform under all these conditions, it makes sense that any system's design should accommodate those conditions as well.

Long-term continuous simulation evaluates the performance of a technology under the varying conditions expected in the climate of the subject site. Single, peak event design does not provide this information and is not equivalent to long-term simulation. Designers should request long-term simulation performance to ensure the technology can meet the long-term water quality objective.

9. Testing

The Stormceptor System has been the most widely monitored stormwater treatment technology in the world. Performance verification and monitoring programs are completed to the strictest standards and integrity. Since its introduction in 1990, numerous independent field tests and studies detailing the effectiveness of the Stormceptor System have been completed.

- Coventry University, UK – 97% removal of oil, 83% removal of sand and 73% removal of peat
- National Water Research Institute, Canada, - scaled testing for the development of the Stormceptor System identifying both TSS removal and scour prevention.
- New Jersey TARP Program – full scale testing of an STC 900 demonstrating 75% TSS removal of particles from 1 to 1000 microns. Scour testing completed demonstrated that the system does not scour. The New Jersey Department of Environmental Protection was followed.
- City of Indianapolis – full scale testing of an STC 900 demonstrating over 80% TSS removal of particles from 50 microns to 300 microns at 130% of the unit's operating rate. Scour testing completed demonstrated that the system does not scour.
- Westwood Massachusetts (1997), demonstrated >80% TSS removal
- Como Park (1997), demonstrated 76% TSS removal
- Ontario MOE SWAMP Program – 57% removal of 1 to 25 micron particles
- Laval Quebec – 50% removal of 1 to 25 micron particles

10. Installation

The installation of the concrete Stormceptor should conform in general to state highway, or local specifications for the installation of manholes. Selected sections of a general specification that are applicable are summarized in the following sections.

10.1. Excavation

Excavation for the installation of the Stormceptor should conform to state highway, or local specifications. Topsoil removed during the excavation for the Stormceptor should be stockpiled in designated areas and should not be mixed with subsoil or other materials. Topsoil stockpiles and the general site preparation for the installation of the Stormceptor should conform to state highway or local specifications.

The Stormceptor should not be installed on frozen ground. Excavation should extend a minimum of 12 inches (300 mm) from the precast concrete surfaces plus an allowance for shoring and bracing where required. If the bottom of the excavation provides an unsuitable foundation additional excavation may be required.

In areas with a high water table, continuous dewatering may be required to ensure that the excavation is stable and free of water.

10.2. Backfilling

Backfill material should conform to state highway or local specifications. Backfill material should be placed in uniform layers not exceeding 12 inches (300mm) in depth and compacted to state highway or local specifications.

11. Stormceptor Construction Sequence

The concrete Stormceptor is installed in sections in the following sequence:

1. Aggregate base
2. Base slab
3. Lower chamber sections
4. Upper chamber section with fiberglass insert
5. Connect inlet and outlet pipes
6. Assembly of fiberglass insert components (drop tee, riser pipe, oil cleanout port and orifice plate)
7. Remainder of upper chamber
8. Frame and access cover

The precast base should be placed level at the specified grade. The entire base should be in contact with the underlying compacted granular material. Subsequent sections, complete with joint seals, should be installed in accordance with the precast concrete manufacturer's recommendations.

Adjustment of the Stormceptor can be performed by lifting the upper sections free of the excavated area, re-leveling the base and re-installing the sections. Damaged sections and gaskets should be repaired or replaced as necessary. Once the Stormceptor has been constructed, any lift holes must be plugged with mortar.

12. Maintenance

12.1. Health and Safety

The Stormceptor System has been designed considering safety first. It is recommended that confined space entry protocols be followed if entry to the unit is required. In addition, the fiberglass insert has the following health and safety features:

- Designed to withstand the weight of personnel
- A safety grate is located over the 24 inch (600 mm) riser pipe opening
- Ladder rungs can be provided for entry into the unit, if required

12.2. Maintenance Procedures

Maintenance of the Stormceptor system is performed using vacuum trucks. No entry into the unit is required for maintenance (in most cases). The vacuum service industry is a well-established sector of the service industry that cleans underground tanks, sewers and catch basins. Costs to clean a Stormceptor will vary based on the size of unit and transportation distances.

The need for maintenance can be determined easily by inspecting the unit from the surface. The depth of oil in the unit can be determined by inserting a dipstick in the oil inspection/cleanout port.

Similarly, the depth of sediment can be measured from the surface without entry into the Stormceptor via a dipstick tube equipped with a ball valve. This tube would be inserted through the riser pipe. Maintenance should be performed once the sediment depth exceeds the guideline values provided in the Table 4.

Table 4. Sediment Depths indicating required servicing.

Sediment Depths Indicating Required Servicing *	
Model	Sediment Depth inches (mm)
450i	8 (200)
900	8 (200)
1200	10 (250)
1800	15 (381)
2400	12 (300)
3600	17 (430)
4800	15 (380)
6000	18 (460)
7200	15 (381)
11000	17 (380)
13000	20 (500)
16000	17 (380)
* based on 15% of the Stormceptor unit's total storage	

Although annual servicing is recommended, the frequency of maintenance may need to be increased or reduced based on local conditions (i.e. if the unit is filling up with sediment more quickly than projected, maintenance may be required semi-annually; conversely once the site has stabilized maintenance may only be required every two or three years).

Oil is removed through the oil inspection/cleanout port and sediment is removed through the riser pipe. Alternatively oil could be removed from the 24 inches (600 mm) opening if water is removed from the lower chamber to lower the oil level below the drop pipes.

The following procedures should be taken when cleaning out Stormceptor:

1. Check for oil through the oil cleanout port
2. Remove any oil separately using a small portable pump
3. Decant the water from the unit to the sanitary sewer, if permitted by the local regulating authority, or into a separate containment tank
4. Remove the sludge from the bottom of the unit using the vacuum truck
5. Re-fill Stormceptor with water where required by the local jurisdiction

12.3. Submerged Stormceptor

Careful attention should be paid to maintenance of the Submerged Stormceptor System. In cases where the storm drain system is submerged, there is a requirement to plug both the inlet and outlet pipes to economically clean out the unit.

12.4. Hydrocarbon Spills

The Stormceptor is often installed in areas where the potential for spills is great. The Stormceptor System should be cleaned immediately after a spill occurs by a licensed liquid waste hauler.

12.5. Disposal

Requirements for the disposal of material from the Stormceptor System are similar to that of any other stormwater Best Management Practice (BMP) where permitted. Disposal options for the sediment may range from disposal in a sanitary trunk sewer upstream of a sewage treatment plant, to disposal in a sanitary landfill site. Petroleum waste products collected in the Stormceptor (free oil/chemical/fuel spills) should be removed by a licensed waste management company.

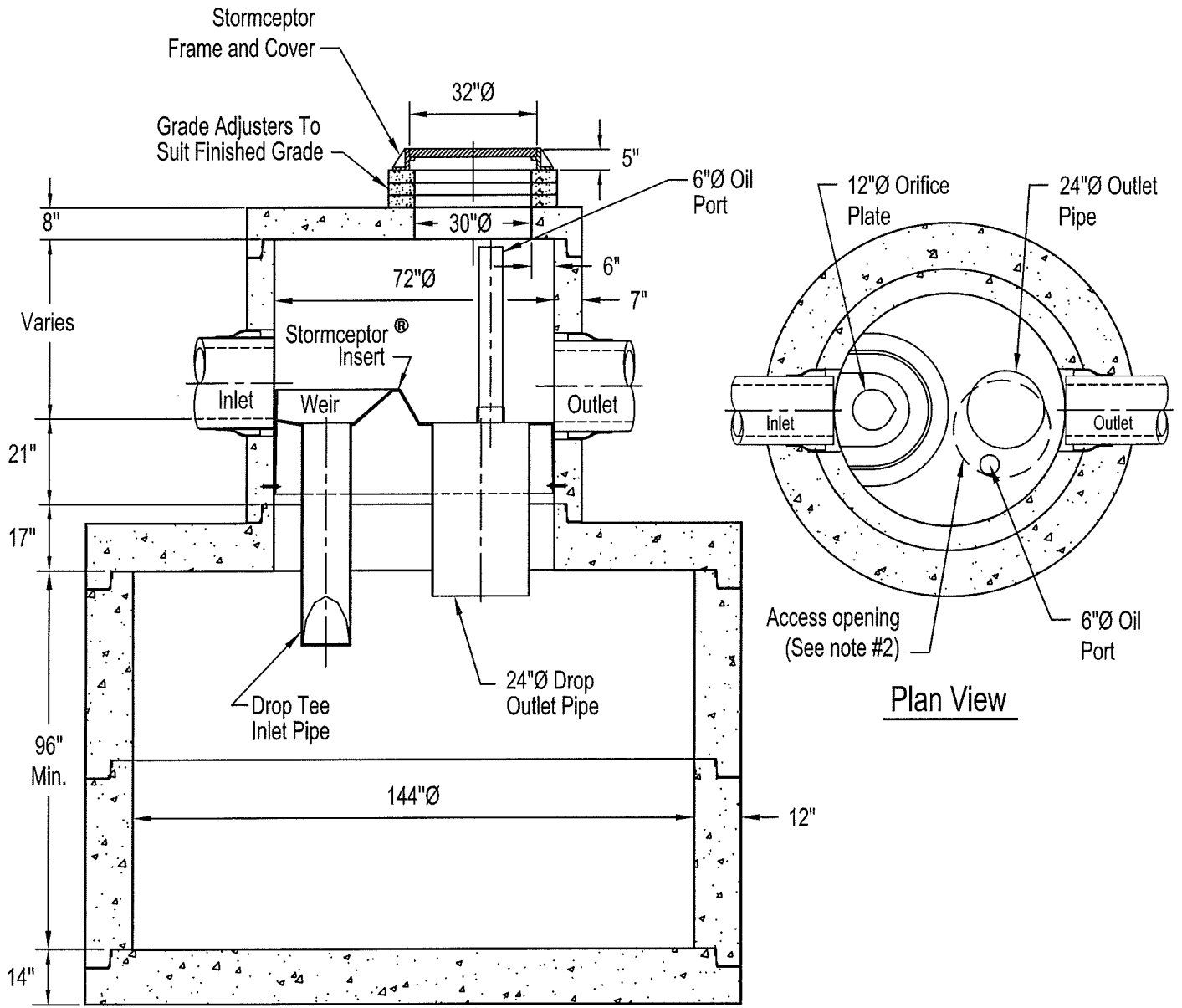
12.6. Oil Sheens

With a steady influx of water with high concentrations of oil, a sheen may be noticeable at the Stormceptor outlet. This may occur because a rainbow or sheen can be seen at very small oil concentrations (<10 mg/L). Stormceptor will remove over 98% of all free oil spills from storm sewer systems for dry weather or frequently occurring runoff events.

The appearance of a sheen at the outlet with high influent oil concentrations does not mean the unit is not working to this level of removal. In addition, if the influent oil is emulsified the Stormceptor will not be able to remove it. The Stormceptor is designed for free oil removal and not emulsified conditions.

Appendix 1 Stormceptor Drawings

STC 7200 Precast Concrete Stormceptor[®] (7200 U.S. Gallon Capacity)



Section Thru Chamber

Notes:

1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
2. The Cover Should be Positioned Over The Outlet Drop Pipe and The Oil Port.
3. The Stormceptor System is protected by one or more of the following U.S. Patents: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.
4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.

Contact

800 909 7763

www.rinkerstormceptor.com

Rinker
MATERIALS™

Retenu Operation

Filtration occurs from top to bottom within the pressurized system. Water moves through the three-way valves at the top of the pressure vessels, into the pressure vessels and across the deflector assemblies for even distribution into the filter media bed. The water is cleaned by the filter media bed and collected by the underdrain at the base of each vessel. Water is discharged from the plumbing at the base of the Retenu.

The automatic backwash feature is triggered by an increase in the pressure drop across the filter media bed inside of the Retenu pressure vessels. The system is designed to automatically backwash when the pressure drop across the media is 12 psi. The water used to do the backwash is the same water that is being treated during the filtration of stormwater. This influent source of stormwater is first filtered within two of the pressure vessels and then used to backwash the other pressure vessel.

Backwash is accomplished using a three-way valve at the top of the system that cuts off the influent stormwater and creates a passage from the inside of the pressure vessel to the backwash discharge line. Pressure at the base of the system pushes water up through a single vessel lifting and expanding the media, allowing it to release the collected contaminants out the backwash discharge line.

Retenu Sizing

The Retenu is available in a variety of flow rates and configurations (Table 1). The flow rate is dependent on total suspended solids loading and performance goals.

Table 1. Retenu sizing chart

Model	Treatment Flow Range (gpm)	Footprint (ft ²)		
		I - Standalone	ITX (IXT) - One Tank	ITT- Two Tanks
5	50 – 60	2 x 6	8 x 14	8 x 18
10	90 – 110	3 x 7	8 x 14	8 x 22
15	150 – 180	3 x 9	10 x 14	10 x 22
20	210 – 260	4 x 10	11 x 14	11 x 25
40	380 – 450	5 x 13	13 x 20	13 x 30
50	500 – 600	5 x 18	20 x 20	20 x 30

Retenu Performance

Performance data from the Retenu has been collected from four separate installations (Figure 3). From each of these facilities, samples were compiled to generate the data below.

Table 2. Full-scale Retenu performance data

Parameter	Sample Location	Median (Range) Number of Samples	Removal Efficiency ³ Median (Range)
Suspended Solids (mg/L)	Influent	150 (56 - 410) n=8	44% (40 - 79%)
	Effluent	73 (33 - 190) n=8	
Turbidity (NTU)	Influent	300 (39 - 400) n=9	70% (18 - 96%)
	Effluent	62 (0.51 - 270) n=9	
Total Copper (mg/L)	Influent	0.14 (0.030 - 1.8) n=10	77% (29 - 88%)
	Effluent	0.025 (0.0023 - 1.2) n=10	
Total Lead (mg/L)	Influent	0.31 (0.10 - 1.4) n=6	58% (38 - 74%)
	Effluent	0.26 (0.0072- 0.87) n=6	
Total Zinc (mg/L)	Influent	0.90 (0.14 - 24) n=10	62% (40 - 79%)
	Effluent	0.75 (0.034 - 11) n=10	

1 - Sampling from inlet and outlet of full-scale Retenu basic filtration systems. Results through June 2012. Data compiled by StormwaterRx LLC.

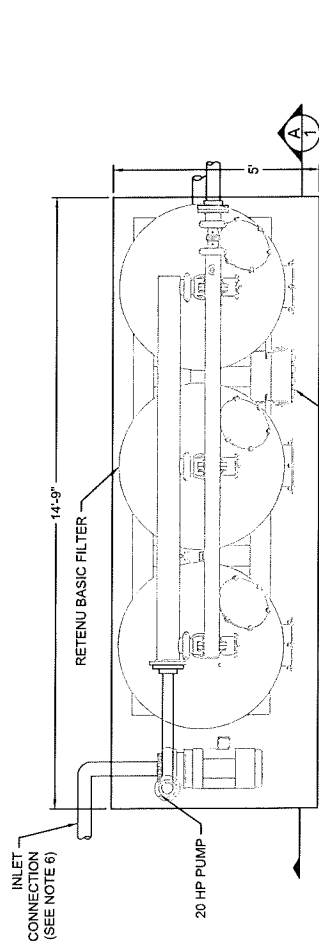
2 - All chemical analysis by third party certified analytical testing laboratory.

3 - The removal efficiency range based on inlet and outlet pairs.

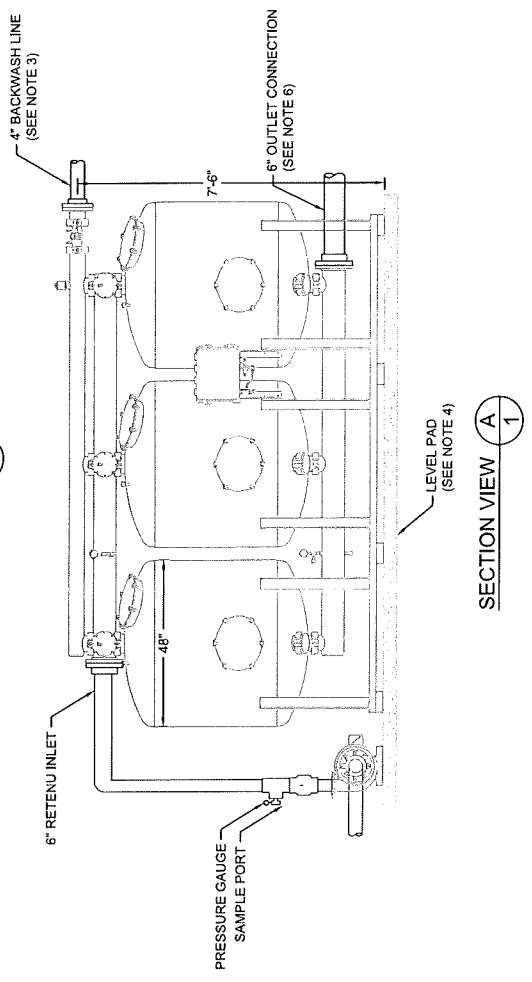
4 - Median values may include non-detections; for the purposes of these calculations, the non-detected values are presented at half the detection limit.

GENERAL NOTES

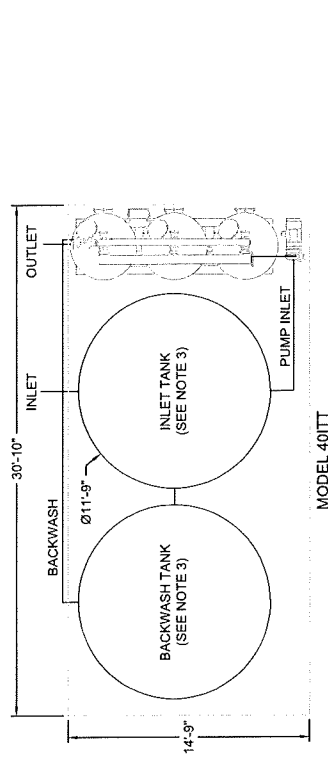
1. RETENU™ BASIC FILTRATION SYSTEM BY STORMWATERX, LLC - PORTLAND, OREGON - 800.680.3543
2. RETENU MODEL 40 HAS AN OPERATING RANGE OF 200 GPM TO 460 GPM, WHICH IS BASED ON POLLUTANT LOADING CONDITIONS. RETENU MODEL 40 IS AVAILABLE IN FOLLOWING CONFIGURATIONS: IIT, ITX AND IXT. MODEL 40 INCLUDES 20 HP END SUCTION PUMP & CONTROL PANEL AND THREE SKID MOUNTED PRESSURE FILTER VESSELS. ADDITIONAL COMPONENTS LISTED BELOW:
CONFIGURATION ADDITIONAL COMPONENTS INCLUDED:
IIT 10,000 GAL. (Ø141" x 13'-4") INLET TANK, 10,000 GAL. (Ø141" x 13'-4") BACKWASH TANK
ITX 10,000 GAL. (Ø141" x 13'-4") INLET TANK
IXT 10,000 GAL. (Ø141" x 13'-4") BACKWASH TANK
3. INTERNAL APPURTENANCES BY STORMWATERX INCLUDE INTERCONNECTING PIPING, 304 SS UNDERDRAIN, SS PRESSURE GAUGES, INLET AND OUTLET SAMPLE PORTS, BACKWASH FLOW CONTROL VALVE (SET AT 189 GPM), AND SYSTEM CONTROLLER (ADVANCED SOLID STATE AUTOMATION WITH ELAPSED TIME AND PRESSURE DIFFERENTIAL CONTROL).
4. SKID MOUNTED FILTER VESSELS, AND INLET/BACKWASH TANKS REQUIRE A CONCRETE LEVEL PAD WITH LOAD BEARING CAPACITY OF 20,000 LBS FOR FILTER VESSEL AND 145,000 LBS FOR EACH 10,000 GAL. TANK. FILTER VESSELS AND HDPE TANKS ONLY TO BE MOVED WHEN SYSTEM IS EMPTY (EMPTY VESSEL WEIGHT 2,900 LBS. EMPTY TANK WEIGHT 2,300 LBS).
5. RETENU REQUIRES 120V, 5 AMP SERVICE TO SYSTEM CONTROLLER AND THREE PHASE POWER TO PUMP CONTROL PANEL (230V/60A OR 460V/30A)
6. INLET AND OUTLET PIPING CONNECTIONS SPECIFIED BY STORMWATERX AND PROVIDED BY OTHERS. MODELS IIT, ITX, AND IXT INCLUDE INTERCONNECTING PLUMBING BETWEEN FILTER VESSELS AND TANKS.



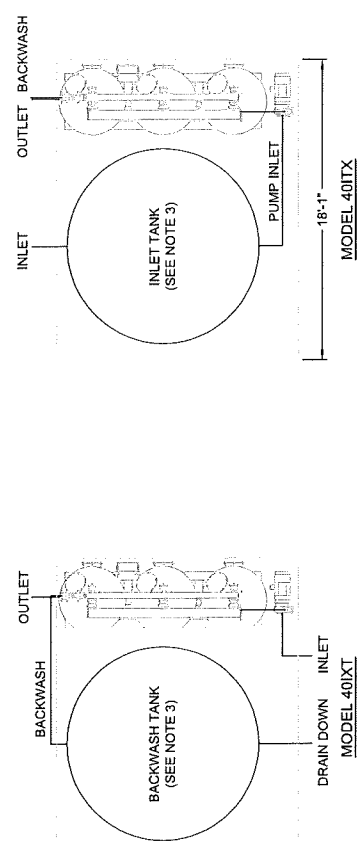
TOP VIEW 1



SECTION VIEW A 1



MODEL 40IIT



MODEL 40ITX

RETENU BASIC FILTRATION SYSTEM

**MODEL 40
STANDARD DETAIL**

SHEET

1

1 OF 1

DATE: 3/18/2012	SCALE: NONE	FILE NAME: SRX-RETENU40-DTL	DRAWN: MJW	CHECKED: ARG
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Stormwater Treatment Best Management Practice Design Basis



Facility: Rhode Island Recycled Metals
Date: December 18, 2012

This memorandum documents expected water quality pollutant loading and design basis for the recommended stormwater treatment system for the above referenced site. StormwaterRx has included narrative and numeric assessments for StormwaterRx provided stormwater filtration. Data presented are from StormwaterRx customers having scrap metal shredding operations on paved sites and with best-in-class source control and structural stormwater best management practices. The design engineer, Coneco Engineers & Scientists, has requested that StormwaterRx base treatment recommendations on assumed stormwater runoff quality.

Rhode Island Recycled Metals Untreated Site Runoff Stormwater Quality Assumption*

Parameter	Number of Samples (n)	Concentration Range	Median
Total Suspended Solids (mg/L)	69	21 - 357	80
Total Aluminum (mg/L)	11	0.3 - 12	4.3
Total Iron (mg/L)	15	2.6 - 28	7.6
Total Copper (mg/L)	102	0.035 - 1.91	0.196
Total Zinc (mg/L)	108	0.17 - 2.5	0.66
Total Lead (mg/L)	99	0.03 - 1.4	0.19

*Based on StormwaterRx data from scrap metal recycling facilities across the United States including metal shredding operations. StormwaterRx cannot validate that the above results are representative of conditions and concentrations that will be generated by the Rhode Island Recycled Metals facility.

We understand the facility will be installing a stormwater collection and drainage system upstream of a treatment train that includes an end-of-pipe solids and oil separation system and water quality detention capable of settling particulates as well as detaining site flows. StormwaterRx is recommending a basic stormwater filtration system downstream of provided solids / oil separation and detention water quality units to provide an additional level of pollutant reduction before stormwater is discharged from the site.

- StormwaterRx Retenu[®] basic filtration – a continuous flow backwashing media filter that removes dirt and associated pollutants such as metals and suspended solids. Retenu concentrates particulates and discharges the concentrated stormwater to the front of the detention system to promote particle settling from the stormwater.

Stormwater Treatment Sizing

The treatment system sizing is based on a 1 inch, 24 hour design storm as specified by the state of Rhode Island Stormwater Design and Installation Standards Manual (December 2010). The site was specified as 5.8 acres and 100% impervious. Based on a Type III storm, a maximum treatment flowrate of 1920 gpm was calculated. This value will be detained to 300 gpm with approximately 42,000 gallons of detention pipe. The design flow of 300 gpm will be

StormwaterRx

pumped through the Retenu® basic filtration system. Peak flows will be designed by others to bypass the treatment system by gravity.

Retenu Basic Filtration System

StormwaterRx recommends a Retenu 40ITX filtration system to accommodate the 300 gpm detained design flow rate downstream of detention. The system includes an above ground inlet tank, three 48" diameter pressure filtration vessels containing inert media, an automated backwashing controller and a 20 horsepower pump system. The concentrated backwash flow from the Retenu system will discharge to the inlet side of the detention system. An inlet feedwater tank will also serve as a gravity bypass for this system should Retenu become plugged. Additional information on the Retenu 40ITX is provided in the attached standard detail.

Retenu Performance

The following table provides the anticipated removal efficiency through the Retenu system. Stormwater treatment systems require routine inspection and maintenance. The level of attentiveness to inspection and maintenance will have a factor in the overall performance of this or any stormwater treatment system.

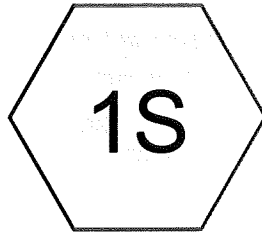
Parameter	Removal Efficiency Range
Total Suspended Solids ¹	50 – 80% ²
Particulate Metals (Aluminum, Iron, Copper, Zinc, Lead)	20 – 50%

Notes:

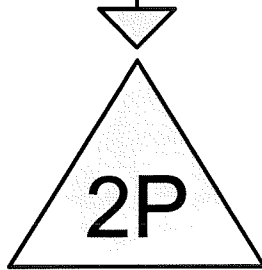
1. Assumes inlet concentration is controlled to less than 200 mg/L total suspended solids
2. Removal efficiency applies for particulates 30 microns and greater.

Retenu Maintenance Interval and Performance Factors

Retenu media longevity is a function of upstream water quality. Any filtration media, including that contained in Retenu, will be fouled by free oil. Oil fouling of the Retenu media will reduce the flow rate through the system, eventually leading to plugging. Plugged Retenu media will require replacement. Trouble free Retenu operation requires that a continuous oil removal system be employed upstream of filtration. Suspended solids concentrations greater than 200 mg/L will increase the frequency of backwashing and decrease the filtration system process throughput. Accumulated sediment in water quality units upstream must be removed at least seasonally, or as necessary, to maintain feedwater quality below 200 mg/L.



5.8 ac, 38% gravel



Storage



Summary for Subcatchment 1S: 5.8 ac, 38% gravel

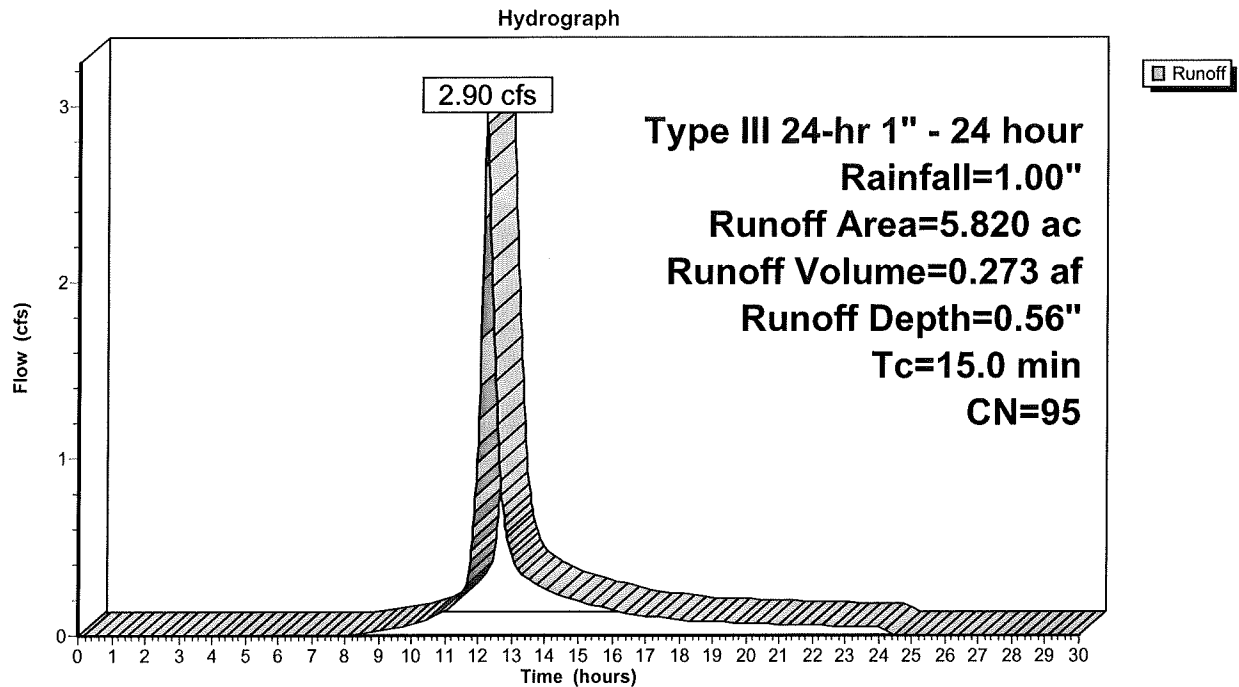
Runoff = 2.90 cfs @ 12.21 hrs, Volume= 0.273 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.03 hrs
 Type III 24-hr 1" - 24 hour Rainfall=1.00"

Area (ac)	CN	Description
* 3.600	98	
* 2.220	90	>75% Grass cover, Good, HSG D
5.820	95	Weighted Average
2.220		38.14% Pervious Area
3.600		61.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

Subcatchment 1S: 5.8 ac, 38% gravel



Summary for Pond 2P: Storage

Inflow Area = 5.820 ac, 61.86% Impervious, Inflow Depth = 0.56" for 1" - 24 hour event
 Inflow = 2.90 cfs @ 12.21 hrs, Volume= 0.273 af
 Outflow = 0.67 cfs @ 11.85 hrs, Volume= 0.259 af, Atten= 77%, Lag= 0.0 min
 Primary = 0.67 cfs @ 11.85 hrs, Volume= 0.259 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.03 hrs / 2
 Peak Elev= 1.90' @ 12.75 hrs Surf.Area= 0.053 ac Storage= 0.087 af

Plug-Flow detention time= 70.7 min calculated for 0.259 af (95% of inflow)
 Center-of-Mass det. time= 42.7 min (875.1 - 832.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.130 af	36.0" D x 800.0'L Pipe Storage

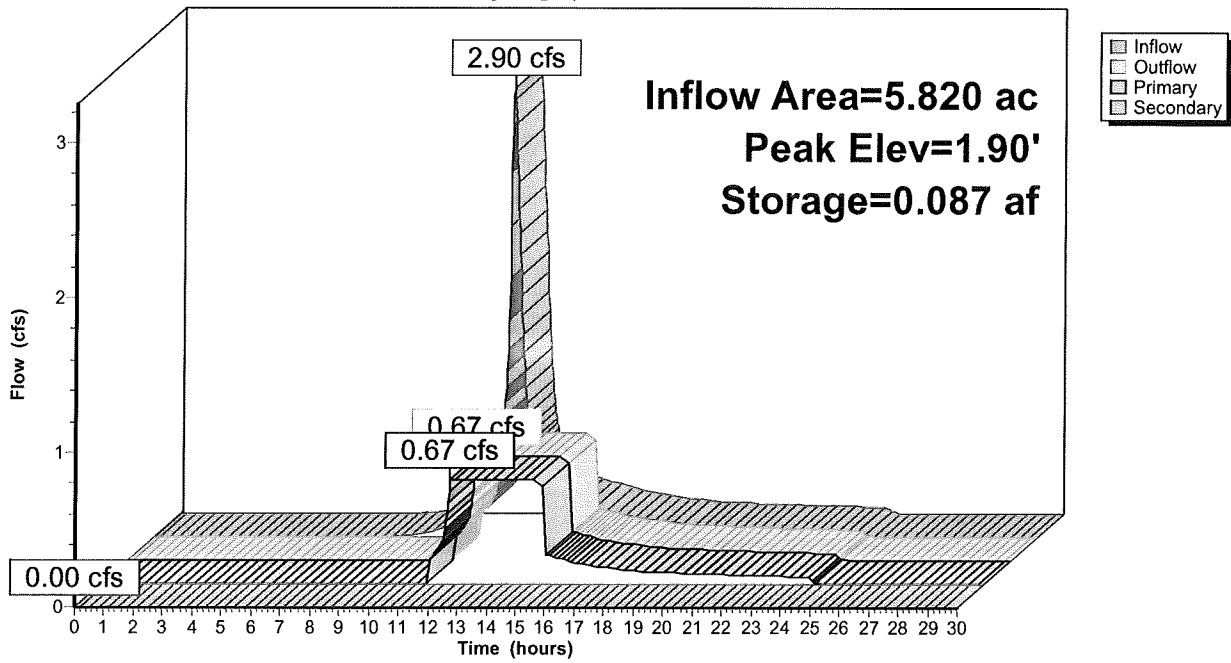
Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	300 GPM Pump Elev. (feet) 0.00 0.49 0.50 6.00 Disch. (cfs) 0.000 0.000 0.670 0.670
#2	Secondary	3.00'	20.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=0.67 cfs @ 11.85 hrs HW=0.50' (Free Discharge)
 ↑1=300 GPM Pump (Custom Controls 0.67 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
 ↑2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: Storage

Hydrograph





Stormwater Filtration System Operation & Maintenance Manual



Reclaiming the world's water.®

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Portland, OR 97214

www.stormwaterx.com
(800) 680-3543

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Important!

The underdrain gravel must be thoroughly washed prior to loading into the Retenu. Failure to wash the gravel could lead to compromised performance and plugging in the well-screen underdrain.

The filtration media must also be washed prior to using the system for treatment. This must be done by backwashing the media within the pressure vessels.

Do not neglect upstream source control and stormwater management once Retenu is installed. This may result in the premature fouling of the Retenu's filtration and pollutant reduction capacity, shortening the media bed life.

Do not flush spills or otherwise use Retenu to capture pollutants from stormwater drain line jetting or pavement washing.

1 Introduction and System Description

The Retenu™ Stormwater Filtration System is a roughing filter designed to remove suspended solids from industrial stormwater efficiently and economically. The Retenu features an automatic backwashing system for continuous operation with minimal user involvement. When acting as pretreatment to downstream treatment systems, the Retenu greatly increases the life expectancy of these downstream systems.

Filtration occurs within the pressurized system from the top down. Water moves through the three-way valves at the top of the pressure vessels, into the pressure vessels and across the deflector assemblies within for even distribution into the filter media bed. The water is cleaned by the filter media bed and collected within the well-screen underdrains at the base of each vessel. Water is discharged from the plumbing at the base of the Retenu.

The automatic backwash feature is triggered by an increase in the pressure drop across the filter media bed inside of the Retenu pressure vessels. Usually automatic backwash is triggered by a 10 -12 psi pressure drop across the system. The water used to do the backwash is the same water that is being treated during the filtration of stormwater. This influent source of stormwater is first filtered within two of the pressure vessels and then used to backwash the other pressure vessel.

Backwash is achieved by a three-way valve at the top of the system which can rotate cutting off the influent stormwater and creating a passage from the inside of the pressure vessel to the backwash discharge line. Pressure provided by the pump pushes water up through this vessel lifting and expanding the media, allowing it to release the collected contaminants out the backwash discharge line.

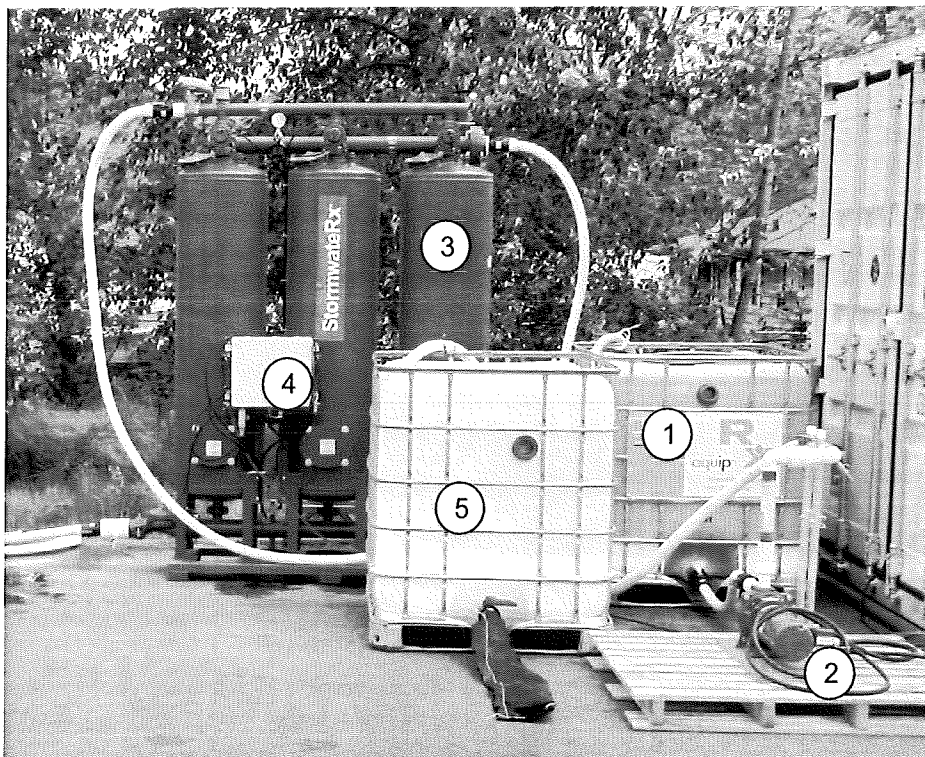


Figure 1. StormwaterRx Retenu

1.1 Retenu Features

- (1) **Influent Tank:** The influent source for the Retenu providing sufficient treatment volume for proper system operation and backwash capabilities.
- (2) **Retenu Pump:** An end-suction pump generating the necessary pressure and flow rate to operate the Retenu roughing filter.
- (3) **Retenu Roughing Filter and Vessels:** An automatic backwashing roughing filter consisting of three separate pressure vessels each containing an inert filter media bed. Three-way valves at the top of each pressure vessel allow for the flow direction to be reversed during backwash. A precalibrated backwash restrictor valve is used to regulate the flow out of the system during backwash. In some cases, an effluent block valve is also necessary to regulate flow during the backwash (see the Installed Retenu Project Specifications at the front of this manual).
- (4) **Control Box:** Contains the automatic controls for the Retenu as well as the manual override feature. Solenoid valves on the outside of the control box manipulate each of the three-way valves (and the effluent block valve, if equipped). One solenoid is provided for each valve.
- (5) **Backwash Tank:** Collects the contaminants and water generated by the backwash. Solid contaminants will fall out of suspension and be collected at the base of the backwash tank. The backwash tank drains down into the inlet tank once the all of the water within the inlet tank has been emptied. An overflow at the top of the backwash tank is also provided.

The influent tank, backwash tank, and/or the effluent block valve may not be necessary for all Retenu systems. Please refer to the “Installed Retenu Project Specifications” sheet at the beginning of this manual for more details of the system installed at your site.

2 Installation

The Retenu roughing filter itself must be installed on a level surface that will support the equipment. It is recommended that a 1/4" tolerance be the maximum allowed out of level condition. A concrete base with grouting and/or shims under the structural members is generally the best method to obtain the levelness required. A minimum of 48" service walkway should be maintained in front of the filter system to allow for media loading and system servicing.

The backwash line is installed with a precalibrated backwash restrictor valve. Any additional restrictions within the line may cause inadequate flow when backwashing and result in poor media cleaning. The backwash line plumbing should be sized to allow adequate flow. See Table 1 to select the necessary pipe size. When installing a backwash line with greater than 100 linear feet, the next pipe size up for the sizes listed in Table 1 should be used.

Table 1. Backwash Line Plumbing Minimum Sizing

Retenu Model #	Backwash Flow (per filter)	Minimum Pipe Size
Retenu 05	26 gpm	1 1/2"
Retenu 10	47 gpm	2"
Retenu 15	75 gpm	2 1/2"
Retenu 20	107 gpm	3"
Retenu 40	189 gpm	4"
Retenu 50	189 gpm	4"



RESTRICTIONS WITHIN THE BACKWASH LINE WILL HAVE AN ADVERSE EFFECT ON THE OVERALL BACKWASHING CAPABILITY (SEE SECTION 2)

3 Start Up Procedures

Several steps must be completed prior to using the Retenu system for stormwater treatment. Damage to the filter and poor system operation can result if the procedures from Section 3 are not followed. The steps to prepare the Retenu for online operation are:

1. Rinse underdrain gravel (Section 3.1)
2. Install gravel
3. Install filtration media
4. Soak filtration media (Section 3.2)
5. Wait 6 – 12 hours.
6. Backwash new filtration media (Section 3.2)

3.1 Gravel Rinsing

It is necessary to clean the media prior to operating the filter system. Despite cleaning the media prior to packaging, a certain amount of “fines” will be present in the media supplied.

All underdrain gravel should be rinsed outside the Retenu vessels prior to installation. Rinsing should be done within the original packaging or within a five gallon bucket. Small holes should be put around the sides of the packaging/bucket near the base, and then water should be poured over the top of the gravel.

The gravel should be cleaned until the rinse water becomes clear. Filling a glass container with the rinse water as it exits the packaging/bucket can be used to check the water clarity. The container should not have any sediment at the bottom after the water has settled.

3.2 Initial Backwash

The Retenu should be backwashed prior to using the system for regular treatment. This initial backwash is necessary to purge air from the system and remove fine particulates contained in the new media. The water that is used for this backwash should be as clean as possible. Prior to backwashing, the new media should soak for 6 - 12 hours.

After the soaking period, the media should be backwashed using the steps outlined in Section 4.2 or 4.3. To become more familiar with the Retenu backwash feature, it is recommended the manual mode of backwash is done at this time (Section 4.3).

The filter should be backwashed until the backwash water becomes clear. Filling a glass container with the backwash water as it exits the backwash discharge line can serve as a quick check on the completeness of backwash. The container should not have any sediment at the bottom after the water has settled.



AFTER THE INSTALLATION OF NEW MEDIA, AIR SHOULD BE PURGED FROM THE RETENU BY BACKWASHING PRIOR REGULAR SYSTEM OPERATION

4 Retenu Operations

The Retenu has two separate modes of operation. With both of these modes of operation, water is being pulled from the influent source at the “treatment flow rate.” The two modes of operation are described below.

- Filtration:** The entire treatment flow rate is being treated and discharged from the Retenu outlet. The three way valves at the top of each vessel are open to influent water and all vessels are being used simultaneously to treat the stormwater.
- Backwash:** Influent stormwater is used to backwash the system one vessel at a time. The three-way valve located at the top of the vessel being backwashed closes off flow from the influent source. Water from the influent source is forced downwards through the other vessels, cleaning the water. This water is then forced upwards through the vessel being backwashed and out the three-way valve to the backwash discharge line.

The Retenu can be backwashed manually with or without the control box, or automatically using the periodic flush or pressure differential settings.

4.1 Automatic Backwashing

The filter media should be backwashed on a routine basis. The automatic backwashing setting allows this to be done at the proper interval. The recommended backwash settings and adjustments are described in detail in Section 4.1.2.

4.1.1 Solenoid Valve Adjustment

The manual override screws on all of the solenoid valves MUST be turned counter-clockwise to the OFF position for the Retenu to automatically backwash as desired (Figure 2). Each solenoid valve controls a three-way valve (or effluent block valve, if equipped) using pressure within the black tubing.

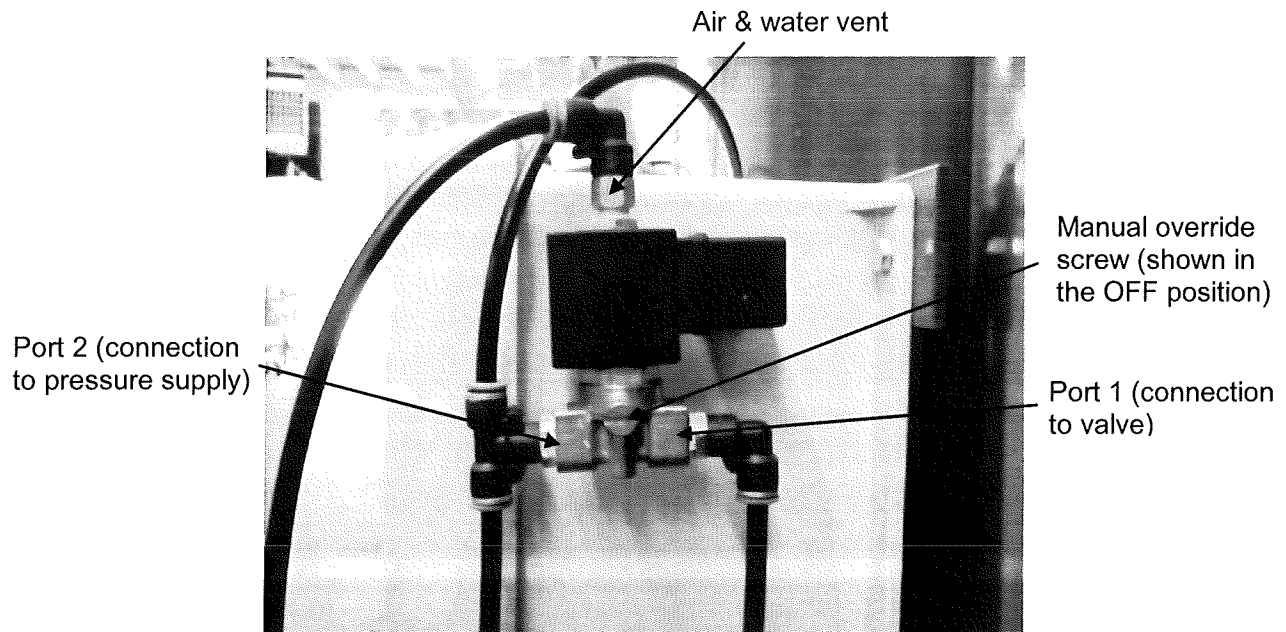


Figure 2. Solenoid valve

4.1.2 Recommended Initial Settings

The automatic backwash feature for the Retenu uses several settings to provide the optimal backwash conditions. The recommended settings should not vary much from site to site but can be altered if necessary to improve the efficiency of the backwash (see Section 6). The recommended settings for the system start-up are described below.

- Periodic Flush:** The periodic flush should be set to OFF which will engage the pressure differential setting for automatic backwashing (Figure 3).
- Pressure Differential:** Set the pressure differential switch to 12 psi (Figure 4). When the pressure drop across the filter media bed reaches this differential pressure, an automatic backwash sequence will commence.
- Flush Duration:** During start-up and initial operation, the backwash duration should be set to 4 minutes. The minimum backwash duration should be 4 minutes for all applications. See Section 4.4 for more details.
- Delay:** The delay setting should be 30 seconds. The delay setting should be kept at 30 seconds to allow sufficient time for the three-way valves to open and close as necessary. A water hammer may occur within the inlet line if the delay is not sufficiently long.

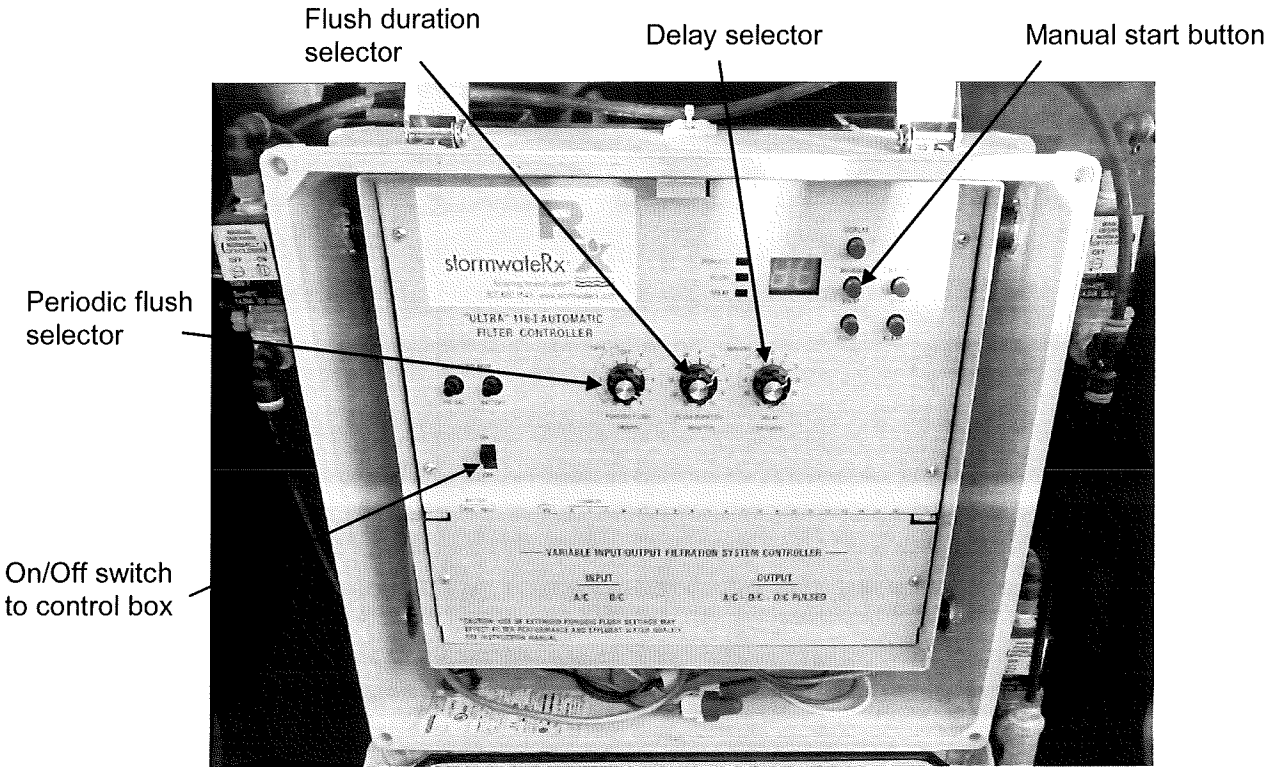


Figure 3. The Retenu control box

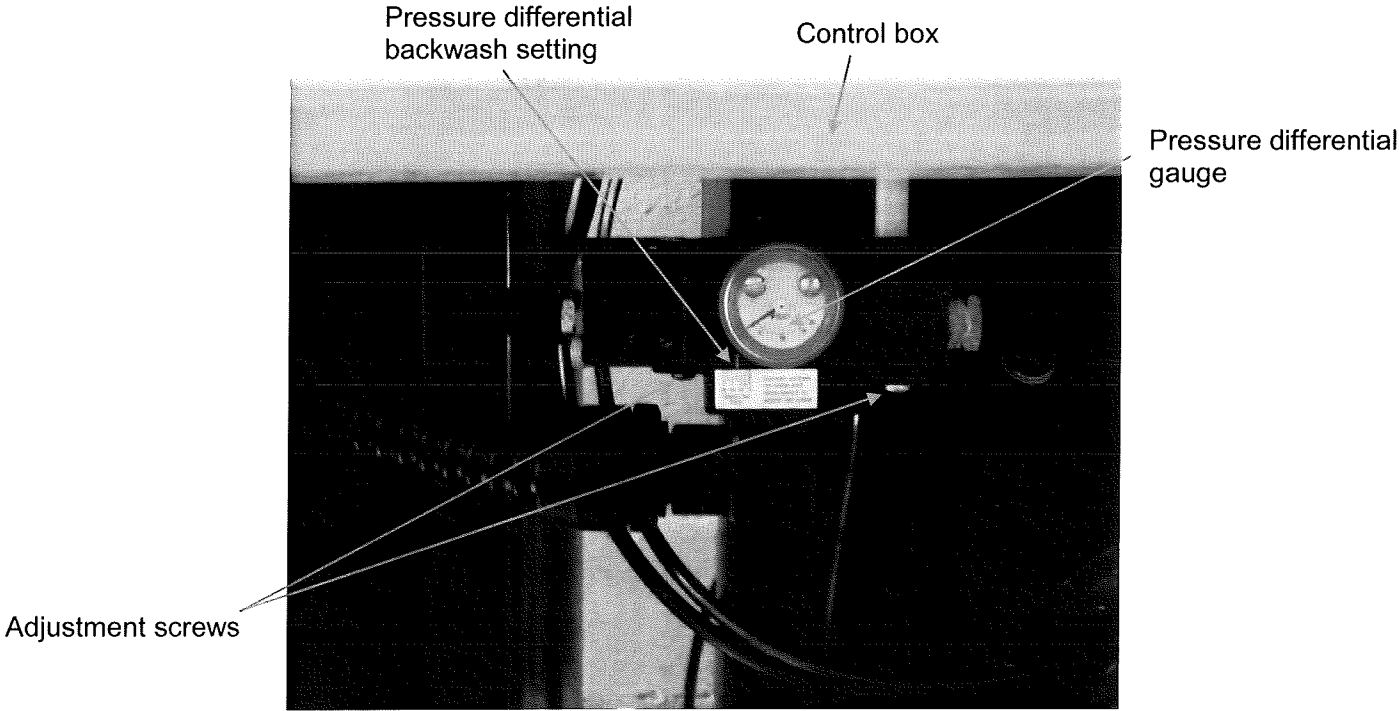


Figure 4. Differential pressure switch

4.2 Manual Backwash using the Control Box

Using the control box, a backwash sequence can be initiated so that all of the vessels are sequentially backwashed. The system is manually backwashed by pressing and holding the “manual start” button inside of the control box until the “flush” indicator lights up within the box (Figure 3). Once this is done, all three vessels will be sequentially backwashed. The backwash settings selected at the start of the backwash sequence will be used for this operation (see Section 4.1.2).



FIRST TIME START-UP SHOULD BE DONE WITH CAUTION. ALL AIR MUST BE PURGED OUT OF ALL LINES AND FILTERS BEFORE INITIATING BACKWASH

4.3 Manual Backwash using the Solenoids

The three-way valves (and effluent block valve, if equipped) are opened and closed by water pressure within the black tubing connected to the solenoid valves. One solenoid valve is supplied for each valve. The solenoids are mounted on the sides of the control box and pre-wired by the factory. Turning the manual override screw located on the base of the solenoid valve to the ON position will change the position of the solenoid plunger, thus allowing water pressure to open the connected valve.

The Retenu can be backwashed completely by manipulation of the solenoid valves. Manual backwashing should be done only after the entire system is filled with water and the pump is operating. The steps to manually backwash the system in the absence of power to the control box are:

1. Turn the manual override screw *clockwise* to ON for one of the solenoids controlling a three-way valve (Figure 2). Make sure that the manual override screw controlling the other three-way valves are turned to OFF.
2. For Retenu system's with an effluent block valve**, identify the solenoid controlling the effluent block valve and turn the manual override screw on the solenoid *clockwise* to ON.
3. Backwash should be initiated by Steps 1 (and 2). Continue backwashing until water in the sight glass at the top of the Retenu appears clean or is unchanging for 30 seconds.
4. Terminate the backwash by returning (all of) the manual override screw(s) to OFF (turn counter-clockwise).
5. Continue to operate the system without backwashing for approximately 30 seconds.
6. Repeat steps 1 – 5 to backwash the remaining vessels.

** The systems with an effluent block valve will have four solenoids. See the Installed Retenu Project Specifications at the front of this manual.



MANUAL BACKWASHING CAN ONLY BE DONE IF THE ENTIRE SYSEM IS FILLED WITH WATER AND THE PUMP IS OPERATING

4.4 Backwash Duration and Frequency

Backwashing should be done to the greatest extent necessary. The sight glass at the top of the Retenu can be used to view the water clarity of the backwash water. Turbidity in the backwash water indicates that solids are being removed. Each vessel should be backwashed until the water clarity in the sight glass is good and does not improve over 30 seconds.

If the Retenu is backwashing too frequently, the system may need maintenance (Section 5). Insufficient backwashing can also be caused by restrictions downstream of the backwash line. See Section 2 to determine if such restrictions may be inhibiting proper backwash operation.

In addition to routine backwashing, it is recommended that the Retenu be backwashed at the beginning and end of long periods of rain regardless of pressure differential across the filter media bed.

5 System Maintenance

The Retenu will require the bottom of the backwash tank to be disposed of and the occasional removal and/or replacement of the filtration media to restore the system to its original effectiveness. The type and frequency of maintenance varies from site to site due to differences in facility operations, upstream stormwater management, and rainfall frequency.

5.1 Backwash Tank Maintenance

Maintenance Description

Contaminants flushed from the Retenu roughing filter during backwashing will accumulate at the base of the backwash tank and must be removed and disposed of. If these solids are not removed when necessary, the backwash cycle will increase and reduce the treatment capacity of your system.

Maintenance Timing/Frequency

This should be done once a year at a minimum. The frequency in which these solids are removed will vary. The level of solids accumulating within the backwash tank should be monitored after storm events to determine the frequency of maintenance. Solids accumulation can be best observed after the treatment has subsided. The backwash tank should be maintained after 24 inch of solids have accumulated in the base of the tank.

Maintenance Steps

1. Determine the depth of the solids to be 24" or greater in the base of the backwash tank using a sludge judge. Approximately 36" of liquid (and solids) will remain in the backwash tank at all times.
2. Vactor out the solids and remaining liquid in the base of the tank using the manway at the top of the backwash tank.

5.2 Partial Maintenance

Maintenance Description

A partial maintenance involves removing the top 3" of media from the top of the filter bed. This should be done when backwashing is no longer capable of restoring the typical pressure drop across the media. One cause of this could be that solids are embedded in the media and media needs replacing.



INSUFFICIENT BACKWASHING CAN RESULT FROM EXCESSIVE RESTRICTIONS IN THE BACKWASH LINE or INSUFFICIENT BACKWASH DURATION. DETERMINE THAT THIS IS NOT THE CAUSE OF ANY ISSUES BEFORE DOING MAINTENANCE (SEE SECTION 6)

Maintenance Timing/Frequency

This should be the first step to restore the backwashing capabilities once they are rendered ineffective by embedded solids. The automatic backwash will occur frequently or continuously as a result of a spent media bed. Insufficient backwash flow or duration may be another cause of this. Refer to Section 6 prior to doing this maintenance.

Maintenance Steps

The steps for a partial media maintenance are:

1. Remove the covers from the top of the Retenu.
2. Insert a stinger from a vactor truck or large industrial vacuum through the opening and rest the stinger on top of the media.
3. Make record of the depth of the stinger inside the vessel before beginning to vacuuming out the filtration media. Suction from a vactor truck should remove approximately 3" of media without being inserted any deeper into the system.
4. Carefully vacuum off approximately 3" of media from the top of the media bed.
5. Close the cover on the top of the Retenu.

After conducting a partial media maintenance, if backwashing does not restore the typical pressure drop across the media bed, then a full maintenance is recommended (see Section 5.3).

5.3 Full Maintenance

Maintenance Description

A full maintenance consists of replacing all of the filtration media within each of the vessels once backwashing and a partial maintenance are no longer capable of restoring the typical pressure drop across the media. At this point, solids are embedded in the media and the media needs replacing. The underdrain gravel at the base of the vessels may NOT need to be replaced with every full maintenance.

Maintenance Timing/Frequency

This should be done when a partial maintenance has been recently conducted and the automatic backwash occurs frequently or continuously.

Maintenance Steps

The steps to replace the filtration media in the Retenu are below:

1. Remove the covers on the top of the Retenu.
2. Insert a stinger from a vactor truck or large industrial vacuum through the opening on top.

3. Make record of the depth of the stinger inside the vessel before beginning to vacuuming out the filtration media.
4. Vacuum out approximately 25" of the filtration media. Do not vacuum out media below the base of the manway. The underdrain gravel is approximately 30" below the original filtration media depth. Media level indicators on the side of the Retenu can be used to assist you.
5. Remove the manway cover and proceed vacuuming out the media until you reach the underdrain gravel at the base of the vessel. The underdrain gravel should be located approximately 2" below the base of the manway.
6. Wipe down walls within the vessel.
7. Remove the remainder of the filtration media (with hands or shop vac) and inspect the gravel at the base of the vessel. The gravel should be relatively clean (no coating or a very light coating of dirt on the gravel). If the gravel is clean, skip Steps 8 – 12.



MOST OFTEN THE GRAVEL AT THE BASE OF THE VESSELS WILL NOT NEED TO BE REPLACED. DO NOT VACTOR OUT GRAVEL PRIOR TO INSPECTION

8. If the gravel contains medium to large chunks of dirt/debris, remove the gravel.
9. Hose down the inside of the vessel and thoroughly spray a jet of water over the well-screen underdrain system.
10. Vactor out water from the base of the vessel.
11. Repeat cleaning the well-screen underdrain with a jet of water.
12. Rinse new gravel outside of the vessel prior to installing it (Section 3.1).
13. Install rinsed gravel by packing it around the underdrain system and then making it relatively level within the vessel.
14. Remove all foreign material from the sealing surfaces of the manway.
15. Close the manway.
16. Install the filtration media.
17. Fill the vessel with water to soak the media prior to backwashing (Section 3.2).
18. Close the cover on the top of the Retenu.
19. Repeat steps for the other remaining vessels.



INSTALLERS SHOULD WEAR APPROPRIATE DUST MASKS WHEN WORKING INSIDE THE VESSEL DURING MEDIA INSTALLATION AND SHOULD COMPLY WITH CONFINED SPACE REGULATIONS.

6 Operating Troubleshooting Guide

Symptom	Probable Cause	Recommended Action
Poor filtration	High pressure differential forcing contaminants through the media Low filter media allowing contaminants to pass through	More frequent backwashing Addition of media to the correct level
Constant high pressure differential across the vessels	Filter media level is low causing inadequate backwash Filter media plugged preventing sufficient water for backwash Insufficient backwash flow	Addition of media to the correct level Remove covers and remove top 3" of media. Replace covers and flush tanks for short intervals until clean. Readjust the backwash flow control valve. Too many restrictions on the backwash line (Section 2)
Effluent block valve not closing (if equipped)	Obstruction in the valve seat area Valve seat element worn	Clean inside of valve to remove obstruction Replace the valve
Shaking in discharge line or at the pump	Insufficient pressure in discharge line Backwash line causing vacuum	Create more of a restriction in the effluent discharge line by partially closing the discharge line ball valve Install a vacuum breaker on the backwash manifold
Frequency of backwashing increasing	Improper backwash duration Improper backwash flow rate Low filter media level Dirtier water	Increase backwash duration (Section 4.4) The backwash line is too small in diameter for the run of pipe (Section 2) The precalibrated backwash restrictor valve needs cleaning Addition of media to the correct level The backwash tank may need to be maintained (Section 5.1)

StormwaterRx LLC

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Appendix C

Industrial Activity Multi-Sector General Permit

**Multi-Sector General Permit
Rhode Island Pollutant Discharge Elimination System
Storm Water Discharge Associated
with Industrial Activity
(excluding Construction Activity)**



RIR500000

Valid ONLY in accordance with Part I.C.

Expiration Date:

April 30, 2011

**Rhode Island Department of Environmental Management
Office of Water Resources
Permitting Section
RIPDES Program**

**MULTI-SECTOR GENERAL PERMIT
RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY
(Revised 10/05)**

PLEASE READ THIS PERMIT CAREFULLY!

To require coverage under this permit, two conditions must be met. The first is that the facility must meet at least one of the conditions in the definition of "storm water discharge associated with industrial activity" (see RIPDES Rule 31.b.15.). The second is that the discharge of storm water associated with industrial activity must be a point source (see RIPDES Rule 3 for the definition of a point source), which discharges directly to a surface water body and/or a municipal separate storm sewer system. If both of these conditions are met, then the facility needs to seek coverage under this permit or an individual or alternative general permit. "Point source" means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

I. GENERAL COVERAGE UNDER THIS PERMIT

A. Permit Coverage. This permit applies to all areas of the State of Rhode Island.

B. Eligibility

1. Allowable Storm Water Discharges: Except storm water discharges identified under Part I.B.3, this permit may cover the following all new and existing discharges composed entirely of storm water: storm water associated with industrial activity, as defined in RIPDES Rule 31(b)(15)(i-ix and xi), from the "sectors" of industry based on Standard Industrial Classification (SIC) codes and Industrial Activity Codes as described in Table 1 of the Appendix, and that are specifically identified by outfall or discharge location in the Storm Water Pollution Prevention Plan. References to "sectors" in this permit (e.g., sector-specific monitoring requirements, etc.) refer to sectors listed in the above referenced Table 1.

Co-located Activities. If the facility has co-located industrial activities on-site that are described in a sector(s) other than the primary sector, the operator of the facility must comply with all other applicable sector-specific conditions found in Part VI for the co-located industrial activities. The extra sector-specific requirements are applied only to those areas of the facility where the extra-sector activities occur. An activity at a facility is not considered co-located if the activity, when considered separately, does not meet the description of a category of industrial activity covered by the storm water regulations, and identified by this permit's SIC code list.

If runoff from co-located activities commingles, the operator of the facility must monitor the discharge as per the requirements of all applicable sectors (regardless of the actual location of the discharge). If the operator of the facility complies with all applicable requirements from all applicable sections of Part VI for the co-located industrial activities, the discharges from these co-located activities are authorized by this permit.

2. Allowable Non-Storm Water Discharges. Allowable non-storm water discharges under this permit are limited to the following: discharges from fire fighting activities; fire hydrant flushings; external building washdown that does not use detergents; lawn watering; uncontaminated ground water; springs; air conditioning condensate; potable waterline flushings; irrigation drainage; 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; and incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of your facility, but NOT intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains); uncontaminated utility vault dewatering; dechlorinated water line testing water; hydrostatic test water that does not contain any treatment chemicals and is not contaminated with process chemicals. If any of these discharges may reasonably be expected to be present and to be mixed with storm water discharges, they must be specifically identified and addressed in the facility's Storm Water Pollution Prevention Plan.

3. Limitations on Coverage. The following storm water discharges are not authorized by this permit:
- a. Storm Water discharges associated with industrial activity mixed with other discharges, unless the other discharge is authorized by a different RIPDES permit; the other discharge does not require a RIPDES permit authorization; and/or the other discharge is identified in Part I.B.2 of this permit;
 - b. Storm water discharges associated with industrial activity from facilities with existing effluent guideline limitations for storm water under 40 CFR Subchapter N, except the following discharges subject to an effluent guideline that also meet all other eligibility requirements and the Director determines the storm water discharge is eligible for coverage under this permit:
 1. Runoff from material storage piles at cement manufacturing facilities [40 CFR Part 411 Subpart C (established February 23, 1977)];
 2. Contaminated runoff from phosphate fertilizer manufacturing facilities [40 CFR Part 418 Subpart A (established April 8, 1974)];
 3. Coal pile runoff at steam electric generating facilities [40 CFR Part 423 (established November 19, 1982)];
 4. Discharges resulting from spray down or intentional wetting of logs at wet deck areas [40 CFR Part 429 Subpart I (established January 26, 1981)];
 5. Mine dewatering discharges at crushed stone mines [40 CFR Part 436, Subpart B];
 6. Mine dewatering discharges at construction sand and gravel mines [40 CFR Part 436, Subpart C];
 7. Mine dewatering discharges at industrial sand mines [40 CFR Part 436, Subpart D];
 8. Runoff from asphalt emulsion facilities [40 CFR Part 443, Subpart A (established July 24, 1975)]; and
 9. Runoff from landfills [40 CFR Part 445, Subpart A and B (established February 2, 2000)].
 - c. Storm water discharges associated with industrial activity with an existing individual permit or an alternative general permit for storm water discharge(s) (except the 2003 RIPDES General Permit for Storm Water Discharges Associated With Industrial Activity or industries accepted under the group application) or which are issued a permit in accordance with Part VII.T. of this permit;
 - d. Storm water discharges previously covered by an individual permit or an alternative general permit that has expired or been terminated at the request of the permittee where:
 1. the previous permit contained numeric limitations developed for the storm water component of the discharge, which are more stringent than the numeric effluent guidelines required by this permit, for the purpose of this paragraph benchmarks are not considered effluent limitations;
 2. any specific BMPs for storm water required under the previous permit are not included in the SWPPP required under Part IV of this permit; or
 3. the previous permit contained additional chemical analysis of parameters for monitoring of significant materials exposed to storm water, that are not required

by this permit, and the significant materials remain at the facility.

- e. Storm water discharges that the Director of the Department of Environmental Management has found to be or may reasonably be expected to be contributing to a violation of water quality standards or is a significant contributor of pollutants;
- f. Storm water discharges associated with industrial activity from facilities where any RIPDES permit has been or is in the process of being denied, terminated, or revoked by the Director (other than in a replacement permit issuance process). Upon request, the Director may waive this exclusion if operator of the facility has since passed to a different owner/operator and new circumstances at the facility justify a waiver;
- g. Storm water discharges associated with construction activity including; but not limited to; clearing, grading, excavation, and filling; where total land disturbance is equal to or greater than five (5) acres, and where storm water runoff discharges into the waters of the State;
- h. Storm water discharges associated with industrial activity that may adversely affect a listed, or a proposed to be listed, endangered or threatened species or its critical habitat;
- i. Discharges prohibited under RIPDES Rule 6.
- j. Storm water associated with industrial activity discharging into any water for which a Total Maximum Daily Load (TMDL) has been either established or approved by the EPA unless the storm water discharges are consistent with that TMDL;
- k. Storm water associated with industrial activity subject to Anti-degradation Water Quality Standards.

C. Authorization. To be covered under this general permit, owners or operators of storm water discharges associated with industrial activity must submit to the Director a standardized Notice of Intent (NOI) form by certified mail, or hand delivery, in accordance with the requirements of Part III of this permit. Upon review of the NOI, the Director may deny coverage under this permit at any time and require submittal of an application for an individual or an alternative general permit.

1. *Deadlines for Requesting Authorization.*

- a. Facilities discharging storm water associated with industrial activity which were accepted as part of the group application process, or which were authorized under the previous general permit issued in March 2003, that intend to obtain coverage under this general permit; shall submit an NOI within thirty (30) days of the effective date of this permit.
- b. Facilities with discharges of storm water associated with industrial activity which commence after the effective date of this permit, the NOI must be submitted ninety (90) days prior to the commencement of such discharge.

2. *Granting of Authorization.*

- a. Facilities discharging storm water associated with industrial activity, which were accepted as part of the group application process or which were authorized under the previous general permit issued in March 2003, that have submitted a complete NOI within thirty (30) days of the effective date of this permit, shall be automatically granted authorization to discharge upon departmental receipt of a complete NOI. Unless notified by the Director to the contrary, owners or operators who submit such notification are authorized to discharge under the terms and conditions of this permit.
- b. For facilities which commence to discharge storm water associated with industrial activity after the effective date of this permit, authorization will be granted ninety (90) days after the submittal of a complete NOI, unless otherwise notified by the Director in writing. Regardless of whether the NOI was actually reviewed by this department, or it became approved

because of this department's failure to act within ninety (90) days, the permittee is still responsible for upholding all permit conditions and any other applicable state or Federal regulations.

- c. For facilities discharging storm water associated with industrial activity, which were not accepted as part of the group application process or which were not authorized under the previous general permit issued in March 2003, authorization will be granted ninety (90) days after the submittal of a complete NOI, unless otherwise notified by the Director in writing. Regardless of whether the NOI was actually reviewed by this department, or it became approved because of this department's failure to act within ninety (90) days, the permittee is still responsible for upholding all permit conditions and any other applicable state or Federal regulations.
 3. *No Exposure Certification.* Facilities with discharges composed entirely of storm water where "no exposure" of industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff, and the discharges satisfies the conditions of RIPDES Rule 31(h)(1) through (h)(4), must submit a RIPDES "no exposure" certification to the Department if the operator of the Storm Water Discharges Associated with Industrial Activity is seeking conditional exclusion from permit authorization.
- D. Termination of Coverage. Owners and/or operators of facilities must submit to the Director a complete Notice of Termination (NOT) when discharge(s) of storm water associated with industrial activity no longer occurs at the facility. At that point, coverage under this permit is terminated. At a minimum, the following information is required is required in the NOT to terminate coverage under this permit:
1. Owner's name, mailing address, and telephone number;
 2. Operator's name, mailing address, and telephone number;
 3. Name and location of the facility;
 4. RIPDES storm water permit number; and
 5. Certification that storm water discharge associated with industrial activity no longer takes place on-site.
- E. Transfer of Permits. Owners and/or operators of facilities proposing transfer of a permit must notify the Director in writing by certified mail of such proposed action. All transfers must meet the requirements of Rule 22(b) of the RIPDES Regulations.
- F. Failure to Notify. Owners or operators, who fail to notify the Director of their intent to be covered under a general permit and discharge storm water associated with industrial activity to waters of the State or to a separate storm sewer system without a RIPDES permit, are in violation of Chapter 46-12 of the Rhode Island General Laws and the Clean Water Act and may be subject to legal enforcement action for any unpermitted discharges.

II. PERMIT CONDITIONS

- A. Development of a Storm Water Pollution Prevention Plan (SWPPP), in accordance to the requirements of Parts IV and VI of this permit, is required prior to submitting the NOI. The SWPPP developed under the 2003 general permit for storm water discharges associated with industrial activity may satisfy this requirement, provided it adequately addresses all requirements of this permit. Compliance with the SWPPP is required upon the date of authorization to discharge under this permit. A copy of the SWPPP must be kept on site at all times for coverage under this permit to be maintained.
- B. Monitoring Requirements

The operator of the storm water discharge must review Parts V and VI of this permit to determine which monitoring requirements and numeric limitations apply to the facility.

C. Reporting

1. Reporting Results of Monitoring

Depending on the types of monitoring required for the facility, the permittee may have to submit the results of the monitoring or the permittee may only have to keep the results with the Storm Water Pollution Prevention Plan. The permittee's reporting requirements and deadlines that apply to the types of monitoring that apply to the facility are as follows:

- a. Monitoring for Numeric Limitations results must be submitted to the Department by July 31 of the year following the monitoring year. In accordance with Rule 14.18 of the RIPDES Regulations the permittee shall report to the Department in writing any noncompliance with numeric limitations within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance;
- b. Benchmark Monitoring results for one year must be saved and submitted all in one package by July 31 of the year following the monitoring year;
- c. Biannual Monitoring results for Metal Mining Facilities (see Part VI.G) for one year must be saved and submitted all in one package by July 31 of the year following the monitoring year; and
- d. Visual Monitoring results must be retained with SWPPP. The results of the visual monitoring should not be submitted unless the Director requests to do so.

If required by the conditions of the permit that apply to the facility, the permittee must submit analytical monitoring results obtained from each outfall associated with industrial activity (or a certification as per V.C.1) on a Discharge Monitoring Report (DMR) form (one form must be submitted for each storm event sampled). The signed DMR must be sent to:

R.I. Department of Environmental Management
Office of Water Resources
Permits Section
235 Promenade Street
Providence, RI 02908

2. BMP Implementation Progress Report. The permittee must report to the Department progress towards achieving the implementation schedule for proposed storm water controls submitted to the Department as part of the SWPPP and prepared in accordance with Part IV.F.7.a of this permit. The Implementation Report must be submitted to the above address annually by July 31 of the year following the monitoring year.

D. *Comprehensive Site Evaluation.* At a minimum, all facilities that discharge storm water associated with industrial activity must perform annual site inspections. These annual inspections must be performed in accordance with Part IV.L of this permit to evaluate the effectiveness of the Storm Water Pollution Prevention Plan. The results of these inspections must be properly recorded and maintained on site for a period of five (5) years from the date of the report. A detailed report summarizing the scope of the inspection, personnel making the inspection, major observations related to the implementation of the Storm Water Pollution Prevention Plan, and any actions taken to amend the Plan in accordance with observations made from inspections must be developed within twelve (12) weeks of the date of the inspection. The report must identify any incidents of non-compliance and be certified in accordance with Part VII.G. of this permit.

E. Failure to meet the monitoring requirements under this part of this permit constitutes a violation of Chapter 46-12 of Rhode Island General Laws and the Clean Water Act; and may be subject to legal action.

III. NOTICE OF INTENT REQUIREMENTS

A. Contents of Notice of Intent

1. The owner's name, mailing address, telephone number, ownership status, and status as a Federal, State, private, public, or other entity;
2. The operator's name, address, telephone number, ownership status and status as a Federal, State, private, public or other entity;
3. Facility's information including name and location of the facility, including the latitude and longitude of the approximate center of the facility to the nearest 15 seconds, for which the NOI is being submitted;
4. A brief description of the site including: the total acreage of the site, total acreage of impervious surface, the runoff coefficient, and a description of existing storm water management controls;
5. Existing quantitative data describing the concentration of pollutants in storm water discharges;
6. The name of the receiving water(s) or if the discharge is through a municipal separate storm sewer, the name of the operator of the storm sewer system and the ultimate receiving water(s);
7. Up to four (4) digit SIC code that best represents the principal products or activities provided by the facility;
8. An identification of the appropriate Sector;
9. Existing storm water controls;
10. A list of any pollutants limited in effluent guidelines to which a facility is subject under 40 CFR Subchapter N, any pollutants listed on a RIPDES permit to discharge process waste water, and any information required under RIPDES Rule 11.02(a)(14)(iii)-(v) or 40 CFR 122.21(g)(iii)-(v);
11. The Storm Water Pollution Prevention Plan must be submitted as part of the NOI for the following facilities:
 - a. Facilities with discharges of storm water associated with industrial activity which commence after the effective date of this permit, and
 - b. Facilities that discharge storm water associated with industrial activity which were not accepted as part of the group application process or were not authorized under the previous general permit issued in March 2003.
12. For discharges of storm water associated with industrial activity which were accepted as part of the group application process or were authorized under the previous general permit issued in March 2003, submission of a complete NOI is required and must contain a signed certification by the owner or operator within thirty (30) days of the effective date of this permit, that the SWPPP has been developed in accordance to the requirements of this permit; and
13. Additional information may be required by this division to be included as part of the NOI, if the Director determines that such information is reasonably necessary to determine whether or not to authorize the discharge under this permit.

- B. *Where to Submit.* A completed and signed NOI, in accordance with Part VII.G., must be submitted to:

R.I. Department of Environmental Management
Office of Water Resources
Permits Section
235 Promenade Street
Providence, RI 02908

- C. *Deficient NOI.* If any portion of the NOI does not meet one or more of the minimum requirements of this part, then the applicant will be notified by a deficiency letter at any point within the review period. It is the responsibility of the applicant to make all required changes and resubmit the NOI. The review period will recommence upon the received submittal date of the revised NOI.

IV. STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

- A. A Storm Water Pollution Prevention Plan (SWPPP) shall be developed for each facility covered by this permit. The SWPPP shall be prepared in accordance with good engineering practices and identify potential sources of pollutants, which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. In addition, the Plan shall describe and ensure the implementation of Best Management Practices (BMPs), which are to be used to reduce or eliminate the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit.
- B. The Plan shall be signed by the owner and operator in accordance with Part VII.G. of this permit and retained on-site. Owners or operators of a facility with storm water discharges covered by this permit shall make plans available upon request to the Director or in the case of a storm water discharge associated with industrial activity, which discharges through a municipal separate storm sewer system with a RIPDES storm water permit, to the wastewater authority having jurisdiction for the sewerage system.
- C. If the Plan is reviewed by the Director, he or she may notify the permittee at any time that the Plan does not meet one or more of the minimum requirements of this part. After such notification from the Director, the permittee shall make changes to the Plan and shall submit to the Director a written certification that the requested changes have been made. Unless otherwise provided by the Director, the permittee shall have thirty (30) days after such notification to make the necessary changes.
- D. The permittee shall immediately amend the Plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the State; a release of reportable quantities of hazardous substances and oil; or if the SWPPP proves to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Changes must be noted and submitted to this department within thirty (30) days of the date of the amendments. Amendments to the Plan may be reviewed by DEM in the same manner as Part III.C. of this permit.
- E. The SWPPP for the facility must be prepared before submitting the Notice of Intent for permit coverage. The SWPPP must:
1. identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from the facility;
 2. describe and ensure implementation of practices which the permittee will use to reduce the pollutants in storm water discharges from the facility; and
 3. assure compliance with the terms and conditions of this permit.

F. Contents of the SWPPP:

1. Pollution Prevention Team

The SWPPP must identify the staff individual(s) (by name or title) that comprise the facility's storm water Pollution Prevention Team. The Pollution Prevention Team is responsible for assisting the facility/plant manager in developing, implementing, maintaining and revising the facility's SWPPP. Responsibilities of each staff individual on the team must be listed.

2. Site Description. The SWPPP must include the following:

- a. *Activities at Facility.* description of the nature of the industrial activity(ies) at the facility;
- b. *General Location Map.* a topographic map showing the general location of the facility with enough detail to identify the location of the facility and the receiving waters within one mile of the facility;
- c. *A legible site map identifying the following:*
 1. directions of storm water flow (e.g, use arrows to show which ways storm water will flow);
 2. delineation of impervious surfaces;
 3. locations of all existing structural BMPs to reduce pollutants in storm water runoff;
 4. locations of all surface water bodies;
 5. locations of all municipal separate storm sewers;
 6. locations of potential pollutant sources identified under Part IV.F.4 and where significant materials are exposed to precipitation;
 7. locations where major spills or leaks identified under Part IV.F.5 have occurred;
 8. locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, and liquid storage tanks;
 9. locations of storm water outfalls and an approximate outline of the area draining to each outfall;
 10. location and description of non-storm water discharges;
 11. locations of the following activities where such activities are exposed to precipitation: processing and storage areas; access roads, rail cars and tracks; the location of transfer of substance in bulk; and machinery;
 12. location and source of runoff from adjacent property containing significant quantities of pollutants of concern to the facility (an evaluation of how the quality of the storm water running onto the facility impacts the storm water discharges may be included).
- d. An estimate of the overall runoff coefficient.

3. Receiving Waters and Wetlands

The name of the nearest receiving water(s), including intermittent streams and the areal extent and description of wetland that may receive discharges from the facility.

4. Summary of Potential Pollutant Sources

The permittee must identify each separate area at the facility where industrial materials or activities are exposed to storm water. Industrial materials or activities include, but are not limited to, material handling equipment or activities; industrial machinery; storage, cleaning, fueling and maintenance of vehicles and equipment storage; and raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. For each, separate area identified, the description must include:

- a. *Activities in Area.* A list of the activities (e.g., material storage, loading, access areas equipment fueling and cleaning, cutting steel beams);
- b. *Pollutants.* A list of the associated pollutant(s) or pollutant parameter(s) (e.g., crankcase oil, iron, biochemical oxygen demand, pH, etc.) for each activity. The pollutant list must include all significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of five (5) years before being covered under this permit and the present;
- c. Method of on-site storage or disposal;
- d. For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow and an estimate of the types of pollutants, which are likely to be present in the storm water discharge.

5. Spills and Leaks

The permittee must clearly identify areas where potential spills and leaks, which can contribute pollutants to storm water discharges, can occur, and their accompanying drainage points. For areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility to be covered under this permit, the permittee must provide a list of significant spills and leaks of toxic or hazardous pollutants that occurred during the five (5) year period prior to the date of the submission of a Notice of Intent (NOI). The list must be updated if significant spills or leaks occur in exposed areas of the facility during the time the permittee are covered by the permit.

Significant spills and leaks include, but are not limited to releases of oil or hazardous substances in excess of quantities that are reportable under CWA §311 (see 40 CFR 110.10 and 40 CFR 117.21) or section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements.

6. Sampling Data

The permittee must provide a summary of existing storm water discharge sampling data taken at the facility. All storm water sampling data collected during the term of this permit must also be summarized and included in this part of the SWPPP.

7. Storm Water Controls

- a. *Description of Existing and Planned BMPs.* Describe the type and location of existing

non-structural and structural best management practices (BMPs) selected for each of the areas where industrial materials or activities are exposed to storm water. All the areas identified in Part IV.F.4 should have a BMP(s) identified for the area's discharges. For areas where BMPs are not currently in place, describe appropriate BMPs that the permittee will use to control pollutants in storm water discharges, the SWPPP must include a schedule for the implementation of all proposed BMPs. Selection of BMPs should take into consideration:

1. the quantity and nature of the pollutants, and their potential to impact the water quality of receiving waters;
 2. opportunities to combine the dual purposes of water quality protection and local flood control benefits (including physical impacts of high flows on streams - e.g., bank erosion, impairment of aquatic habitat, etc.);
 3. opportunities to offset the impact of impervious areas of the facility on ground water recharge and base flows in local streams.
- b. *BMP Types to be Considered.* The following types of structural, non-structural and other BMPs must be considered for implementation at the facility. Describe how each is, or will be, implemented. This requirement may have been fulfilled with the area-specific BMPs identified under Part IV.F.7.a, in which case the previous description is sufficient. However, many of the following BMPs may be more generalized or non site-specific and therefore not previously considered. If the permittee determines that any of these BMPs are not appropriate for the facility, an explanation of why they are not appropriate must be included. The BMP examples listed below are not intended to be an exclusive list of BMPs that the permittee may use. The permittee is encouraged to keep abreast of new BMPs or new applications of existing BMPs to find the most cost effective means of permit compliance for the facility. If BMPs are being used or planned at the facility which are not listed here (e.g., replacing a chemical with a less toxic alternative, adopting a new or innovative BMP, etc.), include descriptions of them in this section of the SWPPP.

1. Non-Structural BMPs

Good Housekeeping: The permittee must keep all exposed areas of the facility in a clean, orderly manner where such exposed areas could contribute pollutants to storm water discharges. Common problem areas include: around trash containers, storage areas and loading docks. Measures must also include: a schedule for regular pickup and disposal of garbage and waste materials; routine inspections for leaks and conditions of drums, tanks and containers.

Minimizing Exposure: Where practicable, industrial materials and activities should be protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, or runoff. NOTE: Eliminating exposure at all industrial areas may make the facility eligible for the RIPDES Rule 31(h) "No Exposure" exclusion from needing to have a permit.

Preventive Maintenance: The permittee must have a preventive maintenance program which includes timely inspection and maintenance of storm water management devices, (e.g., cleaning oil/water separators, catch basins) as well as inspecting, testing, maintaining and repairing facility equipment and systems to avoid breakdowns or failures that may result in discharges of pollutants to surface waters.

Spill Prevention and Response Procedures: The permittee must describe the procedures which will be followed for cleaning up spills or leaks. Those procedures, and necessary spill response equipment, must be made available to those employees that may cause or detect a spill or leak. Where appropriate, the permittee must explain existing or planned material handling procedures,

storage requirements, secondary containment, and equipment (e.g., diversion valves), which are intended to minimize spills or leaks at the facility. Measures for cleaning up hazardous material spills or leaks must be consistent with applicable RCRA regulations at 40 CFR Part 264 and 40 CFR Part 265.

Routine Facility Inspections: In addition to or as part of the comprehensive site evaluation required under Part IV.L, the permittee must have qualified facility personnel inspect all areas of the facility where industrial materials or activities are exposed to storm water. The inspections must include an evaluation of existing storm water BMPs. The SWPPP must identify how often these inspections will be conducted. The permittee must correct any deficiencies in implementation of the SWPPP the permittee finds as soon as practicable, but not later than within 14 days of the inspection. The permittee must document in the SWPPP the results of the inspections and the corrective actions the permittee took in response to any deficiencies or opportunities for improvement that the permittee identifies.

Employee Training: The permittee must describe the storm water employee training program for the facility. The description should include the topics to be covered, such as spill response, good housekeeping and material management practices, and must identify periodic dates (e.g., every 6 months during the months of July and January) for such training. The permittee must provide employee training for all employees that work in areas where industrial materials or activities are exposed to storm water, and for employees that are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance people). The employee training should inform them of the components and goals of the SWPPP.

2. Structural BMPs

Sediment and Erosion Control: The permittee must identify the areas at the facility which, due to topography, land disturbance (e.g., construction), or other factors, have a potential for significant soil erosion. The permittee must describe the structural, vegetative, and/or stabilization BMPs that the permittee will be implementing to limit erosion.

Management of Runoff: The permittee must describe the traditional storm water management practices (permanent structural BMPs other than those which control the generation or source(s) of pollutants) that currently exist or that are planned for the facility. These types of BMPs typically are used to divert, infiltrate, reuse, or otherwise reduce pollutants in storm water discharges from the site. All BMPs that the permittee determines are reasonable and appropriate, or are required by a State or local authority; or are necessary to maintain eligibility for the permit (see Part I.B.3 - Limitations on Coverage) must be implemented and maintained. Factors to consider when the permittee is selecting appropriate BMPs should include: 1) the industrial materials and activities that are exposed to storm water, and the associated pollutant potential of those materials and activities; and 2) the beneficial and potential detrimental effects on surface water quality, ground water quality, receiving water base flow (dry weather stream flow), and physical integrity of receiving waters. Structural measures should be placed on upland soils, avoiding wetlands and floodplains, if possible. Structural BMPs may require a separate permit under section 404 of the CWA before installation begins.

Example BMPs: BMPs the permittee could use include but are not limited to: storm water detention structures (including wet ponds); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices).

3. Other Controls

No solid materials, including floatable debris, may be discharged to waters of the State, except as authorized by a permit issued under section 404 of the CWA. Off-site vehicle tracking of raw, final, or waste materials or sediments, and the generation of dust must be minimized. Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas must be minimized. Velocity dissipation devices must be placed at discharge locations and along the length of any outfall channel if they are necessary to provide a non-erosive flow velocity from the structure to a water course.

G. Maintenance

All BMPs the permittee identifies in the SWPPP must be maintained in effective operating condition. If site inspections required by Part IV.L identify BMPs that are not operating effectively, maintenance must be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished within fourteen (14) calendar days. In the case of non-structural BMPs, the effectiveness of the BMP must be maintained by appropriate means (e.g., spill response supplies available and personnel trained, etc.).

H. Non-Storm Water Discharges

1. Certification of Non-Storm Water Discharges

- a. The SWPPP must include a certification that all discharges (i.e., outfalls) have been tested or evaluated for the presence of non-storm water. The certification must be signed in accordance with Part VII.G of this permit, and include:
 1. the date of any testing and/or evaluation;
 2. identification of potential significant sources of non-storm water at the site;
 3. a description of the results of any test and/or evaluation for the presence of non-storm water discharges;
 4. a description of the evaluation criteria or testing method used; and
 5. a list of the outfalls or onsite drainage points that were directly observed during the test.
- b. If the permittee is unable to provide the certification required (testing for non-storm water discharges), the permittee must notify the Director 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification must describe:
 1. reason(s) why certification was not possible;
 2. the procedure of any test attempted;
 3. the results of such test or other relevant observations; and
 4. potential sources of non-storm water discharges to the storm sewer.
- c. A copy of the notification must be included in the SWPPP at the facility. Non-storm water discharges to waters of the State which are not authorized by a RIPDES permit are

unlawful, and must be terminated.

2. Allowable Non-Storm Water Discharges

- a. Certain sources of non-storm water are allowable under this permit (see I.B.2 - Allowable Non-Storm Water Discharges). In order for these discharges to be allowed, the SWPPP must include:
 1. identification of each allowable non-storm water source;
 2. the location where it is likely to be discharged; and
 3. descriptions of appropriate BMPs for each source.
- b. Except for flows from fire fighting activities, the permittee must identify in the SWPPP all sources of allowable non-storm water that are discharged under the authority of this permit.
- c. If the permittee includes mist blown from cooling towers amongst the allowable non-storm water discharges, the permittee must specifically evaluate the potential for the discharges to be contaminated by chemicals used in the cooling tower and determine that the levels of such chemicals in the discharges would not cause or contribute to a violation of an applicable water quality standard after implementation of the BMPs the permittee has selected to control such discharges.

I. Documentation of Permit Eligibility Related to Endangered Species The permittee must identify in the SWPPP if the facility is located within or discharges to a critical habitat of a listed or proposed to be listed endangered or threatened species (this information can be found by going to <http://204.139.0.188/website/maps/viewer.htm>, opening the "Regulatory Overlays" folder and selecting the "Rare Species habitats" overlay). If the Department makes a determination that the discharge may adversely affect a critical habitat of a listed or proposed to be listed endangered or threatened species, the discharge cannot be authorized under this permit and the permittee must submit an application for an individual RIPDES permit that would require appropriate storm water controls or the permittee must eliminate the discharge.

J. Copy of Permit Requirements

The permittee must include a copy of this permit in the SWPPP.

K. Applicable State or local Plans

The SWPPP must be consistent (and updated as necessary to remain consistent) with applicable State and/or local storm water, waste disposal, sanitary sewer or septic system regulations to the extent these apply to the facility and are more stringent than the requirements of this permit.

L. Comprehensive Site Compliance Evaluation

1. Frequency of Inspections

The permittee must conduct facility inspections at least once a year. The inspections must be done by qualified personnel provided by the permittee. The qualified personnel the permittee uses may be either the facility's employees or outside consultants that the permittee has hired, provided they are knowledgeable and possess the skills to assess conditions at the facility that could impact storm water quality and assess the effectiveness of the BMPs the permittee has chosen to use to control the quality of the storm water discharges. If the permittee decides to conduct more frequent inspections, the SWPPP must specify the frequency of inspections.

2. Scope of the Compliance Evaluation

The inspections must include all areas where industrial materials or activities are exposed to storm water, as identified in Part IV.F.4, and areas where spills and leaks have occurred within the past 5 years. Inspectors should look for: a) industrial materials, residue or trash on the ground that could contaminate or be washed away in storm water; b) leaks or spills from industrial equipment, drums, barrels, tanks or similar containers; c) offsite tracking of industrial materials or sediment where vehicles enter or exit the site; d) tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas and e) for evidence of, or the potential for, pollutants entering the drainage system. Results of both visual and any analytical monitoring done during the year must be taken into consideration during the evaluation. Storm water BMPs identified in the SWPPP must be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they must be inspected to see whether BMPs are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations must be inspected if possible.

3. Follow-up Actions

Based on the results of the inspection, the permittee must modify the SWPPP as necessary (e.g., show additional controls on map required by Part IV.F.2.c; revise description of controls required by Part IV.F.7 to include additional or modified BMPs designed to correct problems identified. If the average value(s) for the Benchmark Monitoring results for one year exceed the benchmark monitoring cutoff concentrations listed in Tables A-1 through AA-1, the compliance evaluation report must include an explanation of why benchmarks have been exceeded and a description of the actions necessary to achieve the benchmark monitoring cut-off concentrations.

The permittee must complete revisions to the SWPPP within 14 calendar days following the inspection. If existing BMPs need to be modified or if additional BMPs are necessary, implementation must be completed before the next anticipated storm event, if practicable, but not more than twelve (12) weeks after completion of the comprehensive site evaluation

4. Compliance Evaluation Report

The permittee must insure a report summarizing the scope of the inspection, name(s) of personnel making the inspection, the date(s) of the inspection, and major observations relating to the implementation of the SWPPP is completed no more than twelve (12) weeks after the date of the inspection and retained as part of the SWPPP for at least five (5) years from the date of the report. Major observations should include: the location(s) of discharges of pollutants from the site; location(s) of BMPs that need to be maintained; location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location; and location(s) where additional BMPs are needed that did not exist at the time of inspection. The permittee must retain a record of actions taken in accordance with Part IV.L of this permit as part of the Storm Water Pollution Prevention Plan for at least five (5) years from the date of the inspection report. The inspection reports must identify any incidents of non-compliance. Where an inspection report does not identify any incidents of non-compliance, the report must contain a certification that the facility is in compliance with the Storm Water Pollution Prevention Plan and this permit. Both the inspection report and any reports of follow-up actions must be signed in accordance with Part VII.G (reporting) of this permit.

5. Credit As a Routine Facility Inspection

Where compliance evaluation schedules overlap with inspections required under Part IV.F.2.b.1, the annual compliance evaluation may also be used as one of the Part IV.F.7 routine inspections.

M. Maintaining Updated SWPPP

The permittee must amend the Storm Water Pollution Prevention Plan whenever:

1. there is a change in design, construction, operation, or maintenance at the facility which has a significant effect on the discharge, or potential for discharge, of pollutants from the facility;

2. during inspections, monitoring, or investigations by the permittee or by local, State, or Federal officials it is determined the SWPPP is ineffective in eliminating or significantly minimizing pollutants from sources identified under Part IV.F.4, or is otherwise not achieving the general objectives of controlling pollutants in discharges from the facility.

N. Signature, Plan Review and Making Plans Available

1. The permittee must sign the SWPPP in accordance with Part VII.G, and retain the plan on-site at the facility covered by this permit (see Part II.D for records retention requirements).
2. The permittee must keep a copy of the SWPPP on-site or locally available to the Director for review at the time of an on-site inspection. The permittee must make the SWPPP available upon request to the Director, a Federal, State, or local agency approving storm water management plans, or the operator of a municipal separate storm sewer receiving discharge from the site. Also, in the interest of the public's right to know, the permittee must provide a copy of the SWPPP to the public if requested in writing to do so.
3. The Director may notify the permittee at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification will identify provisions of this permit which are not being met, as well as the required modifications. Within thirty (30) calendar days of receipt of such notification, the permittee must make the required changes to the SWPPP and submit to the Director a written certification that the requested changes have been made.

O. Additional Requirements for SARA Title III Facilities.

Potential pollutant sources for which the permittee has reporting requirements under EPCRA 313 must be identified in the summary of potential pollutant sources as per Part IV.F.4. Note this additional requirement only applies to the permittee if the permittee is subject to reporting requirements under EPCRA 313.

- P. Additional Requirements for Salt Storage Piles. If storage piles of salt used for deicing or other commercial or industrial purposes are located at the facility, they must be enclosed or covered to prevent exposure to precipitation (except for exposure resulting from adding or removing materials from the pile). Piles do not need to be enclosed or covered where storm water from the pile is not discharged to waters of the State or the discharges from the piles are authorized under another permit.

V. MONITORING REQUIREMENTS AND NUMERIC LIMITATIONS

There are five individual and separate categories of monitoring requirements and numeric limitations that the facility may be subject to under this permit. The monitoring requirements and numeric limitations applicable to the facility depend on the types of industrial activities generating storm water runoff from the facility. Part VI identifies monitoring requirements applicable to specific sectors of industrial activity. **The permittee must review Parts V and VI of the permit to determine which monitoring requirements and numeric limitations apply to the facility.** Unless otherwise specified, limitations and monitoring requirements under Parts V and VI are additive.

Sector-specific monitoring requirements and limitations are applied discharge by discharge at facilities with co-located activities. Where storm water from the co-located activities are co-mingled, the monitoring requirements and limitations are additive. Where more than one numeric limitation for a specific parameter applies to a discharge, compliance with the more restrictive limitation is required. Where monitoring requirements for a monitoring quarter overlap (e.g., need to monitor TSS 1/year for a limit and also 1/quarter for benchmark monitoring), the permittee may use a single sample to satisfy both monitoring requirements.

A. Types of Monitoring Requirements and Limitations

1. Quarterly Visual Monitoring

The requirements and procedures for quarterly visual monitoring are applicable to all facilities covered under this permit, regardless of the facility's sector of industrial activity.

- a. The permittee must perform and document a quarterly visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The visual examination must be made during daylight hours (e.g., normal working hours). If no storm event resulted in runoff from the facility during a monitoring quarter, the permittee is excused from visual monitoring for that quarter provided the permittee documents in the monitoring records that no runoff occurred. The permittee must sign and certify the documentation in accordance with Part VII.G.
- b. The visual examinations must be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging from the facility. The examination must document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples. All such samples must be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The 72-hour storm interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period. Where practicable, the same individual should carry out the collection and examination of discharges for the entire permit term. If no qualifying storm event resulted in runoff from the facility during a monitoring quarter, the permittee is excused from visual monitoring for that quarter provided the permittee documents in the monitoring records that no qualifying storm event occurred that resulted in storm water runoff during that quarter. The permittee must sign and certify the documentation in accordance with Part VII.G.
- c. The permittee must maintain the visual examination reports onsite with the Storm Water Pollution Prevention Plan. The report must include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

2. Benchmark Monitoring of Discharges Associated With Specific Industrial Activities

Table 3 of the Appendix identifies the specific industrial sectors subject to the Benchmark Monitoring requirements of this permit and the industry-specific pollutants of concern. The permittee must refer to the appropriate sector-specific tables in Part VI for Benchmark Monitoring Cut-Off Concentrations. If the facility has co-located activities (see Part I.B.1) described in more than one sector in Part VI, the permittee must comply with all applicable benchmark monitoring requirements from each sector.

The results of benchmark monitoring are primarily for the use to determine the overall effectiveness of the SWPPP in controlling the discharge of pollutants to receiving waters. Benchmark values, included in Part VI of this permit, are not viewed as effluent limitations. An exceedance of a benchmark value does not, in and of itself, constitute a violation of this permit. While exceedance of a benchmark value does not automatically indicate that violation of a water quality standard has occurred, it does signal that modifications to the SWPPP may be necessary. In addition, exceedance of benchmark values may identify facilities that would be more appropriately covered under an individual, or alternative general permit where more specific pollution prevention controls could be required.

- a. *Monitoring Periods for Benchmark Monitoring.* Unless otherwise specified in Part VI, benchmark monitoring periods are May 1, 2007 to April 30, 2008 (year two of the permit) and May 1, 2009 to April 30, 2009 (year four of the permit). If the facility falls within a Sector(s) required to conduct benchmark monitoring, the permittee must monitor quarterly (4 times a year) during at least one, and potentially both, monitoring periods;

unless otherwise specified in the sector-specific requirements of Part VI. The monitoring quarters are as follows: May 1st – July 31st, August 1st – October 31st, November 1st – January 31st and February 1st – April 30th. Depending on the results of the 2007-2008 monitoring year, the permittee may not be required to conduct benchmark monitoring in the 2009-2010 monitoring year (see Part V.A.2.b).

- b. *Benchmark Monitoring Year 2009-2010 Waivers for Facilities Testing Below Benchmark Values.* All of the provisions of this Part are available to permittees except as noted in Part VI. Waivers from benchmark monitoring are available to facilities whose discharges are below benchmark values, thus there is an incentive for facilities to improve the effectiveness of their SWPPPs in eliminating discharges of pollutants and avoid the cost of monitoring.

On both a parameter by parameter and outfall by outfall basis, the permittee is not required to conduct sector-specific benchmark monitoring in the remaining years of the permit provided:

- the permittee collected samples for all four quarters of the first monitoring year and the average concentration was below the benchmark value in the appropriate sector-specific tables in Part VI; and
- the facility is not subject to a numeric limitation; and
- the permittee includes a certification in the SWPPP that based on current potential pollutant sources and BMPs used, discharges from the facility are reasonable expected to be essentially the same (or cleaner) compared to when the benchmark monitoring for the first year monitoring was done.

3. Coal Pile Runoff

- a. If the facility has discharges of storm water from coal storage piles, the permittee must comply with the limitations and monitoring requirements of Table 4 of the Appendix for all discharges containing the coal pile runoff, regardless of the facility's sector of industrial activity.
- b. The permittee must not dilute coal pile runoff with storm water or other flows in order to meet this limitation.
- c. If the facility is designed, constructed and operated to treat the volume of coal pile runoff that is associated with a 10-year, 24-hour rainfall event, any untreated overflow of coal pile runoff from the treatment unit is not subject to the 50 mg/L limitation for total suspended solids.
- d. The permittee must collect and analyze the samples in accordance with Parts V.B.2. Results of the testing must be retained and reported in accordance with Part II.D and VII.O.

4. Compliance Monitoring for Discharges Subject to Numerical Effluent Limitation Guidelines

Table 2 of the Appendix of the permit identifies storm water discharges subject to effluent limitation guidelines that are authorized for coverage under the permit. Facilities subject to storm water effluent limitation guidelines are required to monitor such discharges to evaluate compliance with numerical effluent limitations. Industry-specific numerical limitations and compliance monitoring requirements are described in Part VI of the permit.

B. Monitoring Instructions

1. Monitoring Periods

If the permittee is required to conduct monitoring on an annual or quarterly basis, the permittee must collect the samples within the following time periods (unless otherwise specified in Part VI):

- the monitoring year is from May 1 to April 30. The monitoring quarters are as follows: May 1st - July 31st, August 1st - October 31st, November 1st - January 31st and February 1st - April 30th
- if the permit coverage was effective less than one month from the end of a quarterly or yearly monitoring period, the first monitoring period starts with the next respective monitoring period (e.g., if permit coverage begins July 5th, the permittee would not need to start quarterly sampling until the August - October quarter, but the permittee would only have from July 5th to April 30th to complete that year's annual monitoring).

2. Collection and Analysis of Samples

The permittee must assess the sampling requirements on an outfall by outfall basis. The permittee must collect and analyze the samples in accordance with the requirements of Part VII.O.

- a. *Sample Procedures.* Take a minimum of one grab sample from the discharge associated with industrial activity resulting from a storm event with at least 0.1 inch of precipitation (defined as a "measurable" event), providing the interval from the preceding measurable storm is at least 72 hours. The 72-hour storm interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 72-hour interval is representative for local storm events during the sampling period.

Take the grab sample during the first 30 minutes of the discharge. If it is not practicable to take the sample during the first 30 minutes, sample during the first hour of discharge and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the discharge monitoring report (see Part II.C.1). If the sampled discharge commingles with process or non-process water, attempt to sample the storm water discharge before it mixes with the non-storm water.

To get help with monitoring, consult the *Guidance Manual for the Monitoring and Reporting Requirements of the NPDES Storm Water Multi-Sector General Permit* available at EPA's Web Site at www.epa.gov/OWM/sw/industry/index.htm. It can also be ordered by contacting the Office of Water Resources/RIPDES Program by calling 401-222-4700.

3. Storm Event Data.

Along with the results of the monitoring, the permittee must provide the date and duration (in hours) of the storm event(s) samples; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event samples and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge samples.

4 Representative Outfalls - Essentially Identical Discharges.

If the facility has two (2) or more outfalls that the permittee believes discharge substantially identical effluents, based on similarities of the industrial activities, significant materials or storm water management practices occurring within the outfalls' drainage areas, the permittee may test the effluent of just one of the outfalls and report that the quantitative data also applies to the substantially identical outfall(s). For this to be permissible, the permittee must describe in the Storm Water Pollution Prevention Plan and include in the Discharge Monitoring Report the following: locations of the outfalls; why the outfalls are expected to discharge substantially identical effluents; estimates of the size of the drainage area (in square feet) for each of the outfalls; and an estimate of the runoff coefficient of the drainage areas (low: under 40 percent; medium: 40 to 65 percent; high: above 65 percent). Outfalls previously determined to discharge

substantially identical effluents must be evaluated as part of the compliance evaluation report to determine if the industrial activities, significant materials or storm water management practices occurring within the outfalls' drainage areas have changed.

C. General Monitoring Waivers

Unless specifically stated otherwise, the following waivers may be applied to any monitoring required under this permit.

1. Adverse Climatic Conditions Waiver

When adverse weather conditions prevent the collection of samples, take a substitute sample during a qualifying storm event in the next monitoring period, or four samples per monitoring year when weather conditions do not allow for samples to be spaced evenly during the year. Adverse conditions (i.e., those which are dangerous or create inaccessibility for personnel) may include such things as local flooding, high winds, electrical storms, or situations which otherwise make sampling impracticable such as drought or extended frozen conditions.

2. Alternative Certification of "Not Present or No Exposure".

The permittee is not subject to the analytical monitoring requirements of Part V.A.2 provided:

- a. the permittee makes a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of monitoring required under Part V.A.2, that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period; and
- b. the certification is signed in accordance with Part VII.G, retained in the Storm Water Pollution Prevention Plan, and submitted to RIDEM in accordance with Part II.C. In the case of certifying that a pollutant is not present, the permittee must submit the certification along with the monitoring reports required Part II.C; and
- c. if the permittee cannot certify for an entire period, the permittee must submit the date exposure was eliminated and any monitoring required up until that date; and
- d. no numeric limitation or State-specific monitoring requirement for that parameter is established in Part V.

D. Monitoring Required by the Director

The Director may provide written notice to any facility, including those otherwise exempt from the sampling requirements of Parts V and VI, requiring discharge sampling for a specific monitoring frequency for specific parameters. Any such notice will briefly state the reasons for the monitoring, parameters to be monitored, frequency and period of monitoring, sample types, and reporting requirements.

E. Reporting Monitoring Results

Deadlines and procedures for submitting monitoring reports are contained in Part II.C.

VI. SECTOR-SPECIFIC REQUIREMENTS FOR INDUSTRIAL ACTIVITY

The permittee only needs to comply with the additional requirements of Part VI that apply to the sector(s) of industrial activity at the facility. These sector-specific requirements are in addition to the "basic" requirements specified in Parts I-V and VII- of this permit.

A. Sector A - Timber Products.

1. Covered Storm Water Discharges.

The requirements in Part VI.A apply to storm water discharges associated with industrial activity from Timber Products facilities as identified by the SIC Codes specified under Sector A in Table 1 of the Appendix.

2. Industrial Activities Covered by Sector A.

The types of activities that permittees under Sector A are primarily engaged in are:

- a. cutting timber and pulpwood (those that have log storage or handling areas);
- b. mills, including merchant, lath, shingle, cooperage stock, planing, plywood and veneer;
- c. producing lumber and wood basic materials;
- d. wood preserving;
- e. manufacturing finished articles made entirely of wood or related materials except wood kitchen cabinet manufacturers ;
- f. manufacturing wood buildings or mobile homes.

3. Special Coverage Conditions.

a. *Prohibition of Discharges.* (See also Part I.B.3.e)

Not covered by this permit: storm water discharges from areas where there may be contact with the chemical formulations sprayed to provide surface protection. These discharges must be covered by a separate RIPDES permit.

b. *Authorized Non-Storm Water Discharges.*

(See also Part I.B.3.e) Also authorized by this permit, provided the non-storm water component of the discharge is in compliance with SWPPP requirements in Part IV.F.7 (Controls): discharges from the spray down of lumber and wood product storage yards where no chemical additives are used in the spray down waters and no chemicals are applied to the wood during storage.

4. Storm Water Pollution Prevention Plan (SWPPP) Requirements.

In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.

- a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Also identify where any of the following may be exposed to precipitation / surface runoff: processing areas; treatment chemical storage areas; treated wood and residue storage areas; wet decking areas; dry decking areas; untreated wood and residue storage areas; and treatment equipment storage areas.
- b. *Inventory of Exposed Materials.* (See also Part IV.F.4) Where such information exists, if the facility has used chlorophenolic, creosote or chromium-copper-arsenic formulations for wood surface protection or preserving, identify the following: areas where contaminated soils, treatment equipment and stored materials still remain, and the management practices employed

to minimize the contact of these materials with storm water runoff.

- c. *Description of Storm Water Management Controls.* (See also Part IV.F.7). Describe and implement measures to address the following activities / sources: log, lumber and wood product storage areas; residue storage areas; loading and unloading areas; material handling areas; chemical storage areas; and equipment / vehicle maintenance, storage and repair areas. If the facility performs wood surface protection / preservation activities, address the specific BMPs for these activities.
- d. *Good Housekeeping.* (See also Part IV.F.7.b.1). In areas where storage, loading / unloading and material handling occur, perform good housekeeping to limit the discharge of wood debris; minimize the leachate generated from decaying wood materials; and minimize the generation of dust
- e. *Inspections.* (See also Part IV.F.7.b.1). If the facility performs wood surface protection / preservation activities, inspect processing areas, transport areas and treated wood storage areas monthly to assess the usefulness of practices to minimize the deposit of treatment chemicals on unprotected soils and in areas that will come in contact with storm water discharges.

5. Monitoring and Reporting requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table A-1.

TABLE A-1: TIMBER PRODUCTS- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation**
2411	Log Storage and Handling (Wet deck storage areas only authorized if no chemical additives are used in the spray water or applied to the logs)	TSS	100 mg/L	
2411	Wet Decking Discharges at Log Storage and Handling Facilities	pH Debris (woody material such as bark, twigs, branches, heartwood, or sapwood)		6.0-9.0 s.u. No discharge of debris that will not pass through a 2.5 cm (1") diameter round opening
2421	General Sawmills and Planning Mills	COD TSS Total Zinc	120.0 mg/L 100 mg/L 0.117 mg/L	
2426 2429 2431-2439 (except 2434)	Hardwood Dimension and Flooring Mills Special Product Sawmills, Not Elsewhere Classified Millwork, Veneer, Plywood, and Structural Wood (see Sector W)	COD TSS	120.0 mg/L 100 mg/L	
2441,2449 2451,2452 2493 2499	Wood Containers Wood Buildings and Mobile Homes Reconstituted Wood Products Wood Products, Not Elsewhere Classified	COD TSS	120.0 mg/L 100 mg/L	
2491	Wood Preserving	Total Arsenic Total Copper	0.16854 mg/L 0.0636 mg/L	

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

** Monitor once per year for each monitoring year

B. Sector B. Paper and Allied Products Manufacturing.

1. Covered Storm Water Discharges.

The requirements in Part VI.B apply to storm water discharges associated with industrial activity from Paper and Allied Products Manufacturing facilities as identified by the SIC Codes specified under Sector B in Table 1 of the Appendix.

2. Industrial Activities Covered by Sector B.

The types of activities that permittees under Sector B are primarily engaged in are:

- a. manufacture of pulps from wood and other cellulose fibers and from rags;
 - b. manufacture of paper and paperboard into converted products, i.e. paper coated off the paper machine, paper bags, paper boxes and envelopes;
 - c. manufacture of bags of plastic film and sheet
3. Monitoring and Reporting Requirements

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table B-1.

TABLE B-1: PAPER AND ALLIED PRODUCTS- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
2631	Paperboard Mills	COD	120.0 mg/L	

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

C. Sector C - Chemical and Allied Products Manufacturing.

1. Covered Storm Water Discharges.

The requirements in Part VI.C apply to storm water discharges associated with industrial activity from Chemical and Allied Products Manufacturing facilities as identified by the SIC Codes specified under Sector C in Table 1 of the Appendix

2. Industrial Activities Covered by Sector C.

The requirements listed under this Part apply to storm water discharges associated with industrial activity from a facility engaged in manufacturing the following products:

- a. basic industrial inorganic chemicals;
- b. plastic materials and synthetic resins, synthetic rubbers, and cellulosic and other human made fibers, except glass;
- c. soap and other detergents, including facilities producing glycerin from vegetable and animal fats and oils; specialty cleaning, polishing and sanitation preparations; surface active preparations used as emulsifiers, wetting agents and finishing agents, including sulfonated oils; and perfumes, cosmetics and other toilet preparations;
- d. paints (in paste and ready mixed form); varnishes; lacquers; enamels and shellac; putties, wood fillers, and sealers; paint and varnish removers; paint brush cleaners; and allied paint producers;
- e. industrial organic chemicals;
- f. industrial and household adhesives, glues, caulking compounds, sealants, and linoleum, tile and rubber cements from vegetable, animal or synthetic plastic materials; explosives; printing ink, including gravure, screen process and lithographic inks; miscellaneous chemical preparations such as fatty acids, essential oils, gelatin (except vegetable), sizes, bluing, laundry soaps, writing and stamp pad ink, industrial compounds such as boiler and heat insulating compounds, and chemical supplies for foundries;
- g. ink and paints, including china painting enamels, Indian ink, drawing ink, platinum paints for burnt

wood or leather work, paints for china painting, artists' paints and artists' water colors;

- h. nitrogenous and phosphatic basic fertilizers, mixed fertilizers, pesticides and other agricultural chemicals.

3. Limitations on Coverage.

- a. *Prohibition of Non-Storm Water Discharges.* (See also Part I.B.3) Not covered by this permit: non-storm water discharges containing inks, paints or substances (hazardous, nonhazardous, etc.) resulting from an onsite spill, including materials collected in drip pans; washwater from material handling and processing areas; and washwater from drum, tank or container rinsing and cleaning.

4. Storm Water Pollution Prevention Plan (SWPPP) Requirements.

In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.

- a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Also identify where any of the following may be exposed to precipitation / surface runoff: processing and storage areas; access roads, rail cars and tracks; areas where substances are transferred in bulk; and operating machinery.
- b. *Potential Pollutant Sources.* (See also Part IV.F.4) Describe the following sources and activities that have potential pollutants associated with them: loading, unloading and transfer of chemicals; outdoor storage of salt, pallets, coal, drums, containers, fuels, fueling stations; vehicle and equipment maintenance / cleaning areas; areas where the treatment, storage or disposal (on- or off-site) of waste / wastewater occur; storage tanks and other containers; processing and storage areas; access roads, rail cars and tracks; areas where the transfer of substances in bulk occurs; and areas where machinery operates.
- c. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1) As part of the good housekeeping program, include a schedule for regular pickup and disposal of garbage and waste materials, or adopt other appropriate measures to reduce the potential for discharging storm water that has contacted garbage or waste materials. Routinely inspect the condition of drums, tanks and containers for potential leaks.

5. Monitoring and Reporting Requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table C-1.

TABLE C-1: CHEMICAL AND ALLIED PRODUCTS- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation**
2812-2819	Industrial Inorganic Chemicals	Nitrate plus Nitrite Nitrogen Tot Rec Aluminum Tot Rec Iron	0.68 mg/L. 0.75 mg/L. 1.0 mg/L	
2821-2824	Plastics, Synthetics, and Resins	Tot Rec Zinc	0.117 mg/L.	
2841-2844	Soaps, Detergents, Cosmetics, and Perfumes	Nitrate plus Nitrite Nitrogen Tot Rec Zinc	0.68 mg/L. 0.117 mg/L	
2873-2879	Agricultural Chemicals	Nitrate plus Nitrite Nitrogen Tot Rec Lead Tot Rec Iron Tot Rec Zinc Phosphorus	0.68 mg/L. 0.0816 mg/L 1.0 mg/L 0.117 mg/L 2.0 mg/L.	
2874	Phosphate Subcategory of the Fertilizer Manufacturing Point Source	Total Phosphorus		105.0 mg/L, daily max

TABLE C-1: CHEMICAL AND ALLIED PRODUCTS- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING

SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation**
	Category (40 CFR § 418.10)-applies to precipitation runoff, that during manufacturing or processing, comes into contact with any raw materials, intermediate products, finished product, by-product or waste product	(as P) Fluoride		35 mg/L, 30-day avg 75.0 mg/L, daily max 25.0 mg/L, 30-day avg

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

** Monitor once per year for each monitoring year

D. Sector D - Asphalt Paving and Roofing Materials and Lubricant Manufacturers.

1. Covered Storm Water Discharges.

The requirements in Part VI.D apply to storm water discharges associated with industrial activity from Asphalt Paving and Roofing Materials and Lubricant Manufacturers facilities as identified by the SIC Codes specified under Sector D in Table 1 of the Appendix.

2. Industrial Activities Covered by Sector D.

The types of activities that permittees under Sector D are primarily engaged in are:

- a. manufacturing asphalt paving and roofing materials;
- b. portable asphalt plant facilities;
- c. manufacturing lubricating oils and greases.

3. Limitations on Coverage.

The following storm water discharges associated with industrial activity are not authorized by this permit:

- a. discharges from petroleum refining facilities, including those that manufacture asphalt or asphalt products that are classified as SIC code 2911;
- b. discharges from oil recycling facilities;
- c. discharges associated with fats and oils rendering.

4. Storm Water Pollution Prevention Plan (SWPPP) Requirements.

In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.

- a. *Inspections.* (See also Part IV.F.7.b.1) Inspect at least once per month, as part of the maintenance program, the following areas: material storage and handling areas, liquid storage tanks, hoppers / silos, vehicle and equipment maintenance, cleaning and fueling areas, material handling vehicles, equipment and processing areas. Ensure appropriate action is taken in response to the inspection by implementing tracking or follow up procedures.

5. Monitoring and Reporting Requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table D-1.

**TABLE D-1: ASPHALT PAVING AND ROOFING MATERIALS AND LUBRICANTS-
SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING**

SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation**
2951, 2952	Asphalt Paving and Roofing Materials	TSS	100 mg/L.	
2951, 2952	Discharges from areas where production of asphalt paving and roofing emulsions occurs	TSS Oil and Grease pH		23.0 mg/L daily max 15.0 mg/L 30-day avg 15.0 mg/L daily max 10 mg/L 30-day avg 6.0-9.0

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

** Monitor once per year for each monitoring year

E. Sector E - Glass, Clay, Cement, Concrete, and Gypsum Products

1. Covered Storm Water Discharges.

The requirements in Part VI.E apply to storm water discharges associated with industrial activity from Glass, Clay, Cement, Concrete, and Gypsum Products facilities as identified by the SIC Codes specified under Sector E in Table 1 of the Appendix.

2. Industrial Activities Covered by Sector E.

The requirements listed under this permit apply to storm water discharges associated with industrial activity from a facility engaged in either manufacturing the following products or performing the following activities:

- a. flat, pressed, or blown glass or glass containers;
- b. hydraulic cement;
- c. clay products including tile and brick;
- d. pottery and porcelain electrical supplies;
- e. concrete products;
- f. gypsum products;
- g. minerals and earths, ground or otherwise treated;
- h. non-clay refractories;
- i. lime manufacturing;
- j. cut stone and stone products;
- k. asbestos products;
- l. mineral wool and mineral wool insulation products.

3. Storm Water Pollution Prevention Plan (SWPPP) Requirements.

In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.

- a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify the locations of the following, as applicable: bag house or other dust control device; recycle / sedimentation pond, clarifier or other device used for the treatment of process wastewater, and the areas that drain to the

treatment device.

- b. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1) With good housekeeping prevent or minimize the discharge of: spilled cement; aggregate (including sand or gravel); kiln dust; fly ash; settled dust; or other significant material in storm water from paved portions of the site that are exposed to storm water. Consider using regular sweeping or other equivalent measures to minimize the presence of these materials. Indicate in the SWPPP the frequency of sweeping or equivalent measures. Determine the frequency from the amount of industrial activity occurring in the area and the frequency of precipitation, but it must be performed at least once a week if cement, aggregate, kiln dust, fly ash or settled dust are being handled / processed. The permittee must also prevent the exposure of fine granular solids (cement, fly ash, kiln dust, etc.) to storm water where practicable, by storing these materials in enclosed silos / hoppers, buildings or under other covering.
 - c. *Inspections.* (See also Part IV.F.7.b.1) Perform inspections while the facility is in operation and include all of the following areas exposed to storm water: material handling areas, above ground storage tanks, hoppers or silos, dust collection / containment systems, truck wash down / equipment cleaning areas.
 - d. *Certification.* (See also Part IV.H.1) For facilities producing ready-mix concrete, concrete block, brick or similar products, include in the non-storm water discharge certification a description of measures that insure that process waste water resulting from truck washing, mixers, transport buckets, forms or other equipment are discharged in accordance with RIPDES requirements or are recycled.
4. Monitoring and Reporting Requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table E-1.

TABLE E-1: GLASS, CLAY, CEMENT, CONCRETE AND GYPSUM PRODUCTS- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation**
3251-3259 3261-3269	Structural Clay Products Pottery and Related Products	Tot Rec Aluminum	0.75 mg/L.	
3271-3275	Concrete and Gypsum Product Manufacturers	TSS Tot Rec Iron	100 mg/L 1.0 mg/L	
	Cement Manufacturing Facility, Material Storage Runoff: Any discharge composed of runoff that derives from the storage of materials including raw materials, intermediate products, finished products, and waste materials that are used in or derived from the manufacture of cement.	TSS pH		50 mg/L daily max 6.0-9.0 s.u.

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

** Monitor once per year for each monitoring year

F. Sector F - Primary Metals

- 1. Covered Storm Water Discharges.

The requirements in Part VI.F apply to storm water discharges associated with industrial activity from Primary Metals facilities as identified by the SIC Codes specified under Sector F in Table 1 of the Appendix.

- 2. Industrial Activities Covered by Sector F.

The types of activities under this Part are facilities primarily engaged in are:

- a. steel works, blast furnaces, and rolling and finishing mills including: steel wire drawing and steel nails and spikes; cold-rolled steel sheet, strip, and bars; and steel pipes and tubes;

- b. iron and steel foundries, including: gray and ductile iron, malleable iron, steel investment, and steel foundries not elsewhere classified;
- c. primary smelting and refining of nonferrous metals, including: primary smelting and refining of copper, and primary production of aluminum;
- d. secondary smelting and refining of nonferrous metals;
- e. rolling, drawing, and extruding of nonferrous metals, including: rolling, drawing, and extruding of copper; rolling, drawing and extruding of nonferrous metals except copper and aluminum; and drawing and insulating of nonferrous wire;
- f. nonferrous foundries (castings), including: aluminum die-casting, nonferrous die-casting, except aluminum, aluminum foundries, copper foundries, and nonferrous foundries, except copper and aluminum;
- g. miscellaneous primary metal products, not elsewhere classified, including: metal heat treating, and primary metal products not elsewhere classified;

Activities covered include but are not limited to storm water discharges associated with cooking operations, sintering plants, blast furnaces, smelting operations, rolling mills, casting operations, heat treating, extruding, drawing, or forging all types of ferrous and nonferrous metals, scrap and ore.

3. Storm Water Pollution Prevention Plan (SWPPP) Requirements.

In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.

- a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Also identify where any of the following activities may be exposed to precipitation / surface runoff: storage or disposal of wastes such as spent solvents / baths, sand, slag / dross; liquid storage tanks / drums; processing areas including pollution control equipment (e.g., baghouses); and storage areas of raw material such as coal, coke, scrap, sand, fluxes, refractories or metal in any form. In addition, indicate where an accumulation of significant amounts of particulate matter could occur from such sources as furnace or oven emissions, losses from coal / coke handling operations, etc., and which could result in a discharge of pollutants to waters of the State.
- b. *Inventory of Exposed Material.* (See also Part IV.F.4) Include in the inventory of materials handled at the site that potentially may be exposed to precipitation / runoff, areas where deposition of particulate matter from process air emissions or losses during material handling activities are possible.
- c. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1) As part of the good housekeeping program, include: a cleaning / maintenance program for all impervious areas of the facility where particulate matter, dust or debris may accumulate, especially areas where material loading / unloading, storage, handling and processing occur; the paving of areas where vehicle traffic or material storage occur but where vegetative or other stabilization methods are not practicable (institute a sweeping program in these areas too). For unstabilized areas where sweeping is not practicable, consider using storm water management devices such as sediment traps, vegetative buffer strips, filter fabric fence, sediment filtering boom, gravel outlet protection or other equivalent measures that effectively trap or remove sediment.
- d. *Inspections.* (See also Part IV.F.7.b.1) Conduct inspections routinely, or at least on a quarterly basis, and address all potential sources of pollutants, including (if applicable): air pollution control equipment (e.g., baghouses, electrostatic precipitators, scrubbers and cyclones) for any signs of degradation (e.g., leaks, corrosion or improper operation) that could limit their efficiency and lead to excessive emissions. Consider monitoring air flow at inlets / outlets (or use

equivalent measures) to check for leaks (e.g., particulate deposition) or blockage in ducts. Also inspect all process and material handling equipment (e.g., conveyors, cranes and vehicles) for leaks, drips or the potential loss of material; and material storage areas (e.g., piles, bins or hoppers for storing coke, coal, scrap or slag, as well as chemicals stored in tanks / drums) for signs of material losses due to wind or storm water runoff.

4. Monitoring and Reporting Requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table F-1.

SECTOR F: PRIMARY METALS- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
3312-3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills	Tot Rec Aluminum Tot Rec Zinc	0.75 mg/L 0.117 mg/L	
3321-3325	Iron and Steel Foundries	Tot Rec Aluminum TSS Tot Rec Copper Tot Rec Iron Tot Rec Zinc	0.75 mg/L 100 mg/L 0.0636 mg/L 1.0 mg/L 0.117 mg/L	
3351-3357	Rolling, Drawing, and Extruding of Non-Ferrous Metals	Tot Rec Copper Tot Rec Zinc	0.0636 mg/L 0.117 mg/L	
3363-3369	Non-Ferrous Foundries	Tot Rec Copper Tot Rec Zinc	0.636 mg/L 0.117 mg/L	

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

G. Sector G - Metal Mining (Ore Mining and Dressing)

1. Covered Storm Water Discharges.

The requirements in Part VI.G apply to storm water discharges associated with industrial activity from active, temporarily inactive and inactive metal mining and ore dressing facilities, including mines abandoned on Federal Lands, as identified by the SIC Codes specified under Sector G in Table 1 of the Appendix. Coverage is required for facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the operation.

- a. *Covered Discharges from Inactive Facilities:* All storm water discharges.
- b. *Covered Discharges from Active and Temporarily Inactive Facilities:* Only the storm water discharges from the following areas are covered: waste rock / overburden piles if composed entirely of storm water and not combining with mine drainage; topsoil piles; offsite haul / access roads; onsite haul / access roads constructed of waste rock / overburden / spent ore if composed entirely of storm water and not combining with mine drainage; onsite haul / access roads not constructed of waste rock / overburden / spent ore except if mine drainage is used for dust control; runoff from tailings dams / dikes when not constructed of waste rock / tailings and no process fluids are present; runoff from tailings dams / dikes when constructed of waste rock / tailings if and no process fluids are present if composed entirely of storm water and not combining with mine drainage; concentration building if no contact with material piles; mill site if no contact with material piles; office / administrative building and housing if mixed with storm water from industrial area; chemical storage area; docking facility if no excessive contact with waste product that would otherwise constitute mine drainage; explosive storage; fuel storage; vehicle / equipment maintenance area / building; parking areas (if necessary); power plant; truck wash areas if no excessive contact with waste product that would otherwise constitute mine

drainage; unreclaimed, disturbed areas outside of active mining area; reclaimed areas released from reclamation bonds prior to December 17, 1990; and partially / inadequately reclaimed areas or areas not released from reclamation bonds.

2. Industrial Activities Covered by Sector G.

Note: "metal mining" will connote any of the separate activities listed in Part VI.G.2. The types of activities that permittees under Sector G are primarily engaged in are:

- a. exploring for metallic minerals (ores), developing mines and the mining of ores;
- b. ore dressing and beneficiating, whether performed at co-located, dedicated mills or separate (i.e., custom) mills.

3. Limitations on Coverage.

a. *Prohibition of Storm Water Discharges.*

Storm water discharges not authorized by this permit: discharges from active metal mining facilities which are subject to effluent limitation guidelines for the Ore Mining and Dressing Point Source Category (40 CFR Part 440).

Note: discharges that come in contact with overburden / waste rock are subject to 40 CFR Part 440, providing: the discharges drain to a point source (either naturally or as a result of intentional diversion) and they combine with "mine drainage" that is otherwise regulated under the Part 440 regulations. Discharges from overburden / waste rock can be covered under this permit if they are composed entirely of storm water, do not combine with sources of mine drainage that are subject to 40 CFR Part 440, and meet other eligibility criteria contained in Part I.B.1.

b. *Prohibition of Non-Storm Water Discharges.*

Not authorized by this permit: adit drainage and contaminated springs or seeps (see also the standard Limitations on Coverage in Part I.B.3).

4. Definitions.

- a. *Mining operation* - typically consists of three phases, any one of which individually qualifies as a "mining activity." The phases are the exploration and construction phase, the active phase, and the reclamation phase.
- b. *Exploration and construction phase* - entails exploration and land disturbance activities to determine the financial viability of a site. Construction includes the building of site access roads and removal of overburden and waste rock to expose mineable minerals.
- c. *Active phase* - activities including each step from extraction through production of a salable product.
- d. *Reclamation phase* - activities intended to return the land to its pre-mining use

The following definitions are not intended to supercede the definitions of active and inactive mining facilities established by RIPDES Rule 31(b)(15)(iii).

- e. *Active Metal Mining Facility* - a place where work or other activity related to the extraction, removal or recovery of metal ore is being conducted. For surface mines, this definition does not include any land where grading has returned the earth to a desired contour and reclamation has begun.
- f. *Inactive Metal Mining Facility* - a site or portion of a site where metal mining and/or milling occurred in the past but is not an active facility as defined above, and where the inactive portion

is not covered by an active mining permit issued by the applicable State or Federal government agency.

- g. *Temporarily Inactive Metal Mining Facility* - a site or portion of a site where metal mining and/or milling occurred in the past but currently are not being actively undertaken, and the facility is covered by an active mining permit issued by the applicable State or Federal government agency.

5. Clearing, Grading and Excavation Activities.

Clearing, grading and excavation activities being conducted as part of the exploration and construction phase of a mining operation cannot be covered under this permit if these activities will disturb one or more acre of land. Instead, coverage for these activities must be under the RIPDES General Permit for Storm Water Discharges from Construction Activities, or an individual construction permit. If the area of disturbance during the initial phase is less than one acre, the permittee must continue to comply with the requirements of this general permit.

- a. *Requirements for Activities Disturbing One (1) or More Acres of Earth.* If the one-acre limit as defined in Part VI.G.5 is attained, coverage for these activities must be under the RIPDES Construction General Permit (or individual permit). Discharges in compliance with the provisions of the Construction General Permit are also authorized under the MSGP.
- b. *Cessation of Earth Disturbing Activities.* If exploration phase clearing, grading and excavation activities are completed and no further mining activities will occur at the site, the permittee must comply with the requirements for terminating the Construction General Permit, i.e., stabilize and revegetate the disturbed land, submit a Notice of Termination, etc. If active mining activities will ensue, the permittee must apply for coverage under this general permit for the storm water discharges and be prepared to implement any new requirements prior to beginning the active phase. It is recommended the permittee terminates the coverage under the Construction General Permit, but it is not mandatory that the permittee does so. If the permittee chooses not to terminate the construction General Permit, the permittee will be responsible for complying with all permit conditions of the construction permit in addition to those of this general permit.

6. Storm Water Pollution Prevention Plan (SWPPP) Requirements.

In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.

- a. *SWPPP Requirements for Active and Temporarily Inactive Metal Mining Facilities.*
 - 1. Nature of Industrial Activities. (See also Part IV.F.2.a) Briefly describe the mining and associated activities that can potentially affect the storm water discharges covered by this permit, including: the total acreage within the mine site; the estimated acreage of disturbed land; the estimated acreage of land proposed to be disturbed throughout the life of the mine; and a general description of the location of the site relative to major transportation routes and communities.
 - 2. Site Map. (See also Part IV.F.2.c) Also identify the locations of the following (as appropriate): mining / milling site boundaries; access and haul roads; outline of the drainage areas of each storm water outfall within the facility and indicate the types of discharges from the drainage areas; equipment storage, fueling and maintenance areas; materials handling areas; outdoor manufacturing, storage or material disposal areas; chemicals and explosives storage areas; overburden, materials, soils or waste storage areas; location of mine drainage (where water leaves mine) or other process water; tailings piles / ponds (including proposed ones); heap leach pads; off-site points of discharge for mine drainage / process water; surface waters; and boundary of tributary areas that are subject to effluent limitations guidelines.
 - 3. Potential Pollutant Sources. (See also Part IV.F.4) For each area of the mine/ mill site

where storm water discharges associated with industrial activities occur, identify the types of pollutants (e.g., heavy metals, sediment) likely to be present in significant amounts. Consider these factors: the mineralogy of the ore and waste rock (e.g., acid forming); toxicity and quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; vegetation of site (if any); history of significant leaks / spills of toxic or hazardous pollutants. Also include a summary of any existing ore or waste rock / overburden characterization data and test results for potential generation of acid rock. If any new data is acquired due to changes in ore type being mined, update the SWPPP with this information.

4. Site Inspections. (See also Part IV.F.7.b.1) Inspect active mining sites at least monthly. Inspect temporarily inactive sites at least quarterly unless adverse weather conditions make the site inaccessible.
5. Employee Training. (See also Part IV.F.7.b.1) Conduct employee training at least annually at active mining and temporarily inactive sites.
6. Controls. (See also Part IV.F.7) Consider each of the following BMPs. The potential pollutants identified in Part VI.G.6.a.3 shall determine the priority and appropriateness of the BMPs selected. If the permittee determines that one or more of these BMPs are not appropriate for the facility, explain why it is not appropriate. If BMPs are implemented or planned but are not listed here (e.g., substituting a less toxic chemical for a more toxic one), include descriptions of them in the SWPPP.

• *Storm Water Diversions.* Consider diverting storm water away from potential pollutant sources. BMP options: interceptor / diversion controls (e.g., dikes, swales, curbs or berms); pipe slope drains; subsurface drains; conveyance systems (e.g., channels or gutters, open top box culverts and waterbars; rolling dips and road sloping; roadway surface water deflector, and culverts); or their equivalents.

• *Sediment and Erosion Control.* (See also Part IV.F.7.b.2) At active and temporarily inactive sites consider a range of erosion controls within the broad categories of: flow diversion (e.g., swales); stabilization (e.g., temporary or permanent seeding); and structural controls (e.g., sediment traps, dikes, silt fences).

• *Management of Runoff.* (See also Part IV.F.7.b.2) Consider the potential pollutant sources given in Part VI.G.6.a.3 when determining reasonable and appropriate measures for managing runoff.

• *Capping.* When capping is necessary to minimize pollutant discharges in storm water, identify the source being capped and the material used to construct the cap.

• *Treatment.* If treatment of storm water (e.g., chemical or physical systems, oil / water separators, artificial wetlands, etc.) from active and temporarily inactive sites is necessary to protect water quality, describe the type and location of treatment used.

• *Certification of Discharge Testing.* (See also Part IV.H.1) Test or evaluate for the presence of specific mining-related non-storm water discharges such as seeps or adit discharges or discharges subject to effluent limitations guidelines (e.g., 40 CFR Part 440), such as mine drainage or process water. Alternatively (if applicable), the permittee may certify in the SWPPP that a particular discharge comprised of commingled storm water and non-storm water is covered under a separate RIPDES permit; and that permit subjects the non-storm water portion to effluent limitations prior to any commingling. This certification shall identify the non-storm water discharges, the applicable RIPDES permit(s), the effluent limitations placed on the non-storm water discharge by the permit(s), and the points at which the limitations are applied.

- b. SWPPP Requirements for Inactive Metal Mining Facilities.

1. Nature of Industrial Activities. (See also Part IV.F.2.a) Briefly describe the mining and associated activities that took place at the site that can potentially affect the storm water discharges covered by this permit. Include: approximate dates of operation; total acreage within the mine and / or processing site; estimate of acres of disturbed earth; activities currently occurring onsite (e.g., reclamation); a general description of site location with respect to transportation routes and communities.
2. Site Map. (See also Part IV.F.2.c) See Part VI.G.6.a.2 for requirements.
3. Potential Pollutant Sources. (See also Part IV.F.4) See Part VI.G.6.a.3 for requirements.
4. Controls. (See also Part IV.F.7) Consider each of the following BMPs. The potential pollutants identified in Part VI.G.6.a.3 shall determine the priority and appropriateness of the BMPs selected. If the permittee determines that one or more of these BMPs are not appropriate for the facility, explain why it is not appropriate. If BMPs are implemented or planned but are not listed here (e.g., substituting a less toxic chemical for a more toxic one), include descriptions of them in the SWPPP. The non-structural controls in the general requirements at Part IV.F.7.b.1 are not required for inactive facilities.
 - *Storm Water Diversions.* See Part VI.G.6.a.6 for requirements.
 - *Sediment and Erosion Control.* (See also Part IV.F.7.b.2) See Part VI.G.6.a.6 for requirements.
 - *Management of Runoff.* (See also Part IV.F.7.b.2) Also consider the potential pollutant sources as described in Part VI.G.6.b.3 (Summary of Potential Pollutant Sources) when determining reasonable and appropriate measures for managing runoff.
 - *Capping.* See Part VI.G.6.a.6 for requirements.
 - *Treatment.* See Part VI.G.6.a.6 for requirements.
5. Comprehensive Site Compliance Evaluation. (See also Part IV.L) Annual site compliance evaluations may be impractical for inactive mining sites due to remote location / inaccessibility of the site; in which case conduct the evaluation at least once every 3 years. Document in the SWPPP why annual compliance evaluations are not possible. If the evaluations will be conducted more often than every 3 years, specify the frequency of evaluations.

7. Monitoring and Reporting Requirements. (See also Part V)

- a. *Analytic Monitoring for Copper Ore Mining and Dressing Facilities.* Active copper ore mining and dressing facilities must sample and analyze storm water discharges for the pollutants listed in Table G-1.
- b. *Analytic Monitoring Requirements for Discharges From Waste Rock and Overburden Piles at Active Ore Mining and Dressing Facilities.* For discharges from waste rock and overburden piles, perform analytic monitoring at least once within the first year of permit coverage for the parameters listed in Table G-2 and twice annually thereafter for any parameters measured above the benchmark value (based on the initial sampling event) listed in Table G-2. Permittees must also conduct analytic monitoring twice annually for the parameters listed in Table G-3. The twice annual samples must be collected once between January 1 and June 30 and once between July 1 and December 31, with at least 3 months separating the storm events. The director may, however, notify the permittee that the permittee must perform additional monitoring to accurately characterize the quality and quantity of pollutants discharged from waste rock / overburden piles. Monitoring requirements for discharges from waste rock and overburden piles are not eligible for the waivers in Part V.C.2.

1. Additional Analytic Monitoring Requirements for Discharges From Waste Rock and Overburden Piles.

Table G-3 contains additional monitoring requirements for specific ore mine categories. Perform the monitoring twice annually using the schedule established in Part VI.G.7.b. The initial sampling event for a pollutant parameter required in Table G-2 satisfies the requirement for the first sample of any pollutant measurement in Table G-3.

2. *Reporting Requirements Storm Water Discharges From Waste Rock And Overburden Piles From Active Ore Mining or Dressing Facilities.* From active ore mining and dressing facilities, submit monitoring results for each outfall discharging storm water from waste rock and overburden piles, or certifications in accordance with Part II.C. Submit monitoring reports on discharge monitoring report (DMR) forms postmarked no later than January 28 of the next year after the samples were collected.

Storm water runoff from these sources are subject to the RIPDES program for storm water unless mixed with discharges subject to the 40 CFR Part 440 that are not regulated by another permit prior to mixing. Non-storm water discharges from these sources are subject to RIPDES permitting and may be subject to the effluent limitation guidelines under 40 CFR Part 440.

Note: Discharges from overburden/waste rock and overburden/waste rock-related areas are not subject to 40 CFR Part 440 unless: (1) it drains naturally (or is intentionally diverted) to a point source; and (2) combines with "mine drainage" that is otherwise regulated under the Part 440 regulations. For such sources, coverage under this permit would be available if the discharge composed entirely of storm water does not combine with other sources of mine drainage that are not subject to 40 CFR Part 440, as well as meeting other eligibility criteria contained in Part I.B. of the permit. Permit applicants bear the initial responsibility for determining the applicable technology-based standard for such discharges. Applicants must contact the RIPDES Program for assistance to determine the nature and scope of the "active mining area" on a mine-by-mine basis, as well as to determine the appropriate permitting mechanism for authorizing such discharges.

TABLE G-1: METAL MINING (ORE MINING AND DRESSING)-COPPER ORE MINING AND DRESSING FACILITIES, SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
1021	Copper Ore Mining and Dressing Facilities	TSS Nitrate plus Nitrite Nitrogen COD	100 mg/L 0.68 mg/L 120 mg/L	

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

TABLE G-2: METAL MINING (ORE MINING AND DRESSING)- DISCHARGES FROM WASTE ROCK AND OVERBURDEN PILES FROM ACTIVE ORE MINING OR DRESSING FACILITIES, SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
1011	Iron Ores	TSS Turbidity (NTUs) pH	100 mg/L 5 NTUs above background 6.0-9.0 su	
1021	Copper Ores	Hardness (as CaCO ₃) Antimony, total Arsenic, total Beryllium, total	no benchmark value 0.636 mg/L 0.16854 mg/L 0.13 mg/L	
1031	Lead and Zinc Ores	Cadmium, total (hard dep) Copper, total (hard dep)	0.0159 mg/L 0.0636 mg/L	

TABLE G-2: METAL MINING (ORE MINING AND DRESSING)- DISCHARGES FROM WASTE ROCK AND OVERBURDEN PILES FROM ACTIVE ORE MINING OR DRESSING FACILITIES. SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING

SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
1041, 1044	Gold and Silver Ores	Iron, total	1.0 mg/L	
		Lead, total (hard dep)	0.0816 mg/L	
		Manganese, total	1.0 mg/L	
1061	Ferroalloy Ores except Vanadium	Mercury, total	0.0024 mg/L	
		Nickel, total (hard dep)	1.417 mg/L	
		Selenium, total	0.2385 mg/L	
1081	Metal Mining Service	Silver, total (hard dep)	0.318 mg/L	
		Zinc, total (hard dep)	0.117 mg/L	
1094, 1099	Miscellaneous Metal Ores			

*Monitor at least once during the first year of permit coverage, and twice annually thereafter for any parameter that exceeds the benchmark value. Facilities that monitored for the full list of Table G-2 parameters during the previous permit need not sample the entire list again, however they must continue twice annual monitoring for parameters that exceeded the benchmark values in the initial sampling event.

TABLE G-3. – METAL MINING (ORE MINING AND DRESSING)- ADDITIONAL MONITORING REQUIREMENTS FOR DISCHARGES FROM WASTE ROCK AND OVERBURDEN PILES FROM ACTIVE ORE MINING OR DRESSING FACILITIES

Supplemental Requirements			
Type of Ore Mined	Pollutants of Concern		
	Total Suspended Solids (TSS)	pH	Metals, Total
Tungsten Ore	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Zinc (H)
Nickel Ore	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Zinc (H)
Aluminum Ore	X	X	Iron
Mercury Ore	X	X	Nickel (H)
Iron Ore	X	X	Iron (Dissolved)
Platinum Ore	Cadmium (H), Copper (H), Mercury, Lead (H), Zinc (H)
Titanium Ore	X	X	Iron, Nickel (H), Zinc (H)
Vanadium Ore	X	X	Arsenic, Cadmium (H), Copper (H), Zinc (H)
Copper, Lead, Zinc, Gold, Silver and Molybdenum	X	X	Arsenic, Cadmium (H), Copper (H), Lead, Mercury, Zinc (H)
Uranium, Radium and Vanadium	X	X	Chemical Oxygen Demand, Arsenic, Radium (Dissolved and Total), Uranium, Zinc (H)

TABLE G-4: METAL MINING (ORE MINING AND DRESSING)- APPLICABILITY OF THE MULTI-SECTOR GENERAL PERMIT TO STORM WATER RUNOFF FROM ACTIVE ORE (METAL) MINING AND DRESSING FACILITIES

Discharge/Source of Discharge	Note/Comment
Piles	
Waste rock/overburden	If composed entirely of storm water and not combining with mine drainage. See Note below.
Topsoil	
Roads Constructed of Waste Rock or Spent Ore	
Onsite haul roads	If composed entirely of storm water and not combining with mine drainage. See Note below.
Offsite haul/access roads	
Milling/Concentration	
Runoff from tailings dams/dikes when constructed of waste rock/tailings	Except of process fluids are present and only if composed entirely of storm water and not combining with mine drainage. See Note below.

TABLE G-4: METAL MINING (ORE MINING AND DRESSING)- APPLICABILITY OF THE MULTI-SECTOR GENERAL PERMIT TO STORM WATER RUNOFF FROM ACTIVE ORE (METAL) MINING AND DRESSING FACILITIES	
Runoff from tailings dams/dikes when not constructed of waste rock/tailings	Except if process fluids are present
Concentration building	If storm water only and no contact with piles
Mill site	If storm water only and no contact with piles
Ancillary Areas	
Office administrative building and housing	If mixed with storm water from the industrial are
Chemical storage area	
Docking facility	Except if excessive contact with waste product that would otherwise constitute "mine drainage"
Explosive storage	
Fuel storage (oil tanks/coal piles)	
Vehicle/equipment maintenance area/building	
Parking areas	But coverage unnecessary if only employee and visitor-type parking
Power plant	
Truck wash area	Except when excessive contact with waste product that would otherwise constitute "mine drainage"
Reclamation-related Areas	
Any disturbed area (unreclaimed)	Only if not in active mining area
Reclaimed areas released from reclamation bonds prior to December 17, 1990	
Partially/inadequately reclaimed areas or areas not released from reclamation bond	

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

H. Sector H - Coal Mines and Coal Mining Related Facilities.

1. Covered Storm Water Discharges.

The requirements in Part VI.H apply to storm water discharges associated with industrial activity from Coal Mines and Coal Mining Related facilities as identified by the SIC Codes specified under Sector H in Table 1 of the Appendix.

2. Industrial Activities Covered by Sector H.

Storm water discharges from the following portions of coal mines may be eligible for this permit:

- a. haul roads (nonpublic roads on which coal or coal refuse is conveyed);
- b. access roads (nonpublic roads providing light vehicular traffic within the facility property and to public roadways);
- c. railroad spurs, siding and internal haulage lines (rail lines used for hauling coal within the facility property and to offsite commercial railroad lines or loading areas);
- d. conveyor belts, chutes and aerial tramway haulage areas (areas under and around coal or refuse conveyor areas, including transfer stations); and
- e. equipment storage and maintenance yards, coal handling buildings and structures, and inactive coal mines and related areas (abandoned and other inactive mines, refuse disposal sites and other mining-related areas).

3. Limitation on Coverage.

- a. *Prohibition of Non-Storm Water Discharges.* (See also Part I.B.2) Not covered by this permit: discharges from pollutant seeps or underground drainage from inactive coal mines and refuse disposal areas that do not result from precipitation events; and discharges from floor drains in

maintenance buildings and other similar drains in mining and preparation plant areas.

- b. *Discharges Subject to Storm Water Effluent Guidelines.* (See also Part I.B.3.a) Not authorized by this permit: storm water discharges subject to an existing effluent limitation guideline at 40 CFR Part 434.

4. Storm Water Pollution Prevention Plan (SWPPP) Requirements.

In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV of the MSGP.

- a. *Other Applicable Regulations.* Most active coal mining-related areas (SIC Codes 1221-1241) are subject to sediment and erosion control regulations of the U.S. Office of Surface Mining (OSM) that enforces the Surface Mining Control and Reclamation Act (SMCRA). OSM has granted authority to most coal producing states to implement SMCRA through State SMCRA regulations. All SMCRA requirements regarding control of storm water-related pollutant discharges must be addressed in the SWPPP (directly or by reference).

- b. *Drainage Area Site Map.* (See also Part IV.F.2.c) Also identify where any of the following may be exposed to precipitation / surface runoff: all applicable mining related areas described in Part VI.H.2; acidic spoil, refuse or unreclaimed disturbed areas, and liquid storage tanks containing pollutants such as caustics, hydraulic fluids and lubricants.

- c. *Potential Pollutant Sources.* (See also Part IV.F.4) Describe the following sources and activities that have potential pollutants associated with them: truck traffic on haul roads and resulting generation of sediment subject to runoff and dust generation; fuel or other liquid storage; pressure lines containing slurry, hydraulic fluid or other potential harmful liquids; and loading or temporary storage of acidic refuse / spoil.

- d. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1) As part of the good housekeeping program, consider: using sweepers; covered storage; watering haul roads to minimize dust generation; and conserving vegetation (where possible) to minimize erosion.

- e. *Preventive Maintenance.* (See also Part IV.F.7.b.1) Also perform inspections of storage tanks and pressure lines of fuels, lubricants, hydraulic fluid or slurry to prevent leaks due to deterioration or faulty connections; or other equivalent measures.

- f. *Inspections of Active Mining-Related Areas and Inactive Areas Under SMCRA Bond Authority.* (See also Part IV.F.7.b.1) Perform quarterly inspections of areas covered by this permit, corresponding with the inspections, as performed by SMCRA inspectors, of all mining-related areas required by SMCRA. Also maintain the records of the SMCRA authority representative.

- g. *Sediment and Erosion Control.* (See also Part IV.F.7.b.2) As indicated in Part VI.H.4.a above, SMCRA requirements regarding sediment and erosion control measures are primary requirements of the SWPPP for mining-related areas subject to SMCRA authority.

- h. *Comprehensive Site Compliance Evaluation.* (See also Part IV.L.2) Include in the evaluation program, inspections for pollutants entering the drainage system from activities located on or near coal mining-related areas. Among the areas to be inspected: haul and access roads; railroad spurs, sliding and internal hauling lines; conveyor belts, chutes and aerial tramways; equipment storage and maintenance yards; coal handling buildings / structures; and inactive mines and related areas.

6. Monitoring and Reporting Requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table H-1.

TABLE H-1: COAL MINES AND COAL MINING RELATED FACILITIES- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
1221-1241	Coal Mines and Related Areas	TSS Tot Rec Aluminum Tot Rec Iron	100 mg/L 0.75 mg/L 1.0 mg/L	

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

I. Sector I - Oil and Gas Extraction and Refining

1. Covered Storm Water Discharges. The requirements in Part VI.I apply to storm water discharges associated with industrial activity from Oil and Gas Extraction and Refining facilities as identified by the SIC Codes specified under Sector I in Table 1 of the Appendix.
2. Industrial Activities Covered By Sector I.

The types of activities that permittees under Sector I are primarily engaged in are:

- a. oil and gas exploration, production, processing or treatment operations, or transmission facilities;
 - b. extraction and production of crude oil, natural gas, oil sands and shale; the production of hydrocarbon liquids and natural gas from coal; and associated oil field service, supply and repair industries.
3. Limitations On Coverage.
 - a. *Prohibition of Storm Water Discharges.* This permit does not authorize contaminated storm water discharges from petroleum refining or drilling operations that are subject to nationally established BAT or BPT guidelines found at 40 CFR Parts 419 and 435, respectively. Note: most contaminated discharges at petroleum refining and drilling facilities are subject to these effluent guidelines and are not eligible for coverage by this permit.
 - b. *Prohibition of Non-Storm Water Discharges.* Not authorized by this permit: discharges of vehicle and equipment washwater, including tank cleaning operations. Alternatively, washwater discharges must be authorized under a separate RIPDES permit, or be discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements.
 4. Storm Water Pollution Prevention Plan (SWPPP) Requirements.

In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.

- a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify where any of the following may be

exposed to precipitation / surface runoff: Reportable Quantity (RQ) releases; locations used for the treatment, storage or disposal of wastes; processing areas and storage areas; chemical mixing areas; construction and drilling areas; all areas subject to the effluent guidelines requirements for "No Discharge" in accordance with 40 CFR 435.32; and the structural controls to achieve compliance with the "No Discharge" requirements.

- b. *Potential Pollutant Sources.* (See also Part IV.F.4) Also describe the following sources and activities that have potential pollutants associated with them: chemical, cement, mud or gel mixing activities; drilling or mining activities; and equipment cleaning and rehabilitation activities. In addition, include information about the RQ release that triggered the permit application requirements; the nature of release (e.g., spill of oil from a drum storage area); the amount of oil or hazardous substance released; amount of substance recovered; date of the release; cause of the release (e.g., poor handling techniques and lack of containment in the area); areas affected by the release (i.e., land and water); procedure to clean up release; actions or procedures implemented to prevent or improve response to a release; and remaining potential contamination of storm water from release (taking into account human health risks, the control of drinking water intakes and the designated uses of the receiving water).

- c. *Inspections.* (See also Part IV.F.7.b.1)
 1. Inspection Frequency. Inspect all equipment and areas addressed in the SWPPP at a minimum of 6-month intervals. Routinely (but not less than quarterly) inspect equipment and vehicles which store, mix (including all on and offsite mixing tanks) or transport chemicals / hazardous materials (including those transporting supplies to oil field activities).
 2. Temporarily or Permanently Inactive Oil and Gas Extraction Facilities. For these facilities that are remotely located and unstaffed, perform the inspections at least annually.

- d. *Sediment and Erosion Control.* (See also Part IV.F.7.b.2) Unless covered by the General Permit for Construction Activity, the additional sediment and erosion control requirements for well drillings, and sand / shale mining areas include the following:
 1. Site Description: Also include: a description of the nature of the exploration activity; estimates of the total area of site and area disturbed due to exploration activity; an estimate of runoff coefficient of the site; site drainage map, including approximate slopes; and the name of all receiving waters. All sediment and erosion control measures must be inspected once every seven days.
 2. Vegetative Controls: Describe and implement vegetative practices designed to preserve existing vegetation where attainable and re-vegetate open areas as soon as practicable after grade drilling. Consider the following (or equivalent measures): temporary or permanent seeding, mulching, sod stabilization, vegetative buffer strips, tree protection practices. Begin implementing appropriate vegetative practices on all disturbed areas within 14 days following the last activity in that area.

- e. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1)
 1. Vehicle and Equipment Storage Areas. Confine vehicles / equipment awaiting or having undergone maintenance to designated areas (as marked on site map). Describe and implement measures to minimize contaminants from these areas (e.g., drip pans under equipment, indoor storage, use of berms or dikes, or other equivalent measures).

2. Material and Chemical Storage Areas. Maintain these areas in good conditions to prevent contamination of storm water. Plainly label all hazardous materials.
3. Chemical Mixing Areas. (See also Part IV.H)

Describe and implement measures that prevent or minimize contamination of storm water runoff from chemical mixing areas.

J. Sector J - Mineral Mining and Dressing.

1. Covered Storm Water Discharges. The requirements in Part VI.J apply to storm water discharges associated with industrial activity from active and inactive mineral mining and dressing facilities as identified by the SIC Codes specified under Sector J in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector J.

The types of activities that permittees under Sector J are primarily engaged in are:

- a. exploring for minerals (e.g., stone, sand, clay, chemical and fertilizer minerals, non-metallic minerals, etc.), developing mines and the mining of minerals; and
 - b. mineral dressing, and non-metallic mineral services.
3. Limitations on Coverage. Not authorized by this permit: most storm water discharges subject to an existing effluent limitation guideline at 40 CFR Part 436. The exceptions to this limitation and which are therefore covered by this general permit are mine dewatering discharges composed entirely of storm water or ground water seepage from: construction sand and gravel, industrial sand, and crushed stone mining facilities.
 4. Definitions.
 - a. *Mining Operation* - typically consists of three-phases, any one of which individually qualifies as a "mining activity." The phases are the exploration and construction phase, the active phase and the reclamation phase.
 - b. *Exploration and Construction Phase* - entails exploration and land disturbance activities to determine the financial viability of a site. Construction includes the building of site access roads and removal of overburden and waste rock to expose mineable minerals.
 - c. *Active Phase* - activities including each step from extraction through production of a salable product.
 - d. *Reclamation phase* - activities intended to return the land to its pre-mining state.

NOTE: The following definitions are not intended to supercede the definitions of active and inactive mining facilities established by RIPDES Rule 31(b)(15)(iii).

- e. *Active Mineral Mining Facility* - a place where work or other activity related to the extraction, removal or recovery of minerals is being conducted. This definition does not include any land where grading has returned the earth to a desired contour and reclamation has begun.
- f. *Inactive Mineral Mining Facility* - a site or portion of a site where mineral mining and/or dressing occurred in the past but is not an active facility as defined above, and where the inactive portion is not covered by an active permit issued by the applicable State or Federal government agency.

- g. *Temporarily Inactive Mineral Mining Facility* - a site or portion of a site where mineral mining and/or dressing occurred in the past but currently are not being actively undertaken, and the facility is covered by an active mining permit issued by the applicable State or Federal government agency.
5. **Clearing, Grading and Excavation Activities.** Clearing, grading and excavation activities being conducted as part of the exploration and construction phase of a mineral mining operation cannot be covered under this permit if these activities will disturb one or more acre of land. Instead, coverage for these activities must be under the RIPDES General Permit for Storm Water Discharges from Construction Activities, or an individual construction permit. If the area of disturbance during the initial phase is less than one acre, the permittee must continue to comply with the requirements of this general permit.
- a. *Obtaining Coverage Under the Construction General Permit.* If the one-acre limit as described in Part VI.J.5 is attained, coverage for these activities must be under the RIPDES Construction General Permit (or individual permit). Discharges in compliance with the provisions of the Construction General Permit are also authorized under the MSGP.
- b. *Cessation of Exploration and Construction Activities.* If exploration phase clearing, grading and excavation activities are completed and no further mining activities will occur at the site, the permittee must comply with the requirements for terminating the Construction General Permit, i.e., stabilize and revegetate the disturbed land, submit a Notice of Termination, etc. If active mining operations will ensue, the permittee must apply for coverage under this general permit for the storm water discharges and be prepared to implement any new requirements prior to beginning the active phase. It is recommended the permittee terminates the coverage under the construction general permit, but the permittee is not required to do so. If the permittee chooses to not terminate, the permittee will be responsible for complying with all permit conditions of the construction permit in addition to those of this general permit.
6. **Storm Water Pollution Prevention Plan (SWPPP) Requirements.** In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV of the MSGP.
- a. *Inspections.* (See also Part IV.F.7.b.1) Conduct quarterly visual inspections of all BMPs at active mining facilities. At temporarily or permanently inactive facilities, perform annual inspections. Include in the inspection program: assessment of the integrity of storm water discharge diversions, conveyance systems, sediment control and collection systems and containment structures; inspections to determine if soil erosion has occurred at, or as a result of vegetative BMPs, serrated slopes and benched slopes; inspections of material handling and storage areas and other potential sources of pollution for evidence of actual or potential discharges of contaminated storm water.
7. **Monitoring and Reporting Requirements.** (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table J-1.

SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation**
1411	Dimension Stone	TSS	100 mg/L	
1422-1429	Crushed and Broken Stone, Including Rip Rap	TSS	100 mg/L	
		Mine Dewatering Activities from Crushed Stone Mines (40 CFR part 436, Subpart B)	TSS pH	25 mg/L, monthly avg 45 mg/L daily max 6.0-9.0
1442, 1446	Sand and Gravel Mining	TSS Nitrate + Nitrite Nitrogen	100 mg/L 0.68 mg/L	

TABLE J-1: MINERAL MINING AND DRESSING- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation**
	Mine Dewatering Activities at construction Sand and Gravel Mining Facilities and Industrial Sand Mines (40 CFR, part 436, Subparts C and D)	TSS		25 mg/L, monthly avg 45 mg/L daily max
		pH		6.0-9.0
1481	Nonmetallic Minerals (except fuels)	TSS	100 mg/L	
1499	Miscellaneous Nonmetallic Minerals (except fuels)			

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

** Monitor once per year for each monitoring year

K. Sector K - Hazardous Waste Treatment, Storage or Disposal Facilities.

1. Covered Storm Water Discharges. The requirements in Part VI.K apply to storm water discharges associated with industrial activity from Hazardous Waste Treatment, Storage or Disposal facilities as identified by the Activity Code specified under Sector K in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector K. This permit authorizes storm water discharges associated with industrial activity from facilities that treat, store or dispose of hazardous wastes, including those that are operating under interim status or a permit under subtitle C of RCRA.
3. Limitations on Coverage.
 - a. *Prohibition of Non-Storm Water Discharges.* (See also Part I.B.3.e) Not authorized by this permit: leachate, gas collection condensate, drained free liquids, contaminated ground water, laboratory-derived wastewater and contact washwater from washing truck and railcar exteriors and surface areas which have come in direct contact with solid waste at the landfill facility.
4. Definitions.
 - a. *Contaminated storm water* - storm water which comes in direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in Part VI.K.4.e. Some specific areas of a landfill that may produce contaminated storm water include (but are not limited to): the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment or machinery that has been in direct contact with the waste; and waste dumping areas.
 - b. *Drained free liquids* - aqueous wastes drained from waste containers (e.g., drums, etc.) prior to landfilling.
 - c. *Land treatment facility* - a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.
 - d. *Landfill* - an area of land or an excavation in which wastes are placed for permanent disposal, that is not a land application or land treatment unit, surface impoundment, underground injection well, waste pile, salt dome formation, a salt bed formation, an underground mine or a cave as these terms are defined in 40 CFR 257.2, 258.2 and 260.10.
 - e. *Landfill wastewater* - as defined in 40 CFR Part 445 (Landfills Point Source Category) all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated storm water, contaminated groundwater, and wastewater from recovery pumping wells. Landfill wastewater includes, but is not limited to, leachate, gas collection condensate, drained free liquids, laboratory derived wastewater, contaminated storm water and contact washwater from washing truck, equipment, and railcar exteriors and surface areas which have come in direct contact with solid waste at the landfill facility.

- f. *Leachate* - liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.
 - g. *Non-contaminated storm water* - storm water which does not come into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in Part VI.K.4.e. Non-contaminated storm water includes storm water which flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.
 - h. *Pile* - any non-containerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage and that is not a containment building.
 - i. *Surface impoundment* - a facility or part of a facility which is a natural topographic depression, man-made excavation or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds and lagoons.
5. Numeric Limitations, Monitoring and Reporting Requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table K-1.

TABLE K-1: HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation**

**TABLE K-1: HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES-
SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING**

SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation**
HZ	ALL – Industrial Activity Code "HZ" (Note: permit coverage limited in some States)	Ammonia	19.0 mg/L	
		Tot Rec Magnesium	0.0636 mg/L	
		COD	120.0 mg/L	
		Tot Rec Arsenic	0.16854 mg/L	
		Tot Rec Cadmium	0.0159 mg/L	
		Total Cyanide	0.0636 mg/L	
		Tot Rec Lead	0.0816 mg/L	
		Tot Rec Mercury	0.0024 mg/L	
		Tot Rec Selenium	0.2385 mg/L	
		Tot. Rec. Silver	0.0318 mg/L	
HZ	ALL – Industrial Activity Code "HZ" Subject to the Provisions of 40 CFR Part 445 Subpart A	BOD ₅		220mg/l, daily max
		TSS		56 mg/l, monthly avg max. 88 mg/l, daily max
		Ammonia		27 mg/l, monthly avg max. 10 mg/l, daily max
		Alpha Terpineol		4.9 mg/l, monthly avg max. 0.042 mg/l, daily max
		Aniline		0.019 mg/l, monthly avg max. 0.024 mg/l, daily max
		Benzoic Acid		0.015 mg/l, monthly avg max. 0.119 mg/l, daily max
		Naphthalene		0.073 mg/l, monthly avg max. 0.059 mg/l, daily max
		p-Cresol		0.022 mg/l, monthly avg max. 0.024 mg/l, daily max
		Phenol		0.015 mg/l, monthly avg max. 0.048 mg/l, daily max
		Pyridine		0.029 mg/l, monthly avg max. 0.072 mg/l, daily max
		Arsenic (Total)		0.025 mg/l, monthly avg max. 1.1 mg/l, daily max
		Chromium (Total)		0.46 mg/l, monthly avg max. 1.1 mg/l daily max
		Zinc (Total)		0.46 mg/l, monthly avg max. 0.535 mg/l, daily max
		pH		0.296 mg/l, monthly avg max. Within the range of 6-9 pH units

*These benchmark monitoring cutoff concentrations apply to storm water discharges associated with industrial activity other than contaminated storm water discharges from landfills subject to the numeric effluent limitations set forth in Table K-1. Monitor once/quarter for the year 2 and year 4 monitoring years.

** Monitor once per year for each monitoring year

**As set forth at 40 CFR Part 445 Subpart A, these numeric limitations apply to contaminated storm water discharges from hazardous waste landfills subject to the provisions of RCRA Subtitle C at 40 CFR Parts 264 (Subpart N) and 265 (Subpart N) except for any of the facilities described below:

- (a) Landfills operated in conjunction with other industrial or commercial operations when the landfill only receives wastes generated by the industrial or commercial operation directly associated with the landfill;
- (b) Landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes provided the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation of the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;
- (c) Landfills operated in conjunction with Centralized Waste Treatment (CWT) facilities subject to 40 CFR Part 437 so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or
- (d) Landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

L. Sector L - Landfills, Land Application Sites and Open Dumps

1. Covered Storm Water Discharges. The requirements in Part VI.L apply to storm water discharges associated with industrial activity from Landfills and Land Application Sites and Open Dumps as identified by the Activity Codes specified under Sector L in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector L. This permit may authorize storm water discharges for Sector L facilities associated with waste disposal at landfills, land application sites and open dumps that receive or have received industrial waste, including sites subject to regulation under Subtitle D of RCRA.
3. Limitations on Coverage.
 - a. *Prohibition of Non-Storm Water Discharges.* (See also Part I.B.3.e)

Not authorized by this permit: leachate, gas collection condensate, drained free liquids, contaminated ground water, laboratory wastewater, and contact washwater from washing truck and railcar exteriors and surface areas which have come in direct contact with solid waste at the landfill facility.
4. Definitions.
 - a. *Contaminated storm water* - storm water which comes in direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Some specific areas of a landfill that may produce contaminated storm water include (but are not limited to): the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment or machinery that has been in direct contact with the waste; and waste dumping areas.
 - b. *Drained free liquids* - aqueous wastes drained from waste containers (e.g., drums, etc.) prior to landfilling.
 - c. *Landfill wastewater* - as defined in 40 CFR Part 445 (Landfills Point Source Category) all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated storm water, contaminated groundwater, and wastewater from recovery pumping wells. Landfill process wastewater includes, but is not limited to, leachate, gas collection condensate, drained free liquids, laboratory derived wastewater, contaminated storm water and contact washwater from washing truck, equipment and railcar exteriors and surface areas which have come in direct contact with solid waste at the landfill facility.
 - d. *Leachate* - liquid that has passed through or emerged from solid waste and contains soluble, suspended or miscible materials removed from such waste.
 - e. *Non-contaminated storm water* - storm water which does not come in direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Non-contaminated storm water includes storm water which flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.
5. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
 - a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify where any of the following may be exposed to precipitation / surface runoff: active and closed landfill cells or trenches, active and closed land application areas, locations where open dumping is occurring or has occurred, locations of any known leachate springs or other areas where uncontrolled leachate may commingle with runoff, leachate collection and handling systems.
 - b. *Summary of Potential Pollutant Sources.* (See also Part IV.F.4) Describe the following sources and activities that have potential pollutants associated with them: fertilizer, herbicide and pesticide application; earth / soil moving; waste hauling and loading/unloading; outdoor storage of

significant materials including daily, interim and final cover material stockpiles as well as temporary waste storage areas; exposure of active and inactive landfill and land application areas; uncontrolled leachate flows; failure or leaks from leachate collection and treatment systems.

- c. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1) As part of the good housekeeping program, consider providing protected storage areas for pesticides, herbicides, fertilizer and other significant materials.
 - d. *Preventative Maintenance Program.* (See also Part IV.F.7.a) As part of the preventive maintenance program, maintain: all containers used for outdoor chemical / significant materials storage to prevent leaking; all elements of leachate collection and treatment systems to prevent commingling of leachate with storm water; the integrity and effectiveness of any intermediate or final cover (including repairing the cover as necessary to minimize the effects of settlement, sinking and erosion).
 - e. *Inspections.*
 - 1. *Inspections of Active Sites.* (See also Part IV.F.7.b.1) Inspect operating landfills, open dumps and land application sites at least once every 7 days. Focus on areas of landfills that have not yet been finally stabilized, active land application areas, areas used for storage of material / wastes that are exposed to precipitation, stabilization and structural control measures, leachate collection and treatment systems, and locations where equipment and waste trucks enter / exit the site. Ensure that sediment and erosion control measures are operating properly. For stabilized sites and areas where land application has been completed, or where the climate is seasonally arid (annual rainfall averages from 0 to 10 inches) or semi-arid (annual rainfall averages from 10 to 20 inches), conduct inspections at least once every month.
 - 2. *Inspections of Inactive Sites.* (See also Part IV.F.7.b.1) Inspect inactive landfills, open dumps and land application sites at least quarterly. Qualified personnel must inspect landfill (or open dump) stabilization and structural erosion control measures and leachate collection and treatment systems, and all closed land application areas.
 - f. *Recordkeeping and Internal Reporting.* Implement a tracking system for the types of wastes disposed of in each cell or trench of a landfill or open dump. For land application sites, track the types and quantities of wastes applied in specific areas.
 - g. *Non-Storm Water Discharge Test Certification.* (See also Part IV.) The discharge test and certification must also be conducted for the presence of leachate and vehicle washwater.
 - h. *Sediment and Erosion Control Plan.* (See also Part IV.F.7.b.2) Provide temporary stabilization (e.g., consider temporary seeding, mulching and placing geotextiles on the inactive portions of stockpiles): for materials stockpiled for daily, intermediate and final cover; for inactive areas of the landfill or open dump; for any landfill or open dump area that have gotten final covers but where vegetation has yet to established itself; and where waste application has been completed at land application sites but final vegetation has not yet been established.
 - i. *Comprehensive Site Compliance Evaluation.* (See also Part IV.L.2) Evaluate areas contributing to a storm water discharge associated with industrial activities at landfills, open dumps and land application sites for evidence of, or the potential for, pollutants entering the drainage system.
6. **Numeric Limitations, Monitoring and Reporting Requirements.** (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table L-1.

**TABLE L-1: LANDFILLS AND LAND APPLICATION SITES-
SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING**

SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation**
LF	All Landfill, Land Application Sites and Open Dumps	TSS	100 mg/L	
LF	All Landfill, Land Application Sites and Open Dumps, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in accordance with 40 CFR 258.60	Tot Rec Iron	1.0 mg/L	
LF	All Landfills which are Subject to the Requirements of 40 CFR Part 445 Subpart B	BOD ₅		140 mg/L, daily max
		TSS		37 mg/L, monthly avg max. 88 mg/L, daily max
		Ammonia		27 mg/L, monthly avg max. 10 mg/L, daily max.
		Alpha Terpineol		4.9 mg/L, monthly avg max. 0.033 mg/L, daily max.
		Benzoic Acid		0.016 mg/L, monthly avg max. 0.12 mg/L, daily max.
		p-Cresol		0.071 mg/L, monthly avg max. 0.025 mg/L, daily max.
		Phenol		0.014 mg/L, monthly avg max. 0.026 mg/L, daily max.
		Zinc (Total)		0.015 mg/L, monthly avg max. 0.20 mg/L, daily max
		PH		0.11 mg/L, monthly avg max. Within the range of 6-9 pH units

*These benchmark monitoring cutoff concentrations apply to storm water discharges associated with industrial activity other than contaminated storm water discharges from landfills subject to the numeric effluent limitations set forth in Table L-1. Monitor once/quarter for the year 2 and year 4 monitoring years.

**Monitor once per year for each monitoring year.

**As set forth at 40 CFR Part 445 Subpart B, these numeric limitations apply to contaminated storm water discharges from MSWLFs which have not been closed in accordance with 40 CFR 258.60, and contaminated storm water discharges from those landfills which are subject to the provisions of 40 CFR Part 257 except for discharges from any of facilities described in (a) through (d) below:

- (a) Landfills operated in conjunction with other industrial or commercial operations when the landfill only receives wastes generated by the industrial or commercial operation directly associated with the landfill;
- (b) Landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes provided the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation or the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;
- (c) Landfills operated in conjunction with Centralized Waste Treatment (CWT) facilities subject 40 CFR Part 437 so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or
- (d) Landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

M. Sector M - Automobile Salvage Yards.

1. Covered Storm Water Discharges. The requirements in Part VI.M apply to storm water discharges associated with industrial activity from Automobile Salvage Yards as identified by the Activity Code specified under Sector M in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector M. The types of activities that permittees under Sector M are primarily engaged in are dismantling or wrecking used motor vehicles for parts recycling / resale and for scrap.
3. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
 - a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Indicate the location of each monitoring point, and estimate the total acreage used for industrial activity including, but not limited to, dismantling, storage and maintenance of used motor vehicle parts. Also identify where any of the following may be exposed to precipitation / surface runoff: dismantling areas; parts (e.g., engine blocks,

tires, hub caps, batteries, hoods, mufflers) storage areas; liquid storage tanks and drums for fuel and other fluids.

- b. *Potential Pollutant Sources.* (See also Part IV.F.4) Assess the potential for the following to contribute pollutants to storm water discharges: vehicle storage areas; dismantling areas; parts storage area (e.g., engine blocks, tires, hub caps, batteries, hoods, mufflers); fueling stations.
- c. *Spill and Leak Prevention Procedures.* (See also Part IV.F.7.b.1) Drain vehicles intended to be dismantled of all fluids upon arrival at the site (or as soon thereafter as feasible); or employ some other equivalent means to prevent spills / leaks.
- d. *Inspections.* (See also Part IV.F.7.b.1) Immediately (or as soon thereafter as feasible) inspect vehicles arriving at the site for leaks. Inspect quarterly for signs of leakage, all equipment containing oily parts, hydraulic fluids or any other types of fluids. Also inspect quarterly for signs of leakage, all vessels and areas where fluids are stored, including, but not limited to, brake fluid, transmission fluid, radiator water and antifreeze.
- e. *Employee Training.* (See also Part IV.F.7.b.1) If applicable to the facility, address the following areas (at a minimum) in the employee training program: proper handling (collection, storage, and disposal) of oil, used mineral spirits, anti-freeze and solvents.
- f. *Management of Runoff.* (See also Part IV.F.7.b.2) Consider the following management practices: berms or drainage ditches on the property line (to help prevent run-on from neighboring properties); berms for uncovered outdoor storage of oily parts, engine blocks and above-ground liquid storage; installation of detention ponds; and the installation of filtering devices and oil / water separators.

4. Monitoring and Reporting Requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table M-1.

TABLE M-1: AUTOMOBILE SALVAGE YARDS- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
5015	Automobile Salvage Yards	TSS Tot Rec Aluminum Tot Rec Iron Tot Rec Lead	100.0 mg/L 0.75 mg/L 1.0 mg/L 0.0816 mg/L	

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

N. Sector N - Scrap Recycling and Waste Recycling Facilities

- 1. Covered Storm Water Discharges. The requirements in Part N apply to storm water discharges associated with industrial activity from Scrap Recycling and Waste Recycling facilities as identified by the SIC Codes specified under Sector N in Table 1 of the Appendix.
- 2. Industrial Activities Covered by Sector N. The types of activities that permittees under Sector N are primarily engaged in are:
 - a. processing, reclaiming and wholesale distribution of scrap and waste materials such as ferrous and nonferrous metals, paper, plastic, cardboard, glass, animal hides;
 - b. reclaiming and recycling liquid wastes such as used oil, antifreeze, mineral spirits and industrial solvents.

3. Coverage Under This Permit. Separate permit requirements have been established for recycling facilities that only receive source-separated recyclable materials primarily from non-industrial and residential sources (i.e., common consumer products including paper, newspaper, glass, cardboard, plastic containers, aluminum and tin cans). This includes recycling facilities commonly referred to as material recovery facilities (MRF).
 - a. *Prohibition of Non-Storm Water Discharges.* (See also Part I.B.2) Not covered by this permit: non-storm water discharges from turnings containment areas (see also Part VI.N.4.b.3). Discharges from containment areas in the absence of a storm event are prohibited unless covered by a separate RIPDES permit.

4. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV of the MSGP. Part VI.N.4.a contains a requirement that applies to all recycling facilities and is followed by Parts VI.N.4.b to VI.N.4.d, which have requirements for specific types of recycling facilities. Implement and describe in the SWPPP a program to address those items that apply. Included are lists of BMP options which, along with any functional equivalents, should be considered for implementation. Selection or deselection of a particular BMP or approach is up to the best professional judgement of the operator, as long as the objective of the requirement is met.
 - a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify the locations of any of the following activities or sources which may be exposed to precipitation / surface runoff: scrap and waste material storage, outdoor scrap and waste processing equipment, and containment areas for turnings exposed to cutting fluids.
 - b. *Scrap Recycling and Waste Recycling Facilities (Non-Source Separated, Non-Liquid Recyclable Materials).* Requirements for facilities that receive, process and do wholesale distribution of non-liquid recyclable wastes (e.g., ferrous and nonferrous metals, plastics, glass, cardboard and paper). These facilities may receive both non recyclable and recyclable materials. This section is not intended for those facilities that only accept recyclables from primarily non-industrial and residential sources.
 1. Inbound Recyclable and Waste Material Control Program. Minimize the chance of accepting materials that could be significant sources of pollutants by conducting inspections of inbound recyclables and waste materials. BMP options: a) provide information / education to suppliers of scrap and recyclable waste materials on draining and properly disposing of residual fluids (e.g., from vehicles and equipment engines, radiators and transmissions, oil filled transformers and individual containers or drums), prior to delivery to the facility; b) procedures to minimize the potential of any residual fluids from coming into contact with precipitation / runoff; c) procedures for accepting scrap lead-acid batteries (additional requirements for the handling, storage and disposal or recycling of batteries are contained in the scrap lead-acid battery program provisions in Part VI.N.4.b.6); d) training targeted for those personnel engaged in the inspection and acceptance of inbound recyclable materials. In addition, e) liquid wastes, including used oil, must be stored in materially compatible and non-leaking containers and disposed or recycled in accordance with RCRA.
 2. Scrap and Waste Material Stockpiles / Storage (Outdoor). Minimize contact of storm water runoff with stockpiled materials, processed materials and non-recyclable wastes. BMP options: a) permanent or semi-permanent covers; b) to facilitate settling or filtering of pollutants: sediment traps, vegetated swales and strips, catch basin filters and sand filters; c) divert runoff away from storage areas via dikes, berms, containment trenches, culverts and surface grading; d) silt fencing; e) oil/water separators, sumps and dry absorbents for areas where potential sources of residual fluids are stockpiled (e.g., automobile engine storage areas).
 3. Stockpiling of Turnings Exposed to Cutting Fluids (Outdoor). Minimize contact of surface runoff with residual cutting fluids. BMP options (use singularly or in combination): a) store all turnings exposed to cutting fluids under some form of permanent or semi-

permanent cover. Storm water discharges from these areas are permitted provided the runoff is first treated by an oil/water separator or its equivalent. Identify procedures to collect, handle and dispose / recycle residual fluids which may be present; b) establish dedicated containment areas for all turnings that have been exposed to cutting fluids. Storm water runoff from these areas can be discharged provided: the containment areas are constructed of either concrete, asphalt or other equivalent types of impermeable material; there is a barrier around the perimeter of the containment areas (e.g., berms, curbing, elevated pads, etc.) to prevent contact with storm water run-on; there is a drainage collection system for runoff generated from containment areas; the permittee has a schedule to maintain the oil/water separator (or its equivalent); and the permittee identifies procedures for properly disposing or recycling collected residual fluids.

4. Scrap and Waste Material Stockpiles / Storage (Covered or Indoor Storage). Minimize contact of residual liquids and particulate matter from materials stored indoors or under cover with surface runoff. BMP options: a) good housekeeping measures including the use of dry absorbent or wet vacuuming to contain or dispose / recycle residual liquids originating from recyclable containers; b) not allowing washwater from tipping floors or other processing areas to discharge to the storm sewer system; c) disconnect or seal off all floor drains connected to the storm sewer system.
5. Scrap and Recyclable Waste Processing Areas. Minimize surface runoff from coming in contact with scrap processing equipment. Pay attention to operations that generate visible amounts of particulate residue (e.g., shredding) to minimize the contact of accumulated particulate matter and residual fluids with runoff (i.e., through good housekeeping, preventive maintenance, etc.). BMP options: a) regularly inspect equipment for spills / leaks, and malfunctioning / worn / corroded parts or equipment; b) a preventive maintenance program for processing equipment; c) use of dry-absorbents or other cleanup practices to collect and dispose / recycle spilled / leaking fluids; e) on unattended hydraulic reservoirs over 150 gallons in capacity, install such protection devices as low-level alarms or other equivalent devices, or, alternatively, secondary containment that can hold the entire volume of the reservoir; f) containment or diversion structures such as dikes, berms, culverts, trenches, elevated concrete pads, grading to minimize contact of storm water runoff with outdoor processing equipment or stored materials; g) oil / water separators or sumps; h) permanent or semi-permanent covers in processing areas where there are residual fluids and grease; i) retention / detention ponds or basins; sediment traps, vegetated swales or strips (for pollutant settling / filtration); j) catch basin filters or sand filters.
6. Scrap Lead-Acid Battery Program. Properly handle, store and dispose of scrap lead-acid batteries. BMP options: a) segregate scrap lead-acid batteries from other scrap materials; b) proper handling, storage and disposal of cracked or broken batteries; c) collect and dispose leaking lead-acid battery fluid; d) minimize / eliminate (if possible) exposure of scrap lead-acid batteries to precipitation or runoff; e) employee training for the management of scrap batteries.
7. Spill Prevention and Response Procedures. (See also Part IV.F.7.b.1) Minimize storm water contamination at loading / unloading areas, and from equipment or container failures. BMP options: a) prevention and response measures for areas that are potential sources of fluid leaks / spills; b) immediate containment and clean up of spills / leaks. If malfunctioning equipment is responsible for the spill / leak, repairs should also be conducted as soon as possible; c) cleanup measures including the use of dry absorbents. If this method is employed, there should be an adequate supply of dry absorbent materials kept onsite and used absorbent must be properly disposed of; d) store drums containing liquids—especially oil and lubricants—either: indoors, in a bermed area, in overpack containers or spill pallets, or in other containment devices; e) install overfill prevention devices on fuel pumps or tanks; f) place drip pans or equivalent measures under leaking stationary equipment until the leak is repaired. The drip pans should be inspected for leaks and potential overflow and all liquids must be properly disposed of (as per RCRA); g) install alarms and / or pump shut off systems on outdoor

equipment with hydraulic reservoirs exceeding 150 gallons in the event of a line break. Alternatively, a secondary containment system capable of holding the entire contents of the reservoir plus room for precipitation can be used.

8. Quarterly Inspection Program. (See also Part IV.F.7.b.1) Inspect all designated areas of the facility and equipment identified in the plan quarterly.
9. Supplier Notification Program. As appropriate, notify major suppliers which scrap materials will not be accepted at the facility or are only accepted under certain conditions.

c. *Waste Recycling Facilities (Liquid Recyclable Materials).*

1. Waste Material Storage (Indoor). Minimize / eliminate contact between residual liquids from waste materials stored indoors and surface runoff. The plan may refer to applicable portions of other existing plans such as SPCC plans required under 40 CFR Part 112. BMP options: a) procedures for material handling (including labeling and marking); b) clean up spills / leaks with dry-absorbent materials or a wet vacuum system; c) appropriate containment structures (trenching, curbing, gutters, etc.); d) a drainage system, including appurtenances (e.g., pumps or ejectors, manually operated valves), to handle discharges from diked or bermed areas. Drainage should be discharged to an appropriate treatment facility, sanitary sewer system, or otherwise disposed of properly. These discharges may require coverage under a separate RIPDES wastewater permit or industrial user permit under the pretreatment program.
2. Waste Material Storage (Outdoor). Minimize contact between stored residual liquids and precipitation or runoff. The plan may refer to applicable portions of other existing plans such as SPCC plans required under 40 CFR Part 112. Discharges of precipitation from containment areas containing used oil must also be in accordance with applicable sections of 40 CFR Part 112. BMP options: a) appropriate containment structures (e.g., dikes, berms, curbing, pits) to store the volume of the largest tank with sufficient extra capacity for precipitation; b) drainage control and other diversionary structures; d) for storage tanks, provide corrosion protection and / or leak detection systems; d) use dry-absorbent materials or a wet vacuum system to collect spills.
3. Trucks and Rail Car Waste Transfer Areas. Minimize pollutants in discharges from truck and rail car loading / unloading areas. Include measures to clean up minor spills / leaks resulting from the transfer of liquid wastes. BMP options: a) containment and diversionary structures to minimize contact with precipitation or runoff; b) use dry-clean up methods, wet vacuuming, roof coverings, or runoff controls.
4. Quarterly Inspections. (See also Part IV.F.7.b.1) At a minimum, the inspections must also include all areas where waste is generated, received, stored, treated or disposed and that are exposed to either precipitation or storm water runoff.

d. *Recycling Facilities (Source Separated Materials).* The following identifies considerations for facilities that receive only source-separated recyclables, primarily from non-industrial and residential sources.

1. Inbound Recyclable Material Control. Minimize the chance of accepting non-recyclables (e.g., hazardous materials) which could be a significant source of pollutants by conducting inspections of inbound materials. BMP options: a) information / education measures to inform suppliers of recyclables which materials are acceptable and which are not; b) training drivers responsible for pickup of recycled material; c) clearly marking public drop-off containers regarding which materials can be accepted; d) reject non-recyclable wastes or household hazardous wastes at the source; e) procedures for handling and disposal of non-recyclable material.
2. Outdoor Storage. Minimize exposure of recyclables to precipitation and runoff. Use good housekeeping measures to prevent accumulation of particulate matter and fluids,

particularly in high traffic areas. Other BMP options: a) provide totally-enclosed drop-off containers for the public; b) install a sump / pump with each container pit and treat or discharge collected fluids to a sanitary sewer system; c) provide dikes and curbs for secondary containment (e.g., around bales of recyclable waste paper); d) divert surface water runoff away from outside material storage areas; e) provide covers over containment bins, dumpsters, roll-off boxes; f) store the equivalent one days volume of recyclable material indoors.

3. Indoor Storage and Material Processing. Minimize the release of pollutants from indoor storage and processing areas. BMP options: a) schedule routine good housekeeping measures for all storage and processing areas; b) prohibit tipping floor washwater from draining to the storm sewer system; c) provide employee training on pollution prevention practices.
4. Vehicle and Equipment Maintenance. BMP options for those areas where vehicle and equipment maintenance are occurring outdoors: a) prohibit vehicle and equipment washwater from discharging to the storm sewer system; b) minimize or eliminate outdoor maintenance areas whenever possible; c) establish spill prevention and clean-up procedures in fueling areas; d) avoid topping off fuel tanks; e) divert runoff from fueling areas; f) store lubricants and hydraulic fluids indoors; g) provide employee training on proper handling, storage of hydraulic fluids and lubricants.

5. Monitoring and Reporting Requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table N-1.

TABLE N-1: SCRAP RECYCLING FACILITIES- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
5093	Scrap Recycling and Waste Recycling Facility	COD	120 mg/L	
		TSS	100 mg/L	
		Tot Rec Aluminum	0.75 mg/L	
		Tot Rec Copper	0.0636 mg/L	
		Tot Rec Iron	1.0 mg/L	
		Tot Rec Lead	0.0816 mg/L	
		Tot Rec Zinc	0.117 mg/L	

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

O. Sector O - Steam Electric Generating Facilities

1. Covered Storm Water Discharges. The requirements in Part VI.O apply to storm water discharges associated with industrial activity from Steam Electric Power Generating Facilities as identified by the Activity Code specified under Sector O in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector O. This permit authorizes storm water discharges from the following industrial activities at Sector O facilities:
 - a. steam electric power generation using coal, natural gas, oil, nuclear energy, etc. to produce a steam source, including coal handling areas;
 - b. coal pile runoff, including effluent limitations established by 40 CFR Part 423;
 - c. dual fuel co-generation facilities.
3. Limitations on Coverage.
 - a. *Prohibition of Non-Storm Water Discharges*. Not covered by this permit: non-storm water

discharges subject to effluent limitations guidelines.

- b. *Prohibition of Storm Water Discharges.* Not covered by this permit: storm water discharges from ancillary facilities (e.g., fleet centers, gas turbine stations and substations) that are not contiguous to a steam electric power generating facility; and heat capture co-generation facilities.
4. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
- a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify the locations of any of the following activities or sources which may be exposed to precipitation / surface runoff: storage tanks, scrap yards, general refuse areas; short and long term storage of general materials (including but not limited to: supplies, construction materials, paint equipment, oils, fuels, used and unused solvents, cleaning materials, paint, water treatment chemicals, fertilizer and pesticides); landfills, construction sites; stock piles areas (e.g., coal or limestone piles).
 - b. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1)
 1. Fugitive Dust Emissions. Describe and implement measures that prevent or minimize fugitive dust emissions from coal handling areas. Consider such procedures to minimize the tracking of coal dust offsite as installing specially designed tires, or washing vehicles in a designated area before they leave the site and controlling the wash water.
 2. Delivery Vehicles. Describe and implement measures that prevent or minimize contamination of storm water runoff from delivery vehicles arriving at the plant site. Consider the following: procedures to inspect delivery vehicles arriving at the plant site and ensure overall integrity of the body or container; and procedures to deal with leakage / spillage from vehicles or containers.
 3. Fuel Oil Unloading Areas. Describe and implement measures that prevent or minimize contamination of precipitation / surface runoff from fuel oil unloading areas. Consider, at a minimum (or their equivalents): using containment curbs in unloading areas; having personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks / spills are immediately contained and cleaned up; using spill and overflow protection (e.g., drip pans, drip diapers or other containment devices placed beneath fuel oil connectors to contain potential spillage during deliveries or from leaks at the connectors).
 4. Chemical Loading / Unloading. Describe and implement measures that prevent or minimize contamination of precipitation / surface runoff from chemical loading / unloading areas. Consider, at a minimum (or their equivalents): using containment curbs at chemical loading / unloading areas to contain spill; having personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks / spills are immediately contained and cleaned up; and load / unload in covered areas and store chemicals indoors.
 5. Miscellaneous Loading / Unloading Areas. Describe and implement measures that prevent or minimize contamination of precipitation / surface runoff from loading / unloading areas. Consider, at a minimum (or their equivalents): covering the loading area; grading, berming, or curbing around the loading area to divert run-on; or locating the loading / unloading equipment and vehicles so leaks are contained in existing containment and flow diversion systems.
 6. Liquid Storage Tanks. Describe and implement measures that prevent or minimize contamination of surface runoff from above ground liquid storage tanks. Consider using, at a minimum (or their equivalents): protective guards around tank; containment curbs; spill and overflow protection; and dry cleanup methods.
 7. Large Bulk Fuel Storage Tanks. Describe and implement measures that prevent or

minimize contamination of surface runoff from large bulk fuel storage tanks. Consider, at a minimum, using containment berms (or its equivalent). The permittee must also comply with other applicable local, State and Federal laws, including Spill Prevention Control and Countermeasures (SPCC).

8. Spill Reduction Measures. Describe and implement measures to reduce the potential for an oil / chemical spill or reference the appropriate Part of the SPCC plan. At a minimum, visually inspect on a weekly basis, the structural integrity of all above ground tanks, pipelines, pumps and other related equipment, and effect any necessary repairs immediately.
 9. Oil Bearing Equipment in Switchyards. Describe and implement measures that prevent or minimize contamination of surface runoff from oil bearing equipment in switchyard areas. Consider using level grades and gravel surfaces to retard flows and limit the spread of spills or collecting runoff in perimeter ditches.
 10. Residue Hauling Vehicles. Inspect all residue hauling vehicles for proper covering over the load, adequate gate sealing and overall integrity of the container body. Repair as soon as practicable, vehicles without load covering or adequate gate sealing, or with leaking containers or beds.
 11. Ash Loading Areas. Describe and implement procedures to reduce or control the tracking of ash / residue from ash loading areas. Where practicable, clear the ash building floor and immediately adjacent roadways of spillage, debris and excess water before departure of each loaded vehicle.
 12. Areas Adjacent to Disposal Ponds or Landfills. Describe and implement measures that prevent or minimize contamination of surface runoff from areas adjacent to disposal ponds or landfills. Develop procedures to reduce ash residue that may be tracked on to access roads traveled by residue handling vehicles, and reduce ash residue on exit roads leading into and out of residue handling areas.
 13. Landfills, Scrap yards, Surface Impoundments, Open Dumps, General Refuse Sites. Address these areas in the SWPPP and include appropriate BMPs as referred to in Part IV.
 14. Vehicle Maintenance Activities. For vehicle maintenance activities performed on the plant site, use the applicable BMPs outlined in Part VI.P.
 15. Material Storage Areas. Describe and implement measures that prevent or minimize contamination of storm water runoff from material storage areas (including areas used for temporary storage of miscellaneous products and construction materials stored in lay-down areas). Consider using (or their equivalents): flat yard grades; collecting runoff in graded swales or ditches; erosion protection measures at steep outfall sites (e.g., concrete chutes, riprap, stilling basins); covering lay-down areas; storing materials indoors; and covering materials temporarily with polyethylene, polyurethane, polypropylene or hypalon. Storm water run-on may be minimized by constructing an enclosure or building a berm around the area.
- c. Comprehensive Site Compliance Evaluation. (See also Part IV.L.3) As part of the evaluation, inspect the following areas on a monthly basis: coal handling areas, loading / unloading areas, switchyards, fueling areas, bulk storage areas, ash handling areas, areas adjacent to disposal ponds and landfills, maintenance areas, liquid storage tanks, and long term and short term material storage areas.

5. Monitoring and Reporting Requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table O-1.

**TABLE O-1: STEAM ELECTRIC GENERATING FACILITIES-
SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING**

SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation**
SE	Steam Electric Generating Facilities	Tot Rec Iron	1.0 mg/L	

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

** Note that the numeric effluent limitation guidelines for coal pile runoff at steam electric generating facilities have been adopted as a standard numeric limits for all coal pile runoff.

P. Sector P - Land Transportation and Warehousing.

1. Covered Storm Water Discharges. The requirements in Part VI.P apply to storm water discharges associated with industrial activity from Land Transportation and Warehousing facilities as identified by the Activity Code specified under Sector P in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector P. The types of activities that permittees under Sector P are primarily engaged in are:
 - a. vehicle and equipment maintenance (vehicle and equipment rehabilitation, mechanical repairs, painting, fueling and lubrication);
 - b. equipment cleaning.
3. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
 - a. *Drainage Site Map.* (See also Part IV.F.2.c) Identify the locations of any of the following activities or sources: fueling stations; vehicle / equipment maintenance or cleaning areas; storage areas for vehicle / equipment with actual or potential fluid leaks; loading / unloading areas; areas where treatment, storage or disposal of wastes occur; liquid storage tanks; processing areas; storage areas; and all monitoring areas.
 - b. *Potential Pollutant Sources.* (See also Part IV.F.4) Describe and assess the potential for the following to contribute pollutants to storm water discharges: onsite waste storage or disposal; dirt / gravel parking areas for vehicles awaiting maintenance; and fueling areas.
 - c. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1)
 1. Vehicle and Equipment Storage Areas. Confine the storage of leaky or leak-prone vehicles / equipment awaiting maintenance to designated areas. Consider the following (or other equivalent measures): the use of drip pans under vehicles / equipment, indoor storage of vehicles and equipment, installation of berms or dikes, use of absorbents, roofing or covering storage areas, and cleaning pavement surfaces to remove oil and grease.
 2. Fueling Areas. Implement and describe measures that prevent or minimize contamination of storm water runoff from fueling areas. Consider the following (or other equivalent measures): covering the fueling area; using spill / overflow protection and cleanup equipment; minimizing storm water runoff to the fueling area; using dry cleanup methods; and treating and / or recycling collected storm water runoff.
 3. Material Storage Areas. Maintain all material storage vessels (e.g., for used oil / oil filters, spent solvents, paint wastes, hydraulic fluids) to prevent contamination of storm water and plainly label them (e.g., "Used Oil," "Spent Solvents," etc.). Consider the following (or other equivalent measures): storing the materials indoors; installing berms / dikes around the areas; minimizing runoff of storm water to the areas; using dry cleanup methods; and treating and / or recycling collected storm water runoff.

4. Vehicle and Equipment Cleaning Areas. Implement and describe measures that prevent or minimize contamination of storm water runoff from all areas used for vehicle / equipment cleaning. Consider the following (or other equivalent measures): performing all cleaning operations indoors; covering the cleaning operation, ensuring that all washwater drains to a proper collection system (i.e., not the storm water drainage system unless permitted by RIPDES); treating and / or recycling collected storm water runoff, or other equivalent measures. Note: the discharge of vehicle / equipment washwater, including tank cleaning operations, are not authorized by this permit and must be covered under a separate RIPDES permit or discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements.
 5. Vehicle and Equipment Maintenance Areas. Implement and describe measures that prevent or minimize contamination of storm water runoff from all areas used for vehicle / equipment maintenance. Consider the following (or other equivalent measures): performing maintenance activities indoors; using drip pans; keeping an organized inventory of materials used in the shop; draining all parts of fluid prior to disposal; prohibiting wet clean up practices if these practices would result in the discharge of pollutants to storm water drainage systems; using dry cleanup methods; treating and / or recycling collected storm water runoff, minimizing run on / runoff of storm water to maintenance areas.
 6. Locomotive Sanding (Loading Sand for Traction) Areas. Consider the following (or other equivalent measures): covering sanding areas; minimizing storm water run on / runoff; or appropriate sediment removal practices to minimize the offsite transport of sanding material by storm water.
- d. *Inspections*. (See also Part IV.F.7.b.1) Inspect all the following areas / activities: storage areas for vehicles / equipment awaiting maintenance, fueling areas, indoor and outdoor vehicle / equipment maintenance areas, material storage areas, vehicle / equipment cleaning areas and loading / unloading areas.
 - e. *Employee Training*. (See also Part IV.F.7.b.1) Train personnel at least once a year and address the following, as applicable: used oil and spent solvent management; fueling procedures; general good housekeeping practices; proper painting procedures; and used battery management.
 - f. *Vehicle and Equipment Washwater Requirements*. (See also Part IV.H) Attach to or reference in the SWPPP, a copy of the RIPDES permit issued for vehicle / equipment washwater or, if an RIPDES permit has not been issued, a copy of the pending application. If an industrial user permit is issued under a pretreatment program, attach a copy of the SWPPP. In any case, address all non-storm water permit conditions or pretreatment conditions in the SWPPP. If washwater is handled in another manner (e.g., hauled offsite), describe the disposal method and attach all pertinent documentation / information (e.g., frequency, volume, destination, etc.) in the plan.

Q. Sector Q - Water Transportation.

1. Covered Storm Water Discharges. The requirements in Part VI.Q apply to storm water discharges associated with industrial activity from Water Transportation facilities as identified by the Activity Code specified under Sector Q in Table 1 the Appendix.
2. Industrial Activities Covered by Sector Q. The requirements listed under this Part apply to storm water discharges associated with the following activities:
 - a. water transportation facilities classified in SIC Code major group 44 that have vehicle (vessel) maintenance shops and/or equipment cleaning operations including:
 1. water transportation industry includes facilities engaged in foreign or domestic transport

- of freight or passengers in deep sea or inland waters;
2. marine cargo handling operations;
 3. ferry operations;
 4. towing and tugboat services;
 5. marinas.
3. Limitations on Coverage.
- a. *Prohibition of Non-Storm Water Discharges.* (See also Part I.B.3.e) Not covered by this permit: bilge and ballast water, sanitary wastes, pressure wash water and cooling water originating from vessels.
4. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
- a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify where any of the following may be exposed to precipitation / surface runoff: fueling; engine maintenance / repair; vessel maintenance / repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading / unloading areas; locations used for the treatment, storage or disposal of wastes; liquid storage tanks; liquid storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum, steel, scrap iron).
 - b. *Summary of Potential Pollutant Sources.* (See also Part IV.F.4) Describe the following additional sources and activities that have potential pollutants associated with them: outdoor manufacturing or processing activities (i.e., welding, metal fabricating); and significant dust or particulate generating processes (e.g., abrasive blasting, sanding, painting)
 - c. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1)
 1. Pressure Washing Area. If pressure washing is used to remove marine growth from vessels, the discharge water must be permitted by a separate RIPDES permit. Describe in the SWPPP: the measures to collect or contain the discharges from the pressure washing area; the method for the removal of the visible solids; the methods of disposal of the collected solids; and where the discharge will be released.
 2. Blasting and Painting Area. Implement and describe measures to prevent spent abrasives, paint chips and over spray from discharging into the receiving water or the storm sewer systems. Consider containing all blasting / painting activities or use other measures to prevent or minimize the discharge the contaminants (e.g., hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris). Where necessary, regularly clean storm water conveyances of deposits of abrasive blasting debris and paint chips. Detail in the SWPPP any standard operating practices relating to blasting / painting (e.g., prohibiting uncontained blasting / painting over open water, or prohibiting blasting / painting during windy conditions which can render containment ineffective).
 3. Material Storage Areas. Store and plainly label all containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains. Implement and describe measures to prevent or minimize the contamination of precipitation / surface runoff from the storage areas. Specify which materials are stored indoors and consider containment or enclosure for those stored outdoors. If abrasive blasting is performed, discuss the storage and disposal of spent abrasive materials generated at the facility. Consider implementing an inventory control plan to limit the presence of potentially hazardous materials onsite.

4. Engine Maintenance and Repair Areas. Implement and describe measures to prevent or minimize the contamination of precipitation / surface runoff from all areas used for engine maintenance and repair. Consider the following (or their equivalents): performing all maintenance activities indoors; maintaining an organized inventory of materials used in the shop; draining all parts of fluid prior to disposal; prohibiting the practice of hosing down the shop floor; using dry cleanup methods; and treating and / or recycling storm water runoff collected from the maintenance area.
 5. Material Handling Area. Implement and describe measures to prevent or minimize the contamination of precipitation / surface runoff from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). Consider the following (or their equivalents): covering fueling areas; using spill / overflow protection; mixing paints and solvents in a designated area (preferably indoors or under a shed); and minimize runoff of storm water to material handling areas.
 6. Drydock Activities. Describe the procedures for routinely maintaining / cleaning the drydock to prevent or minimize pollutants in storm water runoff. Address the cleaning of accessible areas of the drydock prior to flooding, and final cleanup following removal of the vessel and raising the dock. Include procedures for cleaning up oil, grease or fuel spills occurring on the drydock. Consider the following (or their equivalents): sweeping rather than hosing off debris / spent blasting material from accessible areas of the drydock prior to flooding, and having absorbent materials and oil containment booms readily available to contain / cleanup any spills.
 7. General Yard Area. Implement and describe a schedule for routine yard maintenance and cleanup. Regularly remove from the general yard area: scrap metal, wood, plastic, miscellaneous trash, paper, glass, industrial scrap, insulation, welding rods, packaging, etc.
- d. *Preventative Maintenance.* (See also Part IV.F.7.b.1) As part of the preventive maintenance program, perform timely inspection and maintenance of storm water management devices (e.g., cleaning oil / water separators and sediment traps to ensure that spent abrasives, paint chips and solids will be intercepted and retained prior to entering the storm drainage system) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.
 - e. *Inspections.* (See also Part IV.F.7.b.1) Include the following areas in all monthly inspections: pressure washing area; blasting, sanding and painting areas; material storage areas; engine maintenance / repair areas; material handling areas; drydock area; and general yard area.
 - f. *Employee Training.* (See also Part IV.F.7.b.1) As part of the employee training program, address, at a minimum, the following activities (as applicable): used oil management; spent solvent management; disposal of spent abrasives; disposal of vessel wastewaters; spill prevention and control; fueling procedures; general good housekeeping practices; painting and blasting procedures; and used battery management.
 - g. *Comprehensive Site Compliance Evaluation.* (See also Part IV.L) Conduct regularly scheduled evaluations at least once a year and address those areas contributing to a storm water discharge associated with industrial activity (e.g., pressure washing area, blasting / sanding areas, painting areas, material storage areas, engine maintenance / repair areas, material handling areas, and drydock area). Inspect these sources for evidence of, or the potential for, pollutants entering the drainage system.
5. Monitoring and Reporting Requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table Q-1.

TABLE Q-1: WATER TRANSPORTATION- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
4412-4499	Water Transportation Facilities	Tot Rec Aluminum Tot Rec Iron Tot Rec Lead Tot Rec Zinc	0.75 mg/L 1.0 mg/L 0.0816 mg/L 0.117 mg/L	

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

R. Sector R -Ship and Boat Building or Repair Yards.

1. Covered Storm Water Discharges. The requirements in Part VI.R apply to storm water discharges associated with industrial activity from Ship and Boat Building or Repair Yards as identified by the Activity Codes specified under Sector R in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector R. The types of activities that permittees under Sector R are primarily engaged in are:
 - a. ship building and repairing and boat building and repairing¹
3. Limitations on Coverage.
 - a. *Prohibition of Non-Storm Water Discharges.* (See also Part I.B.3.e) Not covered by this permit: discharges containing bilge and ballast water, sanitary wastes, pressure wash water and cooling water originating from vessels.
4. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
 - a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify where any of the following may be exposed to precipitation / surface runoff: fueling; engine maintenance / repair; vessel maintenance / repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading / unloading areas; locations used for the treatment, storage or disposal of wastes; liquid storage tanks; liquid storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum , steel, scrap iron).
 - b. *Potential Pollutant Sources.* (See also Part IV.F.4) Describe the following additional sources and activities that have potential pollutants associated with them (if applicable): outdoor manufacturing / processing activities (e.g., welding, metal fabricating); and significant dust / particulate generating processes (e.g., abrasive blasting , sanding, painting).
 - c. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1)
 1. Pressure Washing Area. If pressure washing is used to remove marine growth from vessels, the discharge water must be permitted as a process wastewater by a separate RIPDES permit.
 2. Blasting and Painting Area. Implement and describe measures to prevent spent abrasives, paint chips and over spray from discharging into the receiving water or the storm sewer systems. Consider containing all blasting / painting activities or use other measures to prevent the discharge the contaminants (e.g., hanging plastic barriers or

¹According to the U.S. Coast Guard, a vessel 65 feet or greater in length is referred to as a ship, and a vessel smaller than 65 feet is a boat.

tarpaulins during blasting or painting operations to contain debris). Where necessary, regularly clean storm water conveyances of deposits of abrasive blasting debris and paint chips. Detail in the SWPPP any standard operating practices relating to blasting / painting (e.g., prohibiting uncontained blasting / painting over open water, or prohibiting blasting / painting during windy conditions which can render containment ineffective).

3. Material Storage Areas. Store and plainly label all containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains. Implement and describe measures to prevent or minimize the contamination of precipitation / surface runoff from the storage areas. Specify which materials are stored indoors and consider containment or enclosure for those stored outdoors. If abrasive blasting is performed, discuss the storage and disposal of spent abrasive materials generated at the facility. Consider implementing an inventory control plan to limit the presence of potentially hazardous materials onsite.
 4. Engine Maintenance and Repair Areas. Implement and describe measures to prevent or minimize the contamination of precipitation / surface runoff from all areas used for engine maintenance and repair. Consider the following (or their equivalents): performing all maintenance activities indoors; maintaining an organized inventory of materials used in the shop; draining all parts of fluid prior to disposal; prohibiting the practice of hosing down the shop floor; using dry cleanup methods; and treating and / or recycling storm water runoff collected from the maintenance area.
 5. Material Handling Area. Implement and describe measures to prevent or minimize the contamination of precipitation / surface runoff from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). Consider the following (or their equivalents): covering fueling areas; using spill / overflow protection; mixing paints and solvents in a designated area (preferably indoors or under a shed); and minimize runoff of storm water to material handling areas.
 6. Drydock Activities. Describe the procedures for routinely maintaining / cleaning the drydock to prevent or minimize pollutants in storm water runoff. Address the cleaning of accessible areas of the drydock prior to flooding, and final cleanup following removal of the vessel and raising the dock. Include procedures for cleaning up oil, grease or fuel spills occurring on the drydock. Consider the following (or their equivalents): sweeping rather than hosing off debris / spent blasting material from accessible areas of the drydock prior to flooding, and having absorbent materials and oil containment booms readily available to contain / cleanup any spills.
 7. General Yard Area. Implement and describe a schedule for routine yard maintenance and cleanup. Regularly remove from the general yard area: scrap metal, wood, plastic, miscellaneous trash, paper, glass, industrial scrap, insulation, welding rods, packaging, etc.
- d. *Preventative Maintenance*. (See also Part IV.F.7.b.1) As part of the preventive maintenance program, perform timely inspection and maintenance of storm water management devices (e.g., cleaning oil / water separators and sediment traps to ensure that spent abrasives, paint chips and solids will be intercepted and retained prior to entering the storm drainage system) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.
 - e. *Inspections*. (See also Part IV.F.7.b.1) Include the following areas in all monthly inspections: pressure washing area; blasting, sanding and painting areas; material storage areas; engine maintenance / repair areas; material handling areas; drydock area; and general yard area.
 - f. *Employee Training*. (See also Part IV.F.7.b.1) As part of the employee training program, address, at a minimum, the following activities (as applicable): used oil management; spent solvent management; disposal of spent abrasives; disposal of vessel wastewaters; spill

prevention and control; fueling procedures; general good housekeeping practices; painting and blasting procedures; and used battery management.

- g. *Comprehensive Site Compliance Evaluation.* (See also Part IV.L) Conduct regularly scheduled evaluations at least once a year and address those areas contributing to a storm water discharge associated with industrial activity (e.g., pressure washing area, blasting / sanding areas, painting areas, material storage areas, engine maintenance / repair areas, material handling areas, and drydock area). They must be visually inspected for evidence of, or the potential for, pollutants entering the drainage system.

S. Sector S - Air Transportation

1. Covered Storm Water Discharges. The requirements in Part VI.S apply to storm water discharges associated with industrial activity from Air Transportation facilities as identified by the SIC Codes specified under Sector S in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector S. The types of activities that permittees under Sector S are primarily engaged in are:
 - a. air transportation, scheduled, and air courier;
 - b. air transportation, non scheduled;
 - c. airports; flying fields, except those maintained by aviation clubs; and airport terminal services including: air traffic control, except government; aircraft storage at airports; aircraft upholstery repair; airfreight handling at airports; airport hangar rental; airport leasing, if operating airport; airport terminal services; and hangar operations.
 - d. airport and aircraft service and maintenance including: aircraft cleaning and janitorial service; aircraft servicing / repairing, except on a factory basis; vehicle maintenance shops; material handling facilities; equipment clearing operations; and airport and aircraft deicing / anti-icing.

Note: "deicing" will generally be used to imply both deicing (removing frost, snow or ice) and anti-icing (preventing accumulation of frost, snow or ice) activities, unless specific mention is made regarding anti-icing and / or deicing activities.

3. Limitations on Coverage. Only those portions of the facility that are involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations or deicing operations are addressed in Part VI.S.
 - a. *Prohibition of Non-Storm Water Discharges.* (See also Part I.B.3.e) Not covered by this permit: aircraft, ground vehicle, runway and equipment washwaters; and dry weather discharges of deicing chemicals. These discharges must be covered by a separate RIPDES permit.
4. Special Conditions.
 - a. *Hazardous Substances or Oil.* (See also Part 3.1) Each individual permittee is required to report spills equal to or exceeding the reportable quantity (RQ) levels specified at 40 CFR 110, 117 and 302 as described at Part 3.2. If an airport authority is the sole permittee, then the sum total of all spills at the airport must be assessed against the RQ. If the airport authority is a co-permittee with other deicing operators at the airport, such as numerous different airlines, the assessed amount must be the summation of spills by each co-permittee. If separate, distinct individual permittees exist at the airport, then the amount spilled by each separate permittee must be the assessed amount for the RQ determination.

5. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV of the MSGP. (See also Part IV.E) If an airport's tenant has a SWPPP for discharges from their own areas of the airport, that SWPPP must be integrated with the plan for the entire airport. Tenants of the airport facility include air passenger or

cargo companies, fixed based operators and other parties who have contracts with the airport authority to conduct business operations on airport property and whose operations result in storm water discharges associated with industrial activity.

- a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify where any of the following may be exposed to precipitation / surface runoff: aircraft and runway deicing operations; fueling stations; aircraft, ground vehicle and equipment maintenance / cleaning areas; storage areas for aircraft, ground vehicles and equipment awaiting maintenance.
- b. *Potential Pollutant Sources.* (See also Part IV.F.4) Include in the inventory of exposed materials a description of the potential pollutant sources from the following activities: aircraft, runway, ground vehicle and equipment maintenance and cleaning; aircraft and runway deicing operations (including apron and centralized aircraft deicing stations, runways, taxiways and ramps). If the permittee uses deicing chemicals, the permittee must maintain a record of the types (including the Material Safety Data Sheets [MSDS]) used and the monthly quantities, either as measured or, in the absence of metering, as estimated to the best of the facility's operator knowledge. This includes all deicing chemicals, not just glycols and urea (e.g., potassium acetate), because large quantities of these other chemicals can still have an adverse impact on receiving waters. Tenants or other fixed-based operations that conduct deicing operations must provide the above information to the airport authority for inclusion in any comprehensive airport SWPPPs.
- c. *Good Housekeeping Measures.* (See also IV.F.7)
 1. Aircraft, Ground Vehicle and Equipment Maintenance Areas. Describe and implement measures that prevent or minimize the contamination of storm water runoff from all areas used for aircraft, ground vehicle and equipment maintenance (including the maintenance conducted on the terminal apron and in dedicated hangers). Consider the following practices (or their equivalents): performing maintenance activities indoors; maintaining an organized inventory of material used in the maintenance areas; draining all parts of fluids prior to disposal; preventing the practice of hosing down the apron or hanger floor; using dry cleanup methods; and collecting the storm water runoff from the maintenance area and providing treatment or recycling.
 2. Aircraft, Ground Vehicle and Equipment Cleaning Areas. Clean equipment only in the areas identified in the SWPPP and site map and clearly demarcate these areas on the ground. Describe and implement measures that prevent or minimize the contamination of storm water runoff from cleaning areas.
 3. Aircraft, Ground Vehicle and Equipment Storage Areas. Store all aircraft, ground vehicles and equipment awaiting maintenance in designated areas only. Consider the following BMPs (or their equivalents): storing aircraft and ground vehicles indoors; using drip pans for the collection of fluid leaks; and perimeter drains, dikes or berms surrounding the storage areas.
 4. Material Storage Areas. Maintain the vessels of stored materials (e.g., used oils, hydraulic fluids, spent solvents, and waste aircraft fuel) in good condition, to prevent or minimize contamination of storm water. Also plainly label the vessels (e.g., "used oil," "Contaminated Jet A," etc.). Describe and implement measures that prevent or minimize contamination of precipitation / runoff from these areas. Consider the following BMPs (or their equivalents): storing materials indoors; storing waste materials in a centralized location; and installing berms / dikes around storage areas.
 5. Airport Fuel System and Fueling Areas. Describe and implement measures that prevent or minimize the discharge of fuel to the storm sewer / surface waters resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. Consider the following BMPs (or their equivalents): implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using dry cleanup methods; and collecting storm water runoff.

6. Source Reduction. Consider alternatives to the use of urea and glycol-based deicing chemicals to reduce the aggregate amount of deicing chemicals used and / or lessen the environmental impact. Chemical options to replace ethylene glycol, propylene glycol and urea include: potassium acetate; magnesium acetate; calcium acetate; anhydrous sodium acetate.

- **Runway Deicing Operation:** Evaluate, at a minimum, whether over-application of deicing chemicals occurs by analyzing application rates and adjusting as necessary, consistent with considerations of flight safety. Also consider these BMP options (or their equivalents): metered application of chemicals; pre-wetting dry chemical constituents prior to application; installing a runway ice detection system; implementing anti-icing operations as a preventive measure against ice buildup.

- **Aircraft Deicing Operations:** Determine whether excessive application of deicing chemicals occurs and adjust as necessary, consistent with considerations of flight safety. This evaluation must be carried out by the personnel most familiar with the particular aircraft and flight operations in question (vice an outside entity such as the airport authority). Consider using alternative deicing / anti-icing agents as well as containment measures for all applied chemicals. Also consider these BMP options (or their equivalents) for reducing deicing fluid use: forced-air deicing systems, computer-controlled fixed-gantry systems, infrared technology, hot water, varying glycol content to air temperature, enclosed-basket deicing trucks, mechanical methods, solar radiation, hangar storage, aircraft covers, thermal blankets for MD-80s and DC-9s. Also consider using ice-detection systems and airport traffic flow strategies and departure slot allocation systems.

7. **Management of Runoff.** Where deicing operations occur, describe and implement a program to control or manage contaminated runoff to reduce the amount of pollutants being discharged from the site. Consider these BMP options (or their equivalents): a dedicated deicing facility with a runoff collection / recovery system; using vacuum / collection trucks; storing contaminated storm water / deicing fluids in tanks and releasing controlled amounts to a publicly owned treatment works; collecting contaminated runoff in a wet pond for biochemical decomposition (be aware of attracting wildlife that may prove hazardous to flight operations); and directing runoff into vegetative swales or other infiltration measures. Also consider recovering deicing materials when these materials are applied during non-precipitation events (e.g., covering storm sewer inlets, using booms, installing absorptive interceptors in the drains, etc.) to prevent these materials from later becoming a source of storm water contamination. Used deicing fluid should be recycled whenever possible.

- d. *Inspections.* (See also Part IV.F.7.b.1) Specify the frequency of inspections in the SWPPP. At a minimum they must be conducted monthly during the deicing season. If the facility needs to deice before or after this period, expand the monthly inspections to include all months during which deicing chemicals may be used. Also, if significantly or deleteriously large quantities of deicing chemicals are being spilled or discharged, or if water quality impacts have been reported, increase the frequency of the inspections to weekly until such time as the chemical spills / discharges or impacts are reduced to acceptable levels. The Director may specifically require the permittee to increase inspections and SWPPP reevaluations as necessary.
- e. *Comprehensive Site Compliance Evaluation.* (See also Part IV.L) Using only qualified personnel, conduct the annual site compliance evaluations during periods of actual deicing operations, if possible. If not practicable during active deicing or the weather is too inclement, conduct the evaluations when deicing operations are likely to occur and the materials and equipment for deicing are in place.

6. **Monitoring and Reporting Requirements.** (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table S-1.

TABLE S-1: AIR TRANSPORTATION- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
4512-4581	Facilities at airports that use more than 100,000 gallons of glycol-based deicing/anti-icing chemicals and/or 100 tons or more of urea on an average annual basis; monitor ONLY those outfalls from the airport facility that collect runoff from areas where deicing/anti-icing activities occur	BOD ₅ COD Ammonia pH	30 mg/L 120.0 mg/L 19 mg/L 6.0-9.0 s.u.	

* Monitor per requirement 4 times only during the three month period of December, January and February when deicing activities are occurring for the Year 2 and Year 4 monitoring years

T Sector T - Treatment Works.

1. Covered Storm Water Discharges. The requirements in Part VI.T apply to storm water discharges associated with industrial activity from Treatment Works as identified by the Activity Code specified under Sector T in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector T. The requirements listed under this Part apply to all existing point source storm water discharges associated with the following activities:
 - a. treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system used in the storage, treatment, recycling and reclamation of municipal or domestic sewage; including land dedicated to the disposal of sewage sludge; that are located within the confines of the facility with a design flow of 1.0 MGD or more; or required to have an approved pretreatment program under 40 CFR Part 403.
 - b. Not required to have permit coverage: farm lands; domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located within the facility; or areas that are in compliance with Section 405 of the CWA.
3. Limitations on Coverage.
 - a. *Prohibition of Non-Storm Water Discharges.* (See also Part I.B.3.e) Not authorized by this permit: sanitary and industrial wastewater; and equipment / vehicle washwater.
4. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
 - a. *Site Map.* (See also Part IV.F.2.c.6) Identify where any of the following may be exposed to precipitation / surface runoff: grit, screenings and other solids handling, storage or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and storage areas for process chemicals, petroleum products, solvents, fertilizers, herbicides and pesticides.
 - b. *Potential Pollutant Sources.* (See also Part IV.F.4) Describe the following additional sources and activities that have potential pollutants associated with them, as applicable: grit, screenings and other solids handling, storage or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and access roads / rail lines.
 - c. *Best Management Practices (BMPs).* (See also Part IV.F.7.b) In addition to the other BMPs considered, consider the following: routing storm water to the treatment works; or covering exposed materials (i.e., from the following areas: grit, screenings and other solids handling, storage or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or

hailed waste receiving station).

- d. *Inspections.* (See also Part IV.F.7.b.1) Include the following areas in all inspections: access roads / rail lines; grit, screenings and other solids handling, storage or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station areas.
- e. *Employee Training.* (See also Part IV.F.7.b.1) At a minimum, must address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and controls; fueling procedures; general good housekeeping practices; proper procedures for using fertilizer, herbicides and pesticides.
- f. *Wastewater and Washwater Requirements.* (See also Part IV.H) Attach to the SWPPP a copy of all the current RIPDES permits issued for wastewater, industrial, vehicle and equipment washwater discharges or, if an RIPDES permit has not yet been issued, a copy of the pending applications. Address any requirements / conditions from the other permits, as appropriate, in the SWPPP. If the washwater is handled in another manner, the disposal method must be described and all pertinent documentation must be attached to the plan.

U. Sector U - Food and Kindred Products

1. Covered Storm Water Discharges. The requirements in Part VI.U apply to storm water discharges associated with industrial activity from Food and Kindred Products facilities as identified by the SIC Codes specified under Sector U in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector U. The types of activities that permittees under Sector U are primarily engaged in are:
 - a. meat products;
 - b. dairy products;
 - c. canned, frozen and preserved fruits, vegetables, and food specialties;
 - d. grain mill products;
 - e. bakery products;
 - f. sugar and confectionery products;
 - g. fats and oils;
 - h. beverages;
 - i. miscellaneous food preparations and kindred products and tobacco products manufacturing.
3. Limitations on Coverage. Not covered by this permit: storm water discharges identified under Part I.B.3 from industrial plant yards, material handling sites; refuse sites; sites used for application or disposal of process wastewaters; sites used for storage and maintenance of material handling equipment; sites used for residential wastewater treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; and storage areas for raw material and intermediate and finished products. This includes areas where industrial activity has taken place in the past and significant materials remain. "Material handling activities" include the storage, loading / unloading, transportation or conveyance of any raw material, intermediate product, finished product, by-product or waste product.
 - a. *Prohibition of Non-Storm Water Discharges.* (See also Part I.B.2) Discharges subject to Part I.B.2 which contain the following are not authorized by this permit: boiler blowdown, cooling tower overflow and blowdown, ammonia refrigeration purging and vehicle washing / clean-out operations.

4. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
 - a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify the locations of the following activities if they are exposed to precipitation / runoff: vents / stacks from cooking, drying and similar operations; dry product vacuum transfer lines; animal holding pens; spoiled product; and broken product container storage areas.
 - b. *Potential Pollutant Sources.* (See also Part IV.F.4) Describe, in addition to food and kindred products processing-related industrial activities, application and storage of pest control chemicals (e.g., rodenticides, insecticides, fungicides, etc.) used on plant grounds.
 - c. *Inspections.* (See also Part IV.F.7.b.1) Inspect on a regular basis, at a minimum, the following areas where the potential for exposure to storm water exists: loading and unloading areas for all significant materials; storage areas including associated containment areas; waste management units; vents and stacks emanating from industrial activities; spoiled product and broken product container holding areas; animal holding pens; staging areas; and air pollution control equipment.
 - d. *Employee Training.* (See also Part IV.F.7.b.1) Address pest control in the training program.
5. Monitoring and Reporting Requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table U-1.

TABLE U-1: FOOD AND KINDRED PRODUCTS- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
2041-2048	Grain Mill Products	TSS	100 mg/L	
2074-2079	Fats and Oils Products	BOD ₅	30 mg/L	
		COD	120 mg/L	
		Nitrate plus Nitrite Nitrogen	0.68 mg/L	
		TSS	100 mg/L	

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

V. Sector V - Textile Mills, Apparel and Other Fabric Products

1. Covered Storm Water Discharges. The requirements in Part VI.V apply to storm water discharges associated with industrial activity from Textile Mills, Apparel, and Other Fabric Product Manufacturing as identified by the Activity Code specified under Sector V in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector V. The types of activities that permittees under Sector V are primarily engaged in are:
 - a. textile mill products, of and regarding facilities and establishments engaged in the preparation of fiber and subsequent manufacturing of yarn, thread, braids, twine, and cordage, the manufacturing of broadwoven fabrics, narrow woven fabrics, knit fabrics, and carpets and rugs from yarn;
 - b. processes involved in the dyeing and finishing of fibers, yarn fabrics, and knit apparel;
 - c. the integrated manufacturing of knit apparel and other finished articles of yarn;
 - d. the manufacturing of felt goods (wool), lace goods, non-woven fabrics, miscellaneous textiles, and other apparel products.

3. Limitations on Coverage.
 - a. *Prohibition of Non-Storm Water Discharges.* (See also Part I.B.3.e) Not authorized by this permit: discharges of wastewater (e.g., wastewater resulting from wet processing or from any processes relating to the production process); reused / recycled water; and waters used in cooling towers. If the permittee has these types of discharges from the facility, the permittee must cover them under a separate RIPDES permit.
4. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
 - a. *Potential Pollutant Sources.* (See also Part IV.F.4) Describe the following additional sources and activities that have potential pollutants associated with them: industrial-specific significant materials and industrial activities (e.g., backwinding, beaming, bleaching, backing bonding, carbonizing, carding, cut and sew operations, desizing, drawing, dyeing locking, fulling, knitting, mercerizing, opening, packing, plying, scouring, slashing, spinning, synthetic-felt processing, textile waste processing, tufting, turning, weaving, web forming, winging, yarn spinning, and yarn texturing).
 1. Material Storage Area. Plainly label and store all containerized materials (e.g., fuels, petroleum products, solvents, dyes, etc.) in a protected area, away from drains. Describe and implement measures that prevent or minimize contamination of the storm water runoff from such storage areas, including a description of the containment area or enclosure for those materials stored outdoors. Also consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances. For storing empty chemical drums / containers, ensure the drums / containers are clean (consider triple-rinsing) and there is no contact of residuals with precipitation / runoff. Collect and dispose of washwater from these cleanings properly.
 2. Material Handling Area. Describe and implement measures that prevent or minimize contamination of storm water runoff from material handling operations and areas. Consider the following (or their equivalents): use of spill / overflow protection; covering fuelling areas; and covering / enclosing areas where the transfer of material may occur. Where applicable address the replacement or repair of leaking connections, valves, transfer lines and pipes that may carry chemicals, dyes or wastewater.
 3. Fueling Areas. Describe and implement measures that prevent or minimize contamination of storm water runoff from fueling areas. Consider the following (or their equivalents): covering the fueling area, using spill and overflow protection, minimizing runoff of storm water to the fueling areas, using dry cleanup methods, and treating and / or recycling storm water runoff collected from the fueling area.
 4. Above Ground Storage Tank Area. Describe and implement measures that prevent or minimize contamination of the storm water runoff from above ground storage tank areas, including the associated piping and valves. Consider the following (or their equivalents): regular cleanup of these areas; preparation of the spill prevention control and countermeasure program, provide spill and overflow protection; minimizing runoff of storm water from adjacent areas; restricting access to the area; insertion of filters in adjacent catch basins; providing absorbent booms in unbermed fueling areas; using dry cleanup methods; and permanently sealing drains within critical areas that may discharge to a storm drain.
 - b. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1)
 1. Material Storage Area. Plainly label and store all containerized materials (e.g., fuels, petroleum products, solvents, dyes, etc.) in a protected area, away from drains. Describe and implement measures that prevent or minimize contamination of the storm water runoff from such storage areas, including a description of the containment area or enclosure for those materials stored outdoors. Also consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances. For storing empty chemical drums / containers, ensure the drums / containers are clean (consider triple-rinsing) and there is no contact of residuals with precipitation / runoff. Collect and dispose of washwater from these cleanings properly.
 2. Material Handling Area. Describe and implement measures that prevent or minimize contamination of storm water runoff from material handling operations and areas. Consider the following (or their equivalents): use of spill / overflow protection; covering fuelling areas; and covering / enclosing areas where the transfer of material may occur. Where applicable address the replacement or repair of leaking connections, valves, transfer lines and pipes that may carry chemicals, dyes or wastewater.
 3. Fueling Areas. Describe and implement measures that prevent or minimize contamination of storm water runoff from fueling areas. Consider the following (or their equivalents): covering the fueling area, using spill and overflow protection, minimizing runoff of storm water to the fueling areas, using dry cleanup methods, and treating and / or recycling storm water runoff collected from the fueling area.
 4. Above Ground Storage Tank Area. Describe and implement measures that prevent or minimize contamination of the storm water runoff from above ground storage tank areas, including the associated piping and valves. Consider the following (or their equivalents): regular cleanup of these areas; preparation of the spill prevention control and countermeasure program, provide spill and overflow protection; minimizing runoff of storm water from adjacent areas; restricting access to the area; insertion of filters in adjacent catch basins; providing absorbent booms in unbermed fueling areas; using dry cleanup methods; and permanently sealing drains within critical areas that may discharge to a storm drain.
 - c. *Inspections.* (See also Part IV.F.7.b.1) Inspect, at least on a monthly basis, the following activities and areas (at a minimum): transfer and transmission lines; spill prevention; good housekeeping practices; management of process waste products; all structural and non structural management practices.

- d. *Employee Training.* (See also Part IV.F.7.b.1) As part of the employee training program, address, at a minimum, the following activities (as applicable): use of reused / recycling waters; solvents management; proper disposal of dyes; proper disposal of petroleum products and spent lubricants; spill prevention and control; fueling procedures; and general good housekeeping practices.
- e. *Comprehensive Site Compliance Evaluation.* (See also Part IV.L) Conduct regularly scheduled evaluations at least once a year and address those areas contributing to a storm water discharge associated with industrial activity for evidence of, or the potential for, pollutants entering the drainage system. Inspect, at a minimum, as appropriate: storage tank areas; waste disposal and storage areas; dumpsters and open containers stored outside; materials storage areas; engine maintenance and repair areas; material handling areas and loading dock areas.

W. Sector W - Furniture and Fixtures

- 1. Covered Storm Water Discharges. The requirements in Part VI.W apply to storm water discharges associated with industrial activity from Furniture and Fixtures facilities as identified by the Activity Code specified under Sector W in Table 1 of the Appendix.
- 2. Industrial Activities Covered by Sector W. The types of activities that permittees under Sector W are primarily engaged in the manufacturing of:
 - a. wood kitchen cabinets;
 - b. household furniture;
 - c. office furniture;
 - d. public buildings and related furniture;
 - e. partitions, shelving, lockers, and office and store fixtures;
 - f. miscellaneous furniture and fixtures.
- 3. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
 - a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify where any of the following may be exposed to precipitation / surface runoff: material storage (including tanks or other vessels used for liquid or waste storage) areas; outdoor material processing areas; areas where wastes are treated, stored or disposed; access roads; and rail spurs.

X. Sector X - Printing and Publishing.

- 1. Covered Storm Water Discharges. The requirements in Part VI.X apply to storm water discharges associated with industrial activity from Printing and Publishing facilities as identified by the Activity Code specified under Sector X in Table 1 of the Appendix.
- 2. Industrial Activities Covered by Sector X. The types of activities that permittees under Sector X are primarily engaged in are:
 - a. book printing;
 - b. commercial printing and lithographics;
 - c. plate making and related services;
 - d. commercial printing, gravure;

- e. commercial printing not elsewhere classified.
3. Storm Water Pollution Prevention Plan Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
- a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify where any of the following may be exposed to precipitation / surface runoff: above ground storage tanks, drums and barrel permanently stored outside.
 - b. *Potential Pollutant Sources.* (See also Part IV.F.4) Describe the following additional sources and activities that have potential pollutants associated with them, as applicable: loading and unloading operations; outdoor storage activities; significant dust or particulate generating processes; and onsite waste disposal practices (e.g., blanket wash). Also identify the pollutant or pollutant parameter (e.g., oil and grease, scrap metal, etc.) associated with each pollutant source.
 - c. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1)
 - 1. Material Storage Areas. Plainly label and store all containerized materials (e.g., skids, pallets, solvents, bulk inks, and hazardous waste, empty drums, portable/mobile containers of plant debris, wood crates, steel racks, fuel oil, etc.) in a protected area, away from drains. Describe and implement measures that prevent or minimize contamination of the storm water runoff from such storage areas, including a description of the containment area or enclosure for those materials stored outdoors. Also consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances.
 - 2. Material Handling Area. Describe and implement measures that prevent or minimize contamination of storm water runoff from material handling operations and areas (e.g., blanket wash, mixing solvents, loading / unloading materials). Consider the following (or their equivalents): use of spill / overflow protection; covering fueling areas; and covering / enclosing areas where the transfer of materials may occur. Where applicable address the replacement or repair of leaking connections, valves, transfer lines and pipes that may carry chemicals or wastewater.
 - 3. Fueling Areas. Describe and implement measures that prevent or minimize contamination of storm water runoff from fueling areas. Consider the following (or their equivalents): covering the fueling area, using spill and overflow protection, minimizing runoff of storm water to the fueling areas, using dry cleanup methods, and treating and / or recycling storm water runoff collected from the fueling area.
 - 4. Above Ground Storage Tank Area. Describe and implement measures that prevent or minimize contamination of the storm water runoff from above ground storage tank areas, including the associated piping and valves. Consider the following (or their equivalents): regular cleanup of these areas; preparation of the spill prevention control and countermeasure program, provide spill and overflow protection; minimizing runoff of storm water from adjacent areas; restricting access to the area; insertion of filters in adjacent catch basins; providing absorbent booms in unbermed fueling areas; using dry cleanup methods; and permanently sealing drains within critical areas that may discharge to a storm drain.
 - d. *Employee Training.* (See also Part IV.F.7.b.1) As part of the employee training program, address, at a minimum, the following activities (as applicable): spent solvent management; spill prevention and control; used oil management; fueling procedures; and general good housekeeping practices.

Y. Sector Y -Rubber, Miscellaneous Plastic Products and Miscellaneous Manufacturing Industries

1. Covered Storm Water Discharges. The requirements in Part VI.Y apply to storm water discharges associated with industrial activity from Rubber, Miscellaneous Plastic Products and Miscellaneous Manufacturing Industries facilities as identified by the Activity Code specified under Sector Y in Table 1 of the Appendix.

2. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
 - a. *Potential Pollutant Sources.* (See also Part IV.F.4) Review the use of zinc at the facility and the possible pathways through which zinc may be discharged in storm water runoff.

 - b. *Controls for Rubber Manufacturers.* (See also Part IV.F.7) Describe and implement specific controls to minimize the discharge of zinc in the storm water discharges. Parts VI.Y.2.b.1 to VI.Y.2.b.5 give possible sources of zinc to be reviewed and list some specific BMPs to be considered for implementation (or their equivalents). Some general BMP options to consider: using chemicals which are purchased in pre-weighed, sealed polyethylene bags; storing materials which are in use in sealable containers; ensuring an airspace between the container and the cover to minimize "puffing" losses when the container is opened; and using automatic dispensing and weighing equipment.
 1. Inadequate Housekeeping. Review the handling and storage of zinc bags at the facility. BMP options: employee training on the handling / storage of zinc bags; indoor storage of zinc bags; cleanup zinc spills without washing the zinc into the storm drain, and the use of 2,500-pound sacks of zinc rather than 50- to 100-pound sacks;
 2. Dumpsters. Reduce discharges of zinc from dumpsters. BMP options: covering the dumpster; moving the dumpster indoors; or provide a lining for the dumpster.
 3. Malfunctioning Dust Collectors or Baghouses: Review dust collectors / baghouses as possible sources in zinc in storm water runoff. Replace or repair, as appropriate, improperly operating dust collectors / baghouses
 4. *Grinding Operations.* Review dust generation from rubber grinding operations and, as appropriate, install a dust collection system.
 5. Zinc Stearate Coating Operations. Detail appropriate measures to prevent or clean up drips / spills of zinc stearate slurry that may be released to the storm drain. BMP option: using alternate compounds to zinc stearate.

 - c. *Controls for Plastic Products Manufacturers.* Describe and implement specific controls to minimize the discharge of plastic resin pellets in the storm water discharges. BMPs to be considered for implementation (or their equivalents): minimizing spills; cleaning up of spills promptly and thoroughly; sweeping thoroughly; pellet capturing; employee education and disposal precautions.

3. Monitoring and Reporting Requirements. (See also Part 5)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table Y-1.

TABLE Y-1: RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES- SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING				
SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
3011	Tires and Inner Tubes	Tot Rec Zinc	0.117 mg/L	

**TABLE Y-1: RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES-
SECTOR SPECIFIC NUMERIC LIMITATIONS AND BENCHMARK MONITORING**

SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
3021	Rubber and Plastic Footwear			
3052, 3053	Gaskets, Packing and Sealing Devices and Rubber Hose and Belting			
3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified			

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

Z. Sector Z - Leather Tanning and Finishing.

1. Covered Storm Water Discharges. The requirements in Part VI.Z apply to storm water discharges associated with industrial activity from Leather Tanning and Finishing facilities as identified by the Activity Code specified under Sector Z in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector Z. The types of activities that permittees under Sector Z are primarily engaged are leather tanning, curry and finishing;
3. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
 - a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify where any of the following may be exposed to precipitation / surface runoff: processing and storage areas of the beamhouse, tanyard, and re-tan wet finishing and dry finishing operations; and haul roads, access roads and rail spurs.
 - b. *Potential Pollutant Sources.* (See also Part IV.F.4) At a minimum, describe the following additional sources and activities that have potential pollutants associated with them (as appropriate): temporary or permanent storage of fresh and brine cured hides; extraneous hide substances and hair; leather dust, scraps, trimmings and shavings; chemical drums, bags, containers and above ground tanks; empty chemical containers and bags; spent solvents; floor sweepings / washings; refuse, waste piles and sludge; and significant dust / particulate generating processes (e.g., buffing).
 - c. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1)
 1. Storage Areas for Raw, Semiprocessed or Finished Tannery Byproducts. Pallets/ bales of raw, semiprocessed or finished tannery byproducts (e.g., splits, trimmings, shavings, etc.) should be stored indoors or protected by polyethylene wrapping, tarpaulins, roofed storage, etc. Consider placing materials on an impermeable surface, and enclosing or putting berms (or equivalent measures) around the area to prevent storm water runoff.
 2. Material Storage Areas. Label storage containers of all materials (e.g., specific chemicals, hazardous materials, spent solvents, waste materials). Describe and implement measures that prevent / minimize contact with storm water.
 3. Buffing and Shaving Areas. Describe and implement measures that prevent or minimize contamination of storm water runoff with leather dust from buffing/ shaving areas. Consider dust collection enclosures, preventive inspection/ maintenance programs or other appropriate preventive measures.
 4. Receiving, Unloading, and Storage Areas. Describe and implement measures that prevent or minimize contamination of storm water runoff from receiving, unloading, and storage areas. If these areas are exposed, consider (or their equivalent): covering all

hides and chemical supplies; diverting drainage to the process sewer; or grade berming / curbing area to prevent runoff of storm water.

5. Outdoor Storage of Contaminated Equipment. Describe and implement measures that prevent or minimize contact of storm water with contaminated equipment. Consider (or their equivalent): covering equipment; diverting drainage to the process sewer; and cleaning thoroughly prior to storage.
6. Waste Management. Describe and implement measures that prevent or minimize contamination of storm water runoff from waste storage areas. Consider (or their equivalent): inspection / maintenance programs for leaking containers or spills; covering dumpsters; moving waste management activities indoors; covering waste piles with temporary covering material such as tarpaulins or polyethylene; and minimizing storm water runoff by enclosing the area or building berms around the area.

AA. Sector AA - Fabricated Metal Products.

1. Covered Storm Water Discharges. The requirements in Part VI.AA apply to storm water discharges associated with industrial activity from Fabricated Metal Products facilities as identified by the Activity Code specified under Sector AA in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector AA. The types of activities that permittees under Sector AA are primarily engaged in are:
 - a. fabricated metal products; except for electrical related industries;
 - b. fabricated metal products; except machinery and transportation equipment;
 - c. jewelry, silverware, and plated ware.
3. Storm Water Pollution Prevention Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
 - a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify where any of the following may be exposed to precipitation / surface runoff: raw metal storage areas; finished metal storage areas; scrap disposal collection sites; equipment storage areas; retention and detention basins; temporary / permanent diversion dikes or berms; right-of-way or perimeter diversion devices; sediment traps / barriers; processing areas including outside painting areas; wood preparation; recycling; and raw material storage.
 - b. *Spills and Leaks.* (See also Part IV.F.5) When listing significant spills / leaks, pay attention to the following materials at a minimum: chromium, toluene, pickle liquor, sulfuric acid, zinc and other water priority chemicals and hazardous chemicals and wastes.
 - c. *Potential Pollutant Sources.* (See also Part IV.F.4) Describe the following additional sources and activities that have potential pollutants associated with them: loading and unloading operations for paints, chemicals and raw materials; outdoor storage activities for raw materials, paints, empty containers, corn cob, chemicals, and scrap metals; outdoor manufacturing or processing activities such as grinding, cutting, degreasing, buffing, brazing, etc; onsite waste disposal practices for spent solvents, sludge, pickling baths, shavings, ingots pieces, refuse and waste piles.
 - d. *Good Housekeeping Measures.* (See also Part IV.F.7.b.1)
 1. Raw Steel Handling Storage. Describe and implement measures controlling or recovering scrap metals, fines and iron dust. Include measures for containing materials within storage handling areas.

2. Paints and Painting Equipment. Describe and implement measures to prevent or minimize exposure of paint and painting equipment to storm water.
- e. *Spill Prevention and Response Procedures*. (See also Part IV.F.7.b.1) Ensure the necessary equipment to implement a clean up is available to personnel. The following areas should be addressed:
1. Metal Fabricating Areas. Describe and implement measures for maintaining clean, dry, orderly conditions in these areas. Consider the use of dry clean-up techniques.
 2. Storage Areas for Raw Metal. Describe and implement measures to keep these areas free of condition that could cause spills or leakage of materials. Consider the following (or their equivalents): maintaining storage areas such that there is easy access in the event of a spill; and labeling stored materials to aid in identifying spill contents.
 3. Receiving, Unloading, and Storage Areas. Describe and implement measures to prevent spills and leaks; plan for quick remedial clean up; and instruct employees on clean-up techniques and procedures.
 4. Storage of Equipment. Describe and implement measures for preparing equipment for storage and the proper storage of equipment. Consider the following (or their equivalents): protecting with covers; storing indoors; and cleaning potential pollutants from equipment to be stored outdoors.
 5. Metal Working Fluid Storage Areas. Describe and implement measures for storage of metal working fluids.
 6. Cleaners and Rinse Water. Describe and implement measures: to control / cleanup spills of solvents and other liquid cleaners; control sand buildup and disbursement from sand-blasting operations; and prevent exposure of recyclable wastes. Substitute environmentally-benign cleaners when possible.
 7. Lubricating Oil and Hydraulic Fluid Operations. Consider using monitoring equipment or other devices to detect and control leaks / overflows. Consider installing perimeter controls such as dikes, curbs, grass filter strips or other equivalent measures.
 8. Chemical Storage Areas. Describe and implement proper storage methods that prevent storm water contamination and accidental spillage. Include a program to inspect containers and identify proper disposal methods.
- f. *Inspections*. (See also Part IV.F.7.b.1) Include, at a minimum, the following areas in all inspections: raw metal storage areas; finished product storage areas; material and chemical storage areas; recycling areas; loading and unloading areas; equipment storage areas; paint areas; vehicle fueling and maintenance areas.
- g. *Comprehensive Site Compliance Evaluation*. (See also Part IV.L.2) As part of the evaluation, also inspect: areas associated with the storage of raw metals; storage of spent solvents and chemicals; outdoor paint areas; and drainage from roof. Potential pollutants include chromium, zinc, lubricating oil, solvents, aluminum, oil and grease, methyl ethyl ketone, steel and other related materials.
4. Monitoring and Reporting Requirements. (See also Part V)

The sector-specific numeric limitations and benchmark monitoring, along with frequency and reporting requirements, are listed in Table AA-1.

SIC Code or Activity Code	Subsector (Discharge may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring cutoff concentration*	Numeric Limitation
3411-3471	Fabricated Metal Products Except Machinery and Transportation Equipment	Tot Rec Aluminum Tot Rec Iron Tot Rec Zinc Nitrate plus Nitrite Nitrogen	0.75 mg/L 1.0 mg/L 0.117 mg/L 0.68 mg/L	
3479	Fabricated Metal Coating and Engraving	Tot Rec Zinc Nitrate plus Nitrite Nitrogen	0.117 mg/L 0.68 mg/L	
3482-3499	Ordnance and Accessories and Miscellaneous Fabricated Metal Products	Tot Rec Aluminum Tot Rec Iron Tot Rec Zinc Nitrate plus Nitrite Nitrogen	0.75 mg/L 1.0 mg/L 0.117 mg/L 0.68 mg/L	
3911-3915	Jewelry, Silverware and Plated Ware			

* Monitor once/quarter for the Year 2 and Year 4 monitoring years

AB. Transportation Equipment, Industrial or Commercial Machinery

1. Covered Storm Water Discharges. The requirements in Part VI.AB apply to storm water discharges associated with industrial activity from Transportation Equipment, Industrial or Commercial Machinery facilities as identified by the Activity Code specified under Sector AB in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector AB. The types of activities that permittees under Sector AB are primarily engaged in are:
 - a. Industrial and Commercial Machinery (except Computer and Office Equipment) (see Sector AC) and
 - b. Transportation Equipment (except Ship and Boat Building and Repairing) (see Sector R);
3. Storm Water Pollution Plan (SWPPP) Requirements. In addition to the following requirements, the permittee must also comply with the requirements listed in Part IV.
 - a. *Drainage Area Site Map.* (See also Part IV.F.2.c) Identify where any of the following may be exposed to precipitation / surface runoff: vents and stacks from metal processing and similar operations.
 - b. *Non-Storm Water Discharges.* (See also Part IV.H) If the facility has a separate RIPDES permit (or has applied for a permit) authorizing discharges of wastewater, attach a copy of the permit (or the application) to the SWPPP. Any new wastewater permits issued / reissued to the permittee must then replace the old one in the SWPPP. If the permittee discharges wastewater, other than solely domestic wastewater, to a Publicly Owned Treatment Works (POTW), the permittee must notify the POTW of the discharge (identify the types of wastewater discharged, including any storm water). As proof of this notification, attach to the SWPPP a copy of the permit issued to the facility by the POTW or a copy of the notification to the POTW.

AC. Sector AC - Electronic, Electrical Equipment and Components, Photographic and Optical Goods

1. Covered Storm Water Discharges. The requirements in Part VI.AC apply to storm water discharges associated with industrial activity from facilities that manufacture Electronic, Electrical Equipment and Components, Photographic and Optical Goods as identified by the SIC Codes specified under Sector AC in Table 1 of the Appendix.
2. Industrial Activities Covered by Sector AC. The types of manufacturing activities that permittees under Sector AC are primarily engaged in are:

- a. measuring, analyzing, and controlling instruments;
 - b. photographic, medical and optical goods;
 - c. watches and clocks; and
 - d. computer and office equipment.
3. Additional Requirements. No additional sector-specific requirements apply to this sector.

AD. Storm Water Discharges Designated By the Director As Requiring Permits.

1. Covered Storm Water Discharges. Sector AD is used to provide permit coverage for facilities designated by the Director as needing a storm water permit, or any discharges of industrial activity that do not meet the description of an industrial activity covered by Sectors A-AC. Therefore, almost any type of storm water discharge could be covered under this sector. The permittee must be assigned to Sector AD by the Director and may NOT choose sector AD as the sector describing the activities at the facility.
 - a. *Eligibility for Permit Coverage.* Because this Sector only covers discharges designated by the Director as needing a storm water permit (which is an atypical circumstance) or the facility's industrial activities were inadvertently left out of Sectors A-AC, and the facility may or may not normally be discharging storm water associated with industrial activity, the permittee must obtain the Director's written permission to use this permit prior to submitting a Notice of Intent. If the permittee is authorized to use this permit, the permittee will be required to ensure the discharges meet the basic eligibility provisions of this permit at Part I.B.
2. Storm Water Pollution Prevention Plan (SWPPP) Requirements. The Director will establish any additional Storm Water Pollution Prevention Plan requirements for the facility at the time of accepting the Notice of Intent to be covered by this permit. Additional requirements would be based on the nature of activities at the facility and the storm water discharges.
3. Monitoring and Reporting Requirements. The Director will establish any additional monitoring and reporting requirements for the facility at the time of accepting the Notice of Intent to be covered by this permit. Additional requirements would be based on the nature of activities at the facility and the storm water discharges.

VII. GENERAL REQUIREMENTS

- A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Chapter 46-12 of the Rhode Island General Laws and the CWA and is grounds for enforcement action which may include permit termination, revocation and reissuance, modification, or for the denial of a permit renewal application and the imposition of penalties.
 1. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate this requirement.
 2. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318 or 405 of the CWA or any permit condition or limitation implementing any such sections in a permit issued under Section 402 of the CWA. Any person who violates any condition of this permit is subject to a civil penalty of up to \$25,000 per day of such violation, as well as any other appropriate sanctions provided by Section 309 of the CWA. Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of up to \$10,000 or by imprisonment of not more than two (2) years, or by both.

3. Chapter 46-12 of the Rhode Island General Laws provides that any person who violates a permit condition is subject to a civil penalty of not more than \$25,000 per day of such violation. Any person who willfully or negligently violates a permit condition is subject to a criminal penalty of not more than \$25,000 per day of such violation and imprisonment for not more than five (5) years, or both. Any person who knowingly makes any false statement in connection with the permit is subject to a criminal penalty of not more than \$5,000 for each instance of violation or by imprisonment for not more than thirty (30) days, or both.
- B. Continuation of the Expired General Permit. Provided the permittee has re-applied in accordance with paragraph C below, an expired general permit continues in force and effect until a new general permit is issued. Only those facilities previously authorized to discharge under the expired permit are covered by the continued permit.
- C. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain coverage under a new permit. The permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director.
- D. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- E. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- F. Duty to Provide Information. The permittee shall furnish to the Department, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking, and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall furnish to the Director any copies that are required to be kept as part of this permit.
- G. Signatory Requirements. All Notices of Intent, Storm Water Pollution Prevention Plans, reports, certifications or information either submitted to the Director, or that this permit requires to be maintained by the permittee, shall be signed and certified in accordance with Rule 12 of the RIPDES regulations. Rhode Island General Laws, Chapter 46-12 provides that any person who knowingly makes an false statements, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of up to \$5,000 per violation, or by imprisonment for not more than thirty (30) days per violation, or by both.
- H. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the CWA.
- I. Release in Excess of Reportable Quantities. If a release in excess of reportable quantities occurs, the permittee must notify the Office of Water Resources immediately. This permit does not relieve the permittee of the reporting requirements of 40 CFR 117 and 40 CFR 302. The discharge of hazardous substances in the storm water discharge(s) from a facility shall be minimized in accordance with the applicable storm water pollution prevention plan for the facility, and in no case, during any 24-hour period, shall the discharge(s) contain a hazardous substance equal to or in excess of reportable quantities.
- J. Property Rights. The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.
- K. Severability. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such

provision to other circumstances and the remainder of this permit shall not be affected thereby.

- L. Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require the operator to apply for and obtain an individual RIDES permit as stated in Part VII.T. of this permit.
- M. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law.
- N. Proper Operations and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operations of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.
- O. Monitoring and Records
 - 1. Samples and measurements taken for the purpose of monitoring shall be representative of the volume and nature of the discharge over the sampling and reporting period.
 - 2. The permittee shall retain records of all monitoring including all calibration and maintenance records and all original strip chart recordings from continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five (5) years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.
 - 3. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
 - 4. Monitoring must be conducted according to test procedures approved under 40 CFR 136 and applicable Rhode Island regulations, unless other test procedures have been specified in this permit.
 - 5. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall upon conviction, be punished by a fine of up to \$10,000 per violation or by imprisonment for not more than six months per violation, or by both. Chapter 46-12 of the Rhode Island General Laws also provides that such acts are subject to a fine of up to \$5,000 per violation, or by imprisonment for not more than thirty (30) days per violation, or by both.
 - 6. Monitoring results must be reported on a Discharge Monitoring Report (DMR).
 - 7. If the permittee monitors any pollutants more frequently than required by this permit, using test procedures approved under 40 CFR 136, applicable State regulations, or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
- P. Bypass of Storm Water Control Facilities

1. *Anticipated Bypass.* If the permittee knows in advance of the need for a bypass, he or she shall notify this Department in writing at least ten days prior to the date of the bypass. Such notice shall include the anticipated quantity and the anticipated effect of the bypass.
2. *Unanticipated Bypass.* The permittee shall submit notice of an unanticipated bypass. Any information regarding the unanticipated bypass shall be provided orally within twenty-four hours from the time the permittee became aware of the circumstances. A written submission shall also be provided within five (5) days of the time the permittee became aware of the bypass. The written submission shall contain a description of the bypass and its cause; the period of the bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent reoccurrence of the bypass.
3. *Prohibition of Bypass.*
 - a. Bypass is prohibited and enforcement action against the permittee may be taken for the bypass unless:
 - i. The bypass was unavoidable to prevent loss of life, personal injury or severe property damage;
 - ii. There was no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee should, in the exercise of reasonable engineering judgement, have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - iii. The permittee submitted notices as required in paragraphs V.P.1. and V.P.2. above.
 - b. The Director may approve an anticipated bypass after considering its adverse effects, if the Director determines that it will meet the three conditions of paragraph P.3.a, above.

Q. Upset Conditions

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit limitations if the requirements of Part V.Q.2. below are met. No determination made during administrative review of claims that non-compliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
2. A permittee who wishes to establish an affirmative defense of an upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence, that:
 - a. An upset occurred and the permittee can identify the specific causes(s) of the upset;
 - b. The permittee facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required in Rule 14.08 of the RIPDES Regulations; and
 - d. The permittee complied with any remedial measures required under Rule 14.05 of the RIPDES Regulations.
3. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

R. Inspection and Entry. The permittee shall allow the Director or an authorized representative of DEM, upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times; any records that must be kept under the conditions

- of this permit;
3. Inspect at reasonable times any facilities, equipment, or operations regulated or required under this permit; and
 4. Sample or monitor any substances or parameters at any location, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA or Rhode Island General Law.
- S. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause, including but not limited to: violation of any terms or conditions of this permit; obtaining the permit by misrepresentation or failure to disclose all relevant facts; or a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- T. Requiring an Individual Permit or an Alternative General Permit
1. The Director of the Department of Environmental Management (DEM) may require any owner or operator authorized to discharge storm water under this permit to apply for and obtain either an individual or an alternative RIPDES general permit. Any interested person may petition the Director to take action under this paragraph. The Director may determine at his or her own discretion that an individual or an alternative general permit is required.
 2. Any owner or operator authorized to discharge storm water by this permit may request to be excluded from coverage of this permit by applying for an individual permit or participating in an applicable group permit. The owner or operator shall submit an individual application (Form 1 and Form 2F) with reasons supporting the request, or participate in a group application in accordance with the requirements of 40 CFR 122.26, to the Director. The request may be granted by issuance of an individual permit or an alternative general permit, if the reasons cited by the owner or operator are adequate to support the request. The Director shall notify the permittee within a timely fashion as to whether or not the request has been granted.
 3. If a facility requests or is required to obtain coverage under an individual or an alternative general permit, then authorization to discharge storm water under this permit shall automatically be terminated on the date of issuance of the individual or the alternative general permit. Until such time as an alternative permit is issued, the existing general permit remains fully in force.
- U. Reopener Clause. The Director reserves the right to make appropriate revisions to this permit in order to incorporate any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the CWA or State Law. In accordance with Rule 15 and 23 of the RIPDES Regulations, if any effluent standard or prohibition, or water quality standard is promulgated under the CWA or under State Law which is more stringent than any limitation on the pollutants limited in this permit, or controls pollutants not limited in the permit; then the Director may promptly reopen the permit and modify or revoke and reissue the permit to conform to the applicable standard.
- V. Availability of Reports. Except for data determined to be confidential under Part V.W. below, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the DEM at 235 Promenade Street, Providence Rhode Island. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA and under section 46-12-14 of the Rhode Island General Laws.
- W. Confidentiality of Information
1. Any information submitted to DEM pursuant to these regulations may be claimed as confidential by the submitter, consistent with Rhode Island General Law 38-2-2. Any such claim must be asserted at the time of the submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, DEM may make the information available to the public without further notice.

2. Claims of confidentiality for the following information will be denied:

- a. The name and address of any permit application or permittee;
- b. Permit applications, permits and any attachments thereto; and
- c. RIPDES effluent data.

X. Right to Appeal. Within thirty (30) days of receipt of notice of final authorization, the permittee or any interested person may submit a request to the Director for an adjudicatory hearing to appeal the decision to be covered under the general permit. The request for a hearing must conform to the requirements of Rule 49 of the RIPDES Regulations.

APPENDIX

TABLE 1 - SECTORS OF INDUSTRIAL ACTIVITY COVERED BY THIS PERMIT 78

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TABLE 1 - SECTORS OF INDUSTRIAL ACTIVITY COVERED BY THIS PERMIT

SIC Code or Activity Code ²	Activity Represented
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Sector A: Timber Products

2411	Log Storage and Handling (Wet deck storage areas only authorized if no chemical additives are used in the spray water or applied to the logs.
2421	General Sawmills and Planning Mills.
2426	Hardwood Dimension and Flooring Mills.
2429	Special Product Sawmills, Not Elsewhere Classified.
2431-2439 (except 2434)	Millwork, Veneer, Plywood, and Structural Wood (see Sector W).
2441, 2449	Wood Containers.
2451, 2452	Wood Buildings and Mobile Homes.
2491	Wood Preserving.
2493	Reconstituted Wood Products.
2499	Wood Products, Not Elsewhere Classified.

Sector B: Paper and Allied Products

2611	Pulp Mills.
2621	Paper Mills.
2631	Paperboard Mills.
2652-2657	Paperboard Containers and Boxes.
2671-2679	Converted Paper and Paperboard Products, Except Containers and Boxes.

Sector C: Chemical and Allied Products

2812-2819	Industrial Inorganic Chemicals.
2821-2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass.
2833-2836	Medicinal chemicals and botanical products; pharmaceutical preparations; in vitro and in vivo diagnostic substances; biological products, except diagnostic substances.
2841-2844	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations.
2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products.
2861-2869	Industrial Organic Chemicals.
2873-2879	Agricultural Chemicals.
2873	Facilities that Make Fertilizer Solely from Leather Scraps and Leather Dust.
2891-2899	Miscellaneous Chemical Products.
3952 (limited to list)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Artist's Watercolors.

Sector D: Asphalt Paving and Roofing Materials and Lubricants

2951, 2952	Asphalt Paving and Roofing Materials.
2992, 2999	Miscellaneous Products of Petroleum and Coal.

Sector E: Glass, Clay, Cement, Concrete, and Gypsum Products

3211	Flat Glass.
3221, 3229	Glass and Glassware, Pressed or Blown.
3231	Glass Products Made of Purchased Glass.
3241	Hydraulic Cement.
3251-3259	Structural Clay Products.
3261-3269	Pottery and Related Products.
3271-3275	Concrete, Gypsum and Plaster Products.
3291-3299	Abrasive, Asbestos, and Miscellaneous Nonmetallic Mineral Product.

Sector F: Primary Metals

3312-3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills.
3321-3325	Iron and Steel Foundries.
3331-3339	Primary Smelting and Refining of Nonferrous Metals.
3341	Secondary Smelting and Refining of Nonferrous Metals.
3351-3357	Rolling, Drawing, and Extruding of Nonferrous Metals.
3363-3369	Nonferrous Foundries (Castings).
3398, 3399	Miscellaneous Primary Metal Products.

Sector G: Metal Mining (Ore Mining and Dressing)

1011	Iron Ores.
1021	Copper Ores.
1031	Lead and Zinc Ores.
1041, 1044	Gold and Silver Ores.
1061	Ferroalloy Ores, Except Vanadium.
1081	Metal Mining Services.
1094, 1099	Miscellaneous Metal Ores.

Sector H: Coal Mines and Coal Mining Related Facilities

1221-1241	Coal Mines and Coal Mining-Related Facilities.
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Sector I: Oil and Gas Extraction and Refining

1311	Crude Petroleum and Natural Gas.
1321	Natural Gas Liquids.
1381-1389	Oil and Gas Field Services.
2911	Petroleum Refineries.

Sector J: Mineral Mining and Dressing

1411	Dimension Stone.
1422-1429	Crushed and Broken Stone, Including Rip Rap.
1442, 1446	Sand and Gravel.
1455, 1459	Clay, Ceramic, and Refractory Materials.
1474-1479	Chemical and Fertilizer Mineral Mining.
1481	Nonmetallic Minerals, Except Fuels.
1499	Miscellaneous Nonmetallic Minerals, Except Fuels.

Sector K: Hazardous Waste Treatment, Storage, or Disposal Facilities

HZ	Hazardous Waste Treatment Storage or Disposal.
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Sector L: Landfills and Land Application Sites

LF	Landfills, Land Application Sites, and Open Dumps.
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Sector M: Automobile Salvage Yards

5015	Automobile Salvage Yards.
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Sector N: Scrap Recycling Facilities

5093	Scrap Recycling Facilities.
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Sector O: Steam Electric Generating Facilities

SE	Steam Electric Generating Facilities.
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Sector P: Land Transportation and Warehousing

4011, 4013	Railroad Transportation.
4111-4173	Local and Highway Passenger Transportation.
4212-4231	Motor Freight Transportation and Warehousing.
4311	United States Postal Service.
5171	Petroleum Bulk Stations and Terminals.

Sector Q: Water Transportation

4412-4499	Water Transportation.
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Sector R: Ship and Boat Building or Repairing Yards

3731, 3732	Ship and Boat Building or Repairing Yards.
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Sector S: Air Transportation

4512-4581	Air Transportation Facilities
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Sector T: Treatment Works

TW	Treatment Works.
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Sector U: Food and Kindred Products

2011	Meat Products.
2021-2026	Dairy Products.
2032-2038	Canned, Frozen and Preserved Fruits, Vegetables and Food Specialties.
2041-2048	Grain Mill Products.
2051-2053	Bakery Products.
2061-2068	Sugar and Confectionery Products.
2074-2079	Fats and Oils.
2082-2087	Beverages.
2091-2099	Miscellaneous Food Preparations and Kindred Products.
2111-2141	Tobacco Products.

Sector V: Textile Mills, Apparel, and Other Fabric Product Manufacturing, Leather and Leather Products

2211-2299	Textile Mill Products
2311-2399	Apparel and Other Finished Products Made From Fabrics and Similar Materials.
3131-3199 (except 3111)	Leather and Leather Products, except Leather Tanning and Finishing (see Sector Z).

Sector W: Furniture and Fixtures

2434	Wood Kitchen Cabinets.
2511-2599	Furniture and Fixtures

Sector X: Printing and Publishing

2711-2796	Printing, Publishing, and Allied Industries.
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Sector Y: Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries

3011	Tires and Inner Tubes.
3021	Rubber and Plastics Footwear.
3052, 3053	Gaskets, Packing, and Sealing Devices and Rubber and Plastics Hose and Belting.
3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified.
3081-3089	Miscellaneous Plastics Products.
3931	Musical Instruments.
3942-3949	Dolls, Toys, Games and Sporting and Athletic Goods.
3951-3955 (except 3952 facilities as specified in Sector C)	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal.
3991-3999	Miscellaneous Manufacturing Industries.

Sector Z: Leather Tanning and Finishing

3111	Leather Tanning and Finishing
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Sector AA: Fabricated Metal Products

3411-3499	Fabricated Metal Products, Except Machinery and Transportation Equipment.
3911-3915	Jewelry, Silverware, and Plated Ware.

Sector AB: Transportation Equipment, Industrial or Commercial Machinery

3571-3599 (except 3571-3599)	Industrial and Commercial Machinery (except Computer and Office Equipment) (see Sector AC).
3711-3799 (except 3731, 3732)	Transportation Equipment (except Ship and Boat Building and Repairing) (see Sector R).

Sector AC: Electronic, Electrical, Photographic, and Optical Goods

3571-3579	Computer and Office Equipment.
3612-3699	Electronic, Electrical Equipment and Components, except Computer Equipment.
3812-3873	Measuring, Analyzing and Controlling Instrument; Photographic and Optical Goods.

Sector AD: Non-Classified Facilities

N/A	Facility discharging storm water associated with industrial activity not described by any of Sectors A-AC. Note: Facilities may not elect to be covered under Sector AD. Only the Director may assign a facility to Sector AD.
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¹ A complete list of SIC codes (and conversions from the newer North American Industry Classification System (NAICS)) can be obtained from the Internet at <http://www.census.gov/epcd/www/naics.html> or in paper form from various locations in the document entitled "Handbook of Standard Industrial Classifications," Office of Management and Budget, 1987. Industrial activity codes are provided on the Multi-Sector General Permit Notice of Intent (NOI) application form (EPA Form Number 3510-6).

**TABLE 2 – EFFLUENT GUIDELINES APPLICABLE TO DISCHARGES
THAT MAY BE ELIGIBLE FOR PERMIT COVERAGE**

Effluent Guideline	New source performance standards included in effluent guidelines?	Sectors with Affected Facilities
Runoff from material storage piles at cement manufacturing facilities [40 CFR Part 411 Subpart C (established February 23, 1977)].	Yes	E
Contaminated runoff from phosphate fertilizer manufacturing facilities [40 CFR Part 418 Subpart A (established April 8, 1974)].	Yes	C
Coal pile runoff at steam electric generating facilities [40 CFR Part 423 (established November 19, 1982)].	Yes	O
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas [40 CFR Part 429, Subpart I (established January 26, 1981)].	Yes	A
Mine dewatering discharges at crushed stone mines [40 CFR Part 436, Subpart B].	No	J
Mine dewatering discharges at construction sand and gravel mines [40 CFR Part 436, Subpart C].	No	J
Mine dewatering discharges at industrial sand mines [40 CFR Part 436, Subpart D].	No	J
Runoff from asphalt emulsion facilities [40 CFR Part 443, Subpart A (established July 24, 1975)].	Yes	D
Runoff from landfills, [40 CFR Part 445, Subparts A and B (established February 2, 2000)].	Yes	K & L

TABLE 3 – INDUSTRY SECTORS/SUB-SECTORS SUBJECT TO BENCHMARK MONITORING

MSGP Sector ³	Industry Sub-Sector	Required Parameters for Benchmark Monitoring
A	General Sawmills and Planning Mills	COD, TSS, Zinc.
	Wood Preserving Facilities	Arsenic, Copper.
	Log Storage and Handling	TSS.
	Hardwood Dimension and Flooring Mills	COD, TSS.
B	Paperboard Mills	COD.
C	Industrial Inorganic Chemicals	Aluminum, Iron, Nitrate + Nitrite N.
	Plastics, Synthetic Resins, etc.	Zinc.
	Soaps, Detergents, Cosmetics, Perfumes	Nitrate + Nitrite N, Zinc.
	Agricultural Chemicals	Nitrate + Nitrite N, Lead, Iron, Zinc, Phosphorus.
D	Asphalt Paving and Roofing Materials	TSS.
E	Clay Products	Aluminum.
	Concrete Products	TSS, Iron.
F	Steel Works, Blast Furnaces, and Rolling and Finishing Mills.	Aluminum, Zinc.
	Iron and Steel Foundries	Aluminum, TSS, Copper, Iron, Zinc.
	Non-Ferrous Rolling and Drawing	Copper, Zinc.
	Non-Ferrous Foundries (Castings)	Copper, Zinc.
G ⁴	Copper Ore Mining and Dressing	COD, TSS, Nitrate + Nitrite N
H	Coal Mines and coal-Mining Related Facilities....	TSS, Aluminum, Iron
J	Dimension Stone, Crushed Stone, and Nonmetallic Minerals (except fuels)	TSS.
	Sand and Gravel Mining	Nitrate + Nitrite N, TSS.
K	Hazardous Waste Treatment Storage or Disposal	Ammonia, Magnesium, COD, Arsenic, Cadmium, Cyanide, Lead, Mercury, Selenium, Silver.
L	Landfills, Land Application Sites, and Open Dumps	Iron, TSS.
M	Automobile Salvage Yards	TSS, Aluminum, Iron, Lead.
N	Scrap Recycling and Waste Recycling Facilities	Copper, Aluminum, Iron, Lead, Zinc, TSS, COD.
O	Steam Electric Generating Facilities	Iron.
Q	Water Transportation Facilities	Aluminum, Iron, Lead, Zinc.
S	Airports with Deicing Activities ⁵	BOD, COD, Ammonia, pH.
U	Grain Mill Products	TSS.
	Fats and Oils	BOD, COD, Nitrate + Nitrite N, TSS.
Y	Rubber Products	Zinc.
AA	Fabricated Metal Products Except Coating	Iron, Aluminum, Zinc, Nitrate + Nitrite N.
	Fabricated Metal Coating and Engraving	Zinc, Nitrate + Nitrite N.

TABLE 4 – NUMERIC LIMITATIONS FOR COAL PILE RUNOFF

Parameter	Limit	Monitoring Frequency	Sample Type
Total Suspended Solids (TSS)	50 mg/L, max	1/year	Grab.
pH	6.0-9.0 min. and max	1/year	Grab.

³ Table does not include parameters for compliance monitoring under effluent limitations guidelines.

⁴ See Sector G (Part 6.G) for additional monitoring discharges from waste rock and overburden piles from active ore mining or dressing facilities.

⁵ Monitoring requirement is for airports with deicing activities that utilize more than 100 tons of urea or more than 10,000 gallons of ethylene glycol per year.

Appendix D
Industrial Activity MSGP Notice of Intent



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

Dear Applicant:

Section 46-12-15(b) of the Rhode Island General laws of 1956, Title 46, Chapter 12 entitled Water Pollution, as amended, prohibits the discharge of pollutants into waters of the State. The only exceptions are discharges in compliance with the terms and conditions of a Rhode Island Pollutant Discharge Elimination System (RIPDES) Permit issued in accordance with State Regulations.

Rule 31 of the RIPDES Regulation, as amended on February 5, 2003, requires all discharges of Storm Water Associated with Industrial Activity to obtain a RIDPES permit. To be covered by the Multi-Sector General Permit for Storm Water Discharge Associated with Industrial Activity issued in March 2006, applicants must complete a Notice of Intent (NOI) Form. Enclosed with this letter is a copy of the NOI Form. Provided all required information is submitted and it is determined that a general permit is appropriate for the site, a letter of authorization to discharge will be sent from the Office Water Resources (OWR).

A non-refundable application fee of \$400 is due at the time the NOI is submitted to this office in the form of a check or money order, payable to the General Treasurer of the State of Rhode Island. Note: this fee is required only if both a NOI **and** a SWPPP are required to be submitted. The review for completeness of the application will not be made until the fee is paid. The check or money order and the attached Application(s) Fee Form (also available online at: <http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/pdfs/apfeenew.pdf>) must be submitted to:

Department of Environmental Management
Office of Management Services
235 Promenade Street
Providence, RI 02908

Return the completed NOI form to:

Department of Environmental Management
Office of Water Resources
RIPDES Program
235 Promenade Street
Providence, RI 02908

Any questions about the General Permit or the NOI Form should be directed to the RIPDES Program Staff, Permitting Section at (401) 222-4700 ext. 7605 or 7726.

Sincerely,

Eric A. Beck, P.E.
Supervising Sanitary Engineer



RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Office of Water Resources

DEM USE ONLY

Date NOI Received _____

Date Fee Received _____

RIPDES# RIR _____

RI POLLUTANT DISCHARGE ELIMINATION SYSTEM (RIPDES)
NOTICE OF INTENT (NOI)
FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL
ACTIVITY UNDER THE RIPDES MULTI-SECTOR GENERAL PERMIT
(Revised 03/06)

MARK ONLY ONE ITEM:

- Existing RIPDES Authorization No. RIR _____ New Permittee (after 3/19/2004)
- Previous EPA Group Applicant

I. OWNER

Name: ACR Realty, LLC			
Mailing Address: 15 Branch Pike			
City: Smithfield	State: RI	Zip: 02917	Phone: (401) 232-2040
Fax: ()	E-mail Address:		
Contact Person: Antonio Ramos	Title: Sole Member		
Ownership (please circle one):			
<u>PRI- Private</u>	PUB-Public	BPP-Public/Private	STA-State FED-Federal Other _____

II. OPERATOR (If Different from Owner)

Name: Rhode Island Recycled Metals (RIRM)			
Mailing Address: 434 Allens Avenue			
City: Providence	State: RI	Zip: 02903	Phone: (617) 293-8700
Contact Person: Edward Sciaba, Jr.	Title: Operator		
Ownership (please circle one):			
<u>PRI- Private</u>	PUB-Public	BPP-Public/Private	STA-State FED-Federal Other _____

III. FACILITY INFORMATION

Facility Name: Rhode Island Recycled Metals (RIRM)			
Street Address: 434 Allens Avenue			
City: Providence	State: RI	Zip: 02903	Phone: (617)293-8700
Latitude (to nearest 15 sec.) 41 Deg. 48 Min. 08 Sec.		Longitude (to nearest 15 sec.) 71 Deg. 24 Min. 01 Sec.	
Total Area of Site 5.80 Acres	Total Area of Impervious Surface 3.60 Acres	Runoff Coefficient: 95	
Existing Quantitative Data <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Number of Outfalls 1	
Existing storm water management controls:			
<input checked="" type="checkbox"/> Oil/Water Separator	<input checked="" type="checkbox"/> Berms	<input checked="" type="checkbox"/> Containment	<input checked="" type="checkbox"/> Overhead Coverage
<input checked="" type="checkbox"/> Retention Facilities	<input type="checkbox"/> Chemical Treatment	<input type="checkbox"/> Leachate Collection	<input checked="" type="checkbox"/> Recycling
<input checked="" type="checkbox"/> Other (please specify): Roughing sand filter			

IV. RECEIVING WATER INFORMATION

<input checked="" type="checkbox"/> Surface Water Body	Name: Providence River to Narragansett Bay
<input type="checkbox"/> Separate Storm Sewer System	MS4 Owner/Operator: N/A
Ultimate Receiving Water: N/A	
Watershed Code: 7	Name of Watershed: Narragansett

V. NATURAL HERITAGE AREA (NHA) INFORMATION

Is the site within or directly discharging to a Natural Heritage Area (NHA)?	
<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

VI. INDUSTRIAL ACTIVITY INFORMATION

Provide the 4-digit Standard Industrial Classification (SIC) codes or the 2-letter Activity Codes that best represent the principal products produced or services rendered by your facility and major co-located activities:					
Primary 5 0 9 3	Secondary (if applicable) _____				
Applicable sector(s) of industrial activity, as designated in Part I.B.1 of the MSGP, that include associated discharges that you seek to have covered under this permit (choose up to 3):					
<input type="checkbox"/> Sector A	<input type="checkbox"/> Sector F	<input type="checkbox"/> Sector K	<input type="checkbox"/> Sector P	<input type="checkbox"/> Sector U	<input type="checkbox"/> Sector Z
<input type="checkbox"/> Sector B	<input type="checkbox"/> Sector G	<input type="checkbox"/> Sector L	<input type="checkbox"/> Sector Q	<input type="checkbox"/> Sector V	<input type="checkbox"/> Sector AA
<input type="checkbox"/> Sector C	<input type="checkbox"/> Sector H	<input type="checkbox"/> Sector M	<input type="checkbox"/> Sector R	<input type="checkbox"/> Sector W	<input type="checkbox"/> Sector AB
<input type="checkbox"/> Sector D	<input type="checkbox"/> Sector I	<input checked="" type="checkbox"/> Sector N	<input type="checkbox"/> Sector S	<input type="checkbox"/> Sector X	<input type="checkbox"/> Sector AC
<input type="checkbox"/> Sector E	<input type="checkbox"/> Sector J	<input type="checkbox"/> Sector O	<input type="checkbox"/> Sector T	<input type="checkbox"/> Sector Y	<input type="checkbox"/> Sector AD

VII. REGULATORY INFORMATION

<input type="checkbox"/> RCRA Permit # N/A	<input type="checkbox"/> RIPDES Permit # N/A
<input type="checkbox"/> Subject to Categorical Effluent Guidelines (Table 2)	<input checked="" type="checkbox"/> Presence of Pollutants listed in Tables 5-8 *Pollutants circled on attached list
<input checked="" type="checkbox"/> Subject to Monitoring of Benchmarks (Table 3)	

VIII. OWNER/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, I certify that 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 General Permit.

I further certify that a copy of this Notice of Intent (NOI) was submitted and received by the appropriate MS4 Operator* on the date of N/A 20 .

OWNER:

Print Name ACR Realty, LLC

Print Title Antonio Ramos, Sole Member

Signature  Date _____

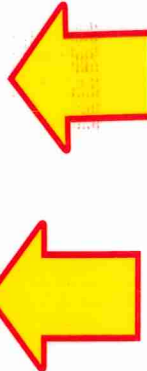
OPERATOR:

Print Name Rhode Island Recycled Metals

Print Title Edward Sciaba, Jr.

Signature _____ Date _____

* Refer to RIDEM website for Contact List of stormwater coordinators for each Municipality and RIDOT:
<http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/index.htm>




IX. SWPPP DEVELOPMENT CERTIFICATION

Note: This section needs to be filled out for discharges of storm water associated with industrial activity which were previously accepted as part of the group application process or were authorized under the 2003 General Permit for Storm Water Discharge Associated with Industrial Activity. (All others must prepare and submit a SWPPP for review as per the permit requirements.) The purpose of this certification is to document that a site specific SWPPP was prepared consistent with the requirements of the General Permit prior to filing the NOI. This certification does not alleviate or in any way limit the liability and sole responsibility of the Owner/Operator to properly implement the SWPPP and to amend the SWPPP as may be required.

I certify under penalty of law that a site specific SWPPP was 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 implementing the SWPPP, the SWPPP is, to the best of my knowledge and belief, true, accurate, and complete at the time this certification is made and has been developed in accordance to the requirements of the Permit. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name David A. Harrington, P.E.

Print Title Senior Civil Engineer

Signature  Date 12/28/12

VIII. OWNER/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, I certify that 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 General Permit.

I further certify that a copy of this Notice of Intent (NOI) was submitted and received by the appropriate MS4 Operator* on the date of N/A 20__.

OWNER:

Print Name ACR Realty, LLC

Print Title Antonio Ramos, Sole Member

Signature  Date _____

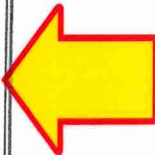
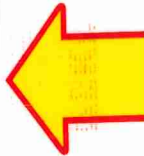
OPERATOR:

Print Name Rhode Island Recycled Metals

Print Title Edward Sciaba, Jr.

Signature _____ Date _____

* Refer to RIDEM website for Contact List of stormwater coordinators for each Municipality and RIDOT:
<http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/index.htm>



IX. SWPPP DEVELOPMENT CERTIFICATION

Note: This section needs to be filled out for discharges of storm water associated with industrial activity which were previously accepted as part of the group application process or were authorized under the 2003 General Permit for Storm Water Discharge Associated with Industrial Activity. (All others must prepare and submit a SWPPP for review as per the permit requirements.) The purpose of this certification is to document that a site specific SWPPP was prepared consistent with the requirements of the General Permit prior to filing the NOI. This certification does not alleviate or in any way limit the liability and sole responsibility of the Owner/Operator to properly implement the SWPPP and to amend the SWPPP as may be required.

I certify under penalty of law that a site specific SWPPP was 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 implementing the SWPPP, the SWPPP is, to the best of my knowledge and belief, true, accurate, and complete at the time this certification is made and has been developed in accordance to the requirements of the Permit. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name David A. Harrington, P.E.

Print Title Senior Civil Engineer

Signature  Date 12/28/12

VIII. OWNER/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, I certify that 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 General Permit.

I further certify that a copy of this Notice of Intent (NOI) was submitted and received by the appropriate MS4 Operator* on the date of N/A 20 __.

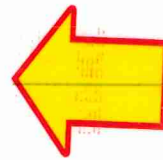
OWNER:

Print Name ACR Realty, LLC

Print Title Antonio Ramos, Sole Member

Signature *Antonio Ramos*

Date



OPERATOR:

Print Name Rhode Island Recycled Metals

Print Title Edward Sciaba, Jr.

Signature _____

Date



* Refer to RIDEM website for Contact List of stormwater coordinators for each Municipality and RIDOT <http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/index.htm>

IX. SWPPP DEVELOPMENT CERTIFICATION

Note: This section needs to be filled out for discharges of storm water associated with industrial activity which were previously accepted as part of the group application process or were authorized under the 2003 General Permit for Storm Water Discharge Associated with Industrial Activity. (All others must prepare and submit a SWPPP for review as per the permit requirements.) The purpose of this certification is to document that a site specific SWPPP was prepared consistent with the requirements of the General Permit prior to filing the NOI. This certification does not alleviate or in any way limit the liability and sole responsibility of the Owner/Operator to properly implement the SWPPP and to amend the SWPPP as may be required.

I certify under penalty of law that a site specific SWPPP was 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 implementing the SWPPP, the SWPPP is, to the best of my knowledge and belief, true, accurate, and complete at the time this certification is made and has been developed in accordance to the requirements of the Permit. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name David A. Harrington, P.E.

Print Title Senior Civil Engineer

Signature *David A. Harrington*

Date 12/28/12



RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Office of Water Resources



**INSTRUCTIONS FOR THE RI POLLUTANT DISCHARGE ELIMINATION SYSTEM (RIPDES)
NOTICE OF INTENT (NOI) – FOR STORM WATER DISCHARGES ASSOCIATED WITH
INDUSTRIAL ACTIVITY UNDER THE RIPDES MULTI-SECTOR GENERAL PERMIT**
(Revised 03/05)

WHO MUST FILE A NOTICE OF INTENT (NOI) FORM

Discharges of storm water associated with industrial activity to Waters of the State are prohibited without a Rhode Island Pollutant Discharge Elimination System (RIPDES) permit. The owner or operator of an industrial activity that has such a storm water discharge must submit a Notice of Intent (NOI) to obtain coverage under the RIPDES Storm Water General Permit. If you have questions about whether you need a permit under the RIPDES Storm Water program contact the Rhode Island Department of Environmental Management, Office of Water Resources at (401) 222-4700.

An originally signed NOI form must be sent to:
RI Department of Environmental Management
Office of Water Resources
RIPDES Program
Permitting Section
235 Promenade Street
Providence, Rhode Island 02908

Please be sure to keep a copy for your files.

FEES

If you are required to submit a SWPPP to accompany the NOI, a \$400 non-refundable fee is required to be submitted. Please follow the directions on the attached Application Fee Form (also available online at <http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/pdfs/apfeenew.pdf>). Note that all facilities are subject to an annual fee in accordance with the *Rules and Regulations Governing the Establishment of Various Fees* (available online at: <http://www.dem.ri.gov/pubs/regs/regs/water/feereg05.pdf>).

COMPLETING THE FORM

You must type or print in the appropriate areas only. Abbreviate if necessary to save space.

For facilities with discharges of storm water associated with industrial activity, please check off the box that best describes your facility. If you have an existing RIPDES Storm Water Authorization, please include the permit number or indicate if your facility was previously covered under EPA's Group Application process. A New Permittee is defined as one of the following: a facility commencing to discharge on or after 3/19/04 (which is the expiration date of the previous industrial stormwater general permit), a facility not accepted under EPA's

Group Application process, and/or a facility not previously permitted under the March 2003 General Permit for Storm Water Discharge Associated with Industrial Activity. Note: If you are a New Permittee, then you are required to submit a Storm Water Pollution Prevention Plan (SWPPP) for review along with the NOI.

Section I - Owner Information

Give the legal name of the person, firm, public (municipal) organization, or any other entity that owns the facility described in this application (RIPDES Rules 3 & 12). The name of the owner may or may not be the same as the name of the facility. Do not use a colloquial name. Enter the complete address and telephone number of the owner. Circle the appropriate choice to indicate the legal status of the owner of the facility.

Section II - Operator Information

If the operator is the same as the owner, enter "Same as Owner". Give the legal name of the person, firm, public (municipal) organization, or any other entity that operates the facility described in this application (RIPDES Rules 3 & 12). The name of the operator may or may not be the same as that of the facility. The operator is the legal entity that controls the facility's operation, rather than the plant or site manager. Do not use a colloquial name. Enter the complete address and telephone number of the operator. Circle the appropriate choice to indicate the legal status of the owner of the facility.

Section III - Facility Information

Enter the facility's official or legal name and complete street address and telephone number. Indicate the latitude and longitude of the approximate center of the facility to the nearest 15 seconds as determined from a United States Geological Survey (USGS) Quadrangle Map. Enter the total area of the site (acres) and the total area of the impervious surface (acres), and the runoff coefficient for the site. Please indicate if there is any existing quantitative data regarding storm water runoff from the site by checking "YES" or "NO". If "YES", please submit the relevant information. Please indicate the number of outfalls that contain storm water discharge associated with industrial activity. Check the appropriate box(es) to indicate the types of storm water management controls at the facility.

Section IV - Receiving Water Information

If the facility discharges storm water directly to a surface water body, check the box and enter the name of the receiving water. If the storm water discharges to a separate storm sewer system, check the box and enter the name of the MS4 Owner/Operator of the system. Also, enter the name of the ultimate receiving water. Enter the name and code of the watershed that receives the storm water runoff. (RI Watershed Map available at: <http://www.dem.ri.gov/programs/benvirom/water/permits/ripdes/stwater/graphics/watersh.jpg>)

Section V – Natural Heritage Area (NHA) Information

Please indicate if your site is within or directly discharging to a NHA.

To determine if your facility is within or directly discharging to a NHA:

- Step 1: Go to <http://204.139.0.188/website/maps/viewer.htm>
- Step 2: Open the "Regulatory Overlays" folder by clicking on its folder icon
- Step 3: Select "Rare Species Habitats" as a visible layer
- Step 3: Click "Refresh Map" to see RI Natural Heritage Areas
- Step 4: Use the "Zoom In" and "Zoom Out" in the toolbar and select any other layers that may be useful in determining the location of your facility relative to a Natural Heritage Areas (such as roads) OR use the "locate address" feature on the bottom left corner of the toolbar. Please note that the Menu may not list all layers if the scale factor is too large. If so, use the "Zoom In" feature until all layers are listed in the menu.

Section VI - Industrial Activity Information

List your primary and secondary 4-digit standard industrial classification (SIC) codes or 2-character Activity Codes that best describe the principle products or services provided at the facility or site identified in Section III of this application. Use the following 2-character codes for industrial activities defined in RIPDES Rule 31(b)(15)(i)-(xi) that do not have SIC codes to accurately describe them;

HZ = Hazardous waste treatment, storage or disposal facilities, including those that are operating under interim status or a permit subtitle C of RCRA [40 CFR 122.26 b)(14)(iv)];

LF = Landfills, land application sites and open dumps that receive or have received any industrial waste, including those that are subject to regulation under subtitle D of RCRA [40 CFR 122.26 b)(14)(v)];

SE = Steam electric power generating facilities, including coal handling sites [40 CFR 122.26 b)(14)(vii)];

TW = Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage [40 CFR 122.26 b)(14)(ix)]; or

Alternatively, if your facility or site was specifically designated by the RIPDES permitting authority, enter AD.

Using Table 1 (enclosed), indicate the SIC code for your industry. Select up to three (3) additional applicable sectors of industrial activity with associated discharges that you seek to have covered under this permit.

Co-located Activities. If the permittee has co-located industrial activities on-site that are described in a sector(s) other than the primary sector, the permittee must comply with all other applicable sector-specific conditions found in Part VI for the co-located industrial activities. The extra sector-specific requirements are applied only to those areas of the facility where the extra-sector activities occur. An activity at a facility is not considered co-located if the activity, when considered separately, does not meet the description of a category of industrial activity covered by the storm water regulations, and identified by this general permit SIC code list. For example, unless the permittee is actually hauling substantial amounts of freight or materials with the facility's own truck fleet or are providing a trucking service to outsiders, simple maintenance of vehicles used at the facility is unlikely to meet the SIC code group 42 description of a motor freight transportation facility. Even though Sector P may not apply, the runoff from the vehicle maintenance facility would likely still be considered storm water associated with industrial activity. As such, the SWPPP must still address the runoff from the vehicle maintenance facility—although not necessarily with the same degree of detail as required by Sector P—but the permittee would not be required to monitor as per Sector P.

Section VII - Regulatory Information

If there is a RCRA permit issued for the facility, check the box and list the permit number(s).

If there are other RIPDES permits issued for the facility, check the box and list the permit number(s). If an application has been submitted but no permit number has been assigned, enter "*new application*" in the space provided for the RIPDES Permit number.

If the facility is subject to Categorical Effluent Guidelines in Table 2 (enclosed), check the appropriate box and attach a list of appropriate parameters.

Check the appropriate box if you know or have reason to believe that pollutants from Tables 5 through 8 (enclosed) are present at your facility and attach a list of those pollutants. Base your determination that a pollutant is present at your facility on your knowledge of the raw materials, material management practices, maintenance chemicals, history of spills and releases, intermediate and final products and byproducts, and any previous analyses known of the effluent or similar effluent.

If your facility is subject to benchmark monitoring listed in Table 3 (enclosed) check the appropriate box.

Section VIII – Owner/Operator Certification

State and Federal statutes provide for severe penalties for submitting false information on this application form. State and Federal regulations require this application to be signed as follows (RIPDES Rule 12):

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor;

For a Municipality, State, Federal or other public facility: by either a principal executive officer or ranking elected official.

*Note that this section also requires certification that a copy of the Notice of Intent (NOI) was sent to and received by the appropriate MS4 Owner/Operator. Please provide the date it was received.

Section IX –SWPPP Development Certification

This section needs to be filled out for discharges of storm water associated with industrial activity which were accepted as part of EPA's Group Application process or were authorized under the 2003 General Permit for Storm Water Discharge Associated with Industrial Activity. * The purpose of this certification is for the person or persons who prepared the SWPPP to document that a site specific SWPPP was prepared consistent with the requirements of the General Permit prior to filing the NOI. This certification does not alleviate or in any way limit the liability and sole responsibility of the Owner/Operator to properly implement the SWPPP and to amend the SWPPP as may be required.

* For New Permittees or previously unpermitted facilities or discharges, the submission of a SWPPP to accompany the NOI for review is required as per the permit requirements. (Signed certification is optional.)

TABLE 1 - SECTORS OF INDUSTRIAL ACTIVITY COVERED BY THIS PERMIT

SIC Code or Activity Code¹	Activity Represented
Sector A: Timber Products	
2411	Log Storage and Handling (Wet deck storage areas only authorized if no chemical additives are used in the spray water or applied to the logs.
2421	General Sawmills and Planning Mills.
2426	Hardwood Dimension and Flooring Mills.
2429	Special Product Sawmills, Not Elsewhere Classified.
2431-2439 (except 2434)	Millwork, Veneer, Plywood, and Structural Wood (see Sector W).
2441, 2449	Wood Containers.
2451, 2452	Wood Buildings and Mobile Homes.
2491	Wood Preserving.
2493	Reconstituted Wood Products.
2499	Wood Products, Not Elsewhere Classified.
Sector B: Paper and Allied Products	
2611	Pulp Mills.
2621	Paper Mills.
2631	Paperboard Mills.
2652-2657	Paperboard Containers and Boxes.
2671-2679	Converted Paper and Paperboard Products, Except Containers and Boxes.
Sector C: Chemical and Allied Products	
2812-2819	Industrial Inorganic Chemicals.
2821-2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass.
2833-2836	Medicinal chemicals and botanical products; pharmaceutical preparations; in vitro and in vivo diagnostic substances; biological products, except diagnostic substances.
2841-2844	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations.
2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products.
2861-2869	Industrial Organic Chemicals.
2873-2879	Agricultural Chemicals.
2873	Facilities that Make Fertilizer Solely from Leather Scraps and Leather Dust.
2891-2899	Miscellaneous Chemical Products.
3952 (limited to list)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Artist's Watercolors.
Sector D: Asphalt Paving and Roofing Materials and Lubricants	
2951, 2952	Asphalt Paving and Roofing Materials.
2992, 2999	Miscellaneous Products of Petroleum and Coal.
Sector E: Glass, Clay, Cement, Concrete, and Gypsum Products	
3211	Flat Glass.
3221, 3229	Glass and Glassware, Pressed or Blown.
3231	Glass Products Made of Purchased Glass.
3241	Hydraulic Cement.
3251-3259	Structural Clay Products.
3261-3269	Pottery and Related Products.
3271-3275	Concrete, Gypsum and Plaster Products.
3291-3299	Abrasive, Asbestos, and Miscellaneous Nonmetallic Mineral Product.
Sector F: Primary Metals	
3312-3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills.
3321-3325	Iron and Steel Foundries.
3331-3339	Primary Smelting and Refining of Nonferrous Metals.
3341	Secondary Smelting and Refining of Nonferrous Metals.
3351-3357	Rolling, Drawing, and Extruding of Nonferrous Metals.
3363-3369	Nonferrous Foundries (Castings).
3398, 3399	Miscellaneous Primary Metal Products.

Sector G: Metal Mining (Ore Mining and Dressing)

1011	Iron Ores.
1021	Copper Ores.
1031	Lead and Zinc Ores.
1041, 1044	Gold and Silver Ores.
1061	Ferroalloy Ores, Except Vanadium.
1081	Metal Mining Services.
1094, 1099	Miscellaneous Metal Ores.

Sector H: Coal Mines and Coal Mining Related Facilities

1221-1241	Coal Mines and Coal Mining-Related Facilities.
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Sector I: Oil and Gas Extraction and Refining

1311	Crude Petroleum and Natural Gas.
1321	Natural Gas Liquids.
1381-1389	Oil and Gas Field Services.
2911	Petroleum Refineries.

Sector J: Mineral Mining and Dressing

1411	Dimension Stone.
1422-1429	Crushed and Broken Stone, Including Rip Rap.
1442, 1446	Sand and Gravel.
1455, 1459	Clay, Ceramic, and Refractory Materials.
1474-1479	Chemical and Fertilizer Mineral Mining.
1481	Nonmetallic Minerals, Except Fuels.
1499	Miscellaneous Nonmetallic Minerals, Except Fuels.

Sector K: Hazardous Waste Treatment, Storage, or Disposal Facilities

HZ	Hazardous Waste Treatment Storage or Disposal.
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Sector L: Landfills and Land Application Sites

LF	Landfills, Land Application Sites, and Open Dumps.
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Sector M: Automobile Salvage Yards

5015	Automobile Salvage Yards.
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Sector N: Scrap Recycling Facilities

5093	Scrap Recycling Facilities.
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Sector O: Steam Electric Generating Facilities

SE	Steam Electric Generating Facilities.
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Sector P: Land Transportation and Warehousing

4011, 4013	Railroad Transportation.
4111-4173	Local and Highway Passenger Transportation.
4212-4231	Motor Freight Transportation and Warehousing.
4311	United States Postal Service.
5171	Petroleum Bulk Stations and Terminals.

Sector Q: Water Transportation

4412-4499	Water Transportation.
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Sector R: Ship and Boat Building or Repairing Yards

3731, 3732	Ship and Boat Building or Repairing Yards.
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Sector S: Air Transportation

4512-4581	Air Transportation Facilities
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Sector T: Treatment Works

TW	Treatment Works.
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Sector U: Food and Kindred Products

2011	Meat Products.
2021-2026	Dairy Products.
2032-2038	Canned, Frozen and Preserved Fruits, Vegetables and Food Specialties.
2041-2048	Grain Mill Products.
2051-2053	Bakery Products.
2061-2068	Sugar and Confectionery Products.
2074-2079	Fats and Oils.
2082-2087	Beverages.
2091-2099	Miscellaneous Food Preparations and Kindred Products.
2111-2141	Tobacco Products.

Sector V: Textile Mills, Apparel, and Other Fabric Product Manufacturing, Leather and Leather Products

2211-2299	Textile Mill Products
2311-2399	Apparel and Other Finished Products Made From Fabrics and Similar Materials.
3131-3199 (except 3111)	Leather and Leather Products, except Leather Tanning and Finishing (see Sector Z).

Sector W: Furniture and Fixtures

2434	Wood Kitchen Cabinets.
2511-2599	Furniture and Fixtures

Sector X: Printing and Publishing

2711-2796	Printing, Publishing, and Allied Industries.
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Sector Y: Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries

3011	Tires and Inner Tubes.
3021	Rubber and Plastics Footwear.
3052, 3053	Gaskets, Packing, and Sealing Devices and Rubber and Plastics Hose and Belting.
3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified.
3081-3089	Miscellaneous Plastics Products.
3931	Musical Instruments.
3942-3949	Dolls, Toys, Games and Sporting and Athletic Goods.
3951-3955 (except 3952 facilities as specified in Sector C)	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal.
3991-3999	Miscellaneous Manufacturing Industries.

Sector Z: Leather Tanning and Finishing

3111	Leather Tanning and Finishing
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Sector AA: Fabricated Metal Products

3411-3499	Fabricated Metal Products, Except Machinery and Transportation Equipment.
3911-3915	Jewelry, Silverware, and Plated Ware.

Sector AB: Transportation Equipment, Industrial or Commercial Machinery

3511-3599 (except 3571-3599)	Industrial and Commercial Machinery (except Computer and Office Equipment) (see Sector AC).
3711-3799 (except 3731, 3732)	Transportation Equipment (except Ship and Boat Building and Repairing) (see Sector R).

Sector AC: Electronic, Electrical, Photographic, and Optical Goods

3571-3579	Computer and Office Equipment.
3612-3699	Electronic, Electrical Equipment and Components, except Computer Equipment.
3812-3873	Measuring, Analyzing and Controlling Instrument; Photographic and Optical Goods.

Sector AD: Non-Classified Facilities

N/A	Other storm water discharges designated by the Director as needing a permit (see 40 CFR 122.26(g)(1)(I)) or any facility discharging storm water associated with industrial activity not described by any of Sectors 1-AC. Note: Facilities may not elect to be covered under Sector AD. Only the Director may assign a facility to Sector AD.
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¹ A complete list of SIC codes (and conversions from the newer North American Industry Classification System (NAICS)) can be obtained from the Internet at <http://www.census.gov/epcd/www/naics.html> or in paper form from various locations in the document entitled "Handbook of Standard Industrial Classifications," Office of Management and Budget, 1987. Industrial activity codes are provided on the Multi-Sector General Permit Notice of Intent (NOI) application form (EPA Form Number 3510-6).

**TABLE 2 – EFFLUENT GUIDELINES APPLICABLE TO DISCHARGES
THAT MAY BE ELIGIBLE FOR PERMIT COVERAGE**

Effluent Guideline	New source performance standards included in effluent guidelines?	Sectors with Affected Facilities
Runoff from material storage piles at cement manufacturing facilities [40 CFR Part 411 Subpart C (established February 23, 1977)].	Yes	E
Contaminated runoff from phosphate fertilizer manufacturing facilities [40 CFR Part 418 Subpart A (established April 8, 1974)].	Yes	C
Coal pile runoff at steam electric generating facilities [40 CFR Part 423 (established November 19, 1982)].	Yes	O
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas [40 CFR Part 429, Subpart I (established January 26, 1981)].	Yes	A
Mine dewatering discharges at crushed stone mines [40 CFR Part 436, Subpart B].	No	J
Mine dewatering discharges at construction sand and gravel mines [40 CFR Part 436, Subpart C].	No	J
Mine dewatering discharges at industrial sand mines [40 CFR Part 436, Subpart D].	No	J
Runoff from asphalt emulsion facilities [40 CFR Part 443, Subpart A (established July 24, 1975)].	Yes	D
Runoff from landfills, [40 CFR Part 445, Subparts A and B (established February 2, 2000)].	Yes	K & L

TABLE 3 – INDUSTRY SECTORS/SUB-SECTORS SUBJECT TO BENCHMARK MONITORING

MSGP Sector ²	Industry Sub-Sector	Required Parameters for Benchmark Monitoring
A	General Sawmills and Planing Mills	COD, TSS, Zinc.
	Wood Preserving Facilities	Arsenic, Copper.
	Log Storage and Handling	TSS.
	Hardwood Dimension and Flooring Mills	COD, TSS.
B	Paperboard Mills	COD.
C	Industrial Inorganic Chemicals	Aluminum, Iron, Nitrate + Nitrite N.
	Plastics, Synthetic Resins, etc.	Zinc.
	Soaps, Detergents, Cosmetics, Perfumes	Nitrate + Nitrite N, Zinc.
	Agricultural Chemicals	Nitrate + Nitrite N, Lead, Iron, Zinc, Phosphorus.
D	Asphalt Paving and Roofing Materials	TSS.
E	Clay Products	Aluminum.
	Concrete Products	TSS, Iron.
F	Steel Works, Blast Furnaces, and Rolling and Finishing Mills.	Aluminum, Zinc.
	Iron and Steel Foundries	Aluminum, TSS, Copper, Iron, Zinc.
	Non-Ferrous Rolling and Drawing	Copper, Zinc.
	Non-Ferrous Foundries (Castings)	Copper, Zinc.
G ³	Copper Ore Mining and Dressing	COD, TSS, Nitrate + Nitrite N
H	Coal Mines and coal-Mining Related Facilities....	TSS, Aluminum, Iron
J	Dimension Stone, Crushed Stone, and Nonmetallic Minerals (except fuels)	TSS.
	Sand and Gravel Mining	Nitrate + Nitrite N, TSS.
K	Hazardous Waste Treatment Storage or Disposal	Ammonia, Magnesium, COD, Arsenic, Cadmium, Cyanide, Lead, Mercury, Selenium, Silver.
L	Landfills, Land Application Sites, and Open Dumps	Iron, TSS.
M	Automobile Salvage Yards	TSS, Aluminum, Iron, Lead.
N	Scrap Recycling and Waste Generating Facilities	Copper, Aluminum, Iron, Lead, Zinc, TSS, COL
O	Steam Electric Generating Facilities	Iron.
Q	Water Transportation Facilities	Aluminum, Iron, Lead, Zinc.
S	Airports with Deicing Activities ⁴	BOD, COD, Ammonia, pH.
U	Grain Mill Products	TSS.
	Fats and Oils	BOD, COD, Nitrate + Nitrite N, TSS.
Y	Rubber Products	Zinc.
AA	Fabricated Metal Products Except Coating	Iron, Aluminum, Zinc, Nitrate + Nitrite N.
	Fabricated Metal Coating and Engraving	Zinc, Nitrate + Nitrite N.

TABLE 4 – NUMERIC LIMITATIONS FOR COAL PILE RUNOFF

Parameter	Limit	Monitoring Frequency	Sample Type
Total Suspended Solids (TSS)	50 mg/L, max	1/year	Grab.
pH	6.0-9.0 min. and max	1/year	Grab.

² Table does not include parameters for compliance monitoring under effluent limitations guidelines.

³ See Sector G (Part 6.G) for additional monitoring discharges from waste rock and overburden piles from active ore mining or dressing facilities.

⁴ Monitoring requirement is for airports with deicing activities that utilize more than 100 tons of urea or more than 10,000 gallons of ethylene glycol per year.

TABLE 5- ORGANIC TOXIC POLLUTANTS

Volatiles

acrolein
 acrylonitrile
 benzene
 bromoform
 carbon tetrachloride
 chlorobenzene
 chlorodibromomethane
 chloroethane
 2-chloroethylvinyl ether
 chloroform
 dichlorobromomethane
 1,1-dichloroethane
 1,2-dichloroethane
 1,1-dichloroethylene
 1,2-dichloropropane
 1,3-dichloropropylene
 ethylbenzene
 methyl bromide
 methyl chloride
 methylene chloride
 1,1,2,2-tetrachloroethane
 tetrachloroethylene
 toluene
 1,2-trans-dichloroethylene
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 trichloroethylene
 vinyl chloride

Acid Compounds

2-chlorophenol
 2,4-dichlorophenol
 2,4-dimethylphenol
 4,6-dinitro-o-cresol
 2,4-dinitrophenol
 2-nitrophenol
 4-nitrophenol
 p-chloro-m-cresol
 pentachlorophenol
 phenol
 2,4,6-trichlorophenol

Base/Neutral Compounds

acenaphthene *
 acenaphthylene *
 anthracene *
 benzidine
 benzo(a)anthracene *
 benzo(a)pyrene *
 3,4-benzofluoranthene *
 benzo(ghi)perylene *
 benzo(k)fluoranthene *
 bis(2-chloroethoxy)methane
 bis(2-chloroethyl)ether
 bis(2-chloroisopropyl)ether
 bis(2-ethylhexyl)phthalate
 4-bromophenyl phenyl ether
 butylbenzyl phthalate
 2-chloronaphthalene
 4-chlorophenyl phenyl ether
 chrysene *
 dibenzo (a,h)anthracene *
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 3,3'-dichlorobenzidine
 diethyl phthalate
 dimethyl phthalate
 di-n-butyl phthalate
 2,4-dinitrotoluene
 2,6-dinitrotoluene
 di-n-octyl phthalate
 1,2-diphenylhydrazine (as azobenzene)
 fluoranthene *
 fluorene *
 hexachlorobenzene
 hexachlorobutadiene
 hexachlorocyclopentadiene
 hexachloroethane
 indeno(1,2,3-cd)pyrene *
 isophorone
 naphthalene *
 nitrobenzene
 N-nitrosodimethylamine
 N-nitrosodi-n-propylamine
 N-nitrosodiphenylamine
 phenanthrene *
 pyrene *
 1,2,4-trichlorobenzene
 * = Polynuclear Aromatic Hydrocarbons

Pesticides

aldrin
 alpha-BHC
 beta-BHC
 gamma-BHC
 delta-BHC
 chlordane
 4,4'-DDT
 4,4'-DDE
 4,4'-DDD
 dieldrin
 alpha-endosulfan
 beta-endosulfan
 endosulfan sulfate
 endrin
 endrin aldehyde
 heptachlor
 heptachlor epoxide
 PCB-1242
 PCB-1254
 PCB-1221
 PCB-1232
 PCB-1248
 PCB-1260
 PCB-1016
 toxaphene

TABLE 6 - TOXIC METALS, CYANIDE & PHENOL

Antimony, Total	Copper, Total	Thallium, Total
Arsenic, Total	Lead, Total	Zinc, Total
Beryllium, Total	Mercury, Total	Cyanide, Total
Cadmium, Total	Nickel, Total	Phenols, Total
Chromium, Total	Selenium, Total	
Chromium, Hexavalent	Silver, Total	

TABLE 7 - CONVENTIONAL & NON-CONVENTIONAL POLLUTANTS

Bromide	Phosphorus, Total	Boron, Total
Chlorine, Total Residual	Radioactivity	Cobalt, Total
Color	Sulfate	Iron, Total
Fecal Coliform	Sulfide	Magnesium, Total
Fluoride	Sulfite	Molybdenum, Total
Nitrate-Nitrite	Surfactants	Manganese, Total
Nitrogen, Total Organic	Aluminum, Total	Tin, Total
Oil & Grease	Barium, Total	Titanium, Total

TABLE 8 - HAZARDOUS SUBSTANCES & ASBESTOS

Toxic Pollutants	Diethyl amine	Nitrotoluene
Asbestos	Dimethyl amine	Parathion
TCDD	Dinitrobenzene	Phenolsulfanate
	Diquat	Phosgene
Hazardous Substances	Disulfoton	Propargite
Acetaldehyde	Diuron	Propylene oxide
Allyl alcohol	Epichlorohydrin	Pyrethrins
Allyl chloride	Ethion	Quinoline
Amyl Acetate	Ethylene diamine	Resorcinol
Aniline	Ethylene dibromide	Strontium
Benzonitrile	Formaldehyde	Strychnine
Benzyl Chloride	Furfural	Styrene
Butyl acetate	Guthion	2,4,5-T (2,4,5-Trichlorophenoxy acetic acid)
Butylamine	Isoprene	TDE (Tetrachlorodiphenylethane)
Captan	Isopropanolamine	2,4,5-TP [2-(2,4,5-Trichlorophenoxy) propanoic acid]
Carbaryl	Dodecylbenzenesulfonate	Trichlorofan
Carbofuran	Kelthane	Triethanolamine
Carbon disulfide	Kepone	dodecylbenzenesulfonate
Chlorpyrifos	Malathion	Triethylamine
Coumaphos	Mercaptodimethur	Trimethylamine
Cresol	Methoxychlor	Uranium
Crotonaldehyde	Methyl mercaptan	Vanadium
Cyclohexane	Methyl methacrylate	Vinyl acetate
2,4-D (2,4-Dichlorophenoxy acetic acid)	Methyl parathion	Xylene
Diazinon	Mevinphos	Xylenol
Dicamba	Mexacarbate	Zirconium
Dichlone	Monoethyl amine	
2,2-Dichloropropionic acid	Monomethyl amine	
Dichlorvos	Naled	
	Napthenic acid	



RHODE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Office of Water Resources



APPLICATION FEE FORM

Only if you are required to submit a Storm Water Pollution Prevention Plan, please complete the information below and submit this completed form and your check (payable to "R.I. General Treasurer") for the appropriate fee **directly** to:

R.I. Department of Environmental Management
Office of Management Services
235 Promenade Street
Providence, RI 02908

***** FEES ARE NOT REFUNDABLE *****

APPLICANT'S NAME: Rhode Island Recycled Metals

OWNER'S NAME: ACR Realty, LLC

SITE LOCATION: 434 Allens Avenue, Providence, RI 02903

APPLICATION TYPE (Permit, Order of Approval): **RIPDES General Permit**

NOTE: The application and all accompanying documents should be submitted to the appropriate section of the Office of Water Resources, 235 Promenade Street, Providence, RI 02908-5767. Application review will be initiated only upon receipt of the complete application fee.

FOR OFFICE USE ONLY

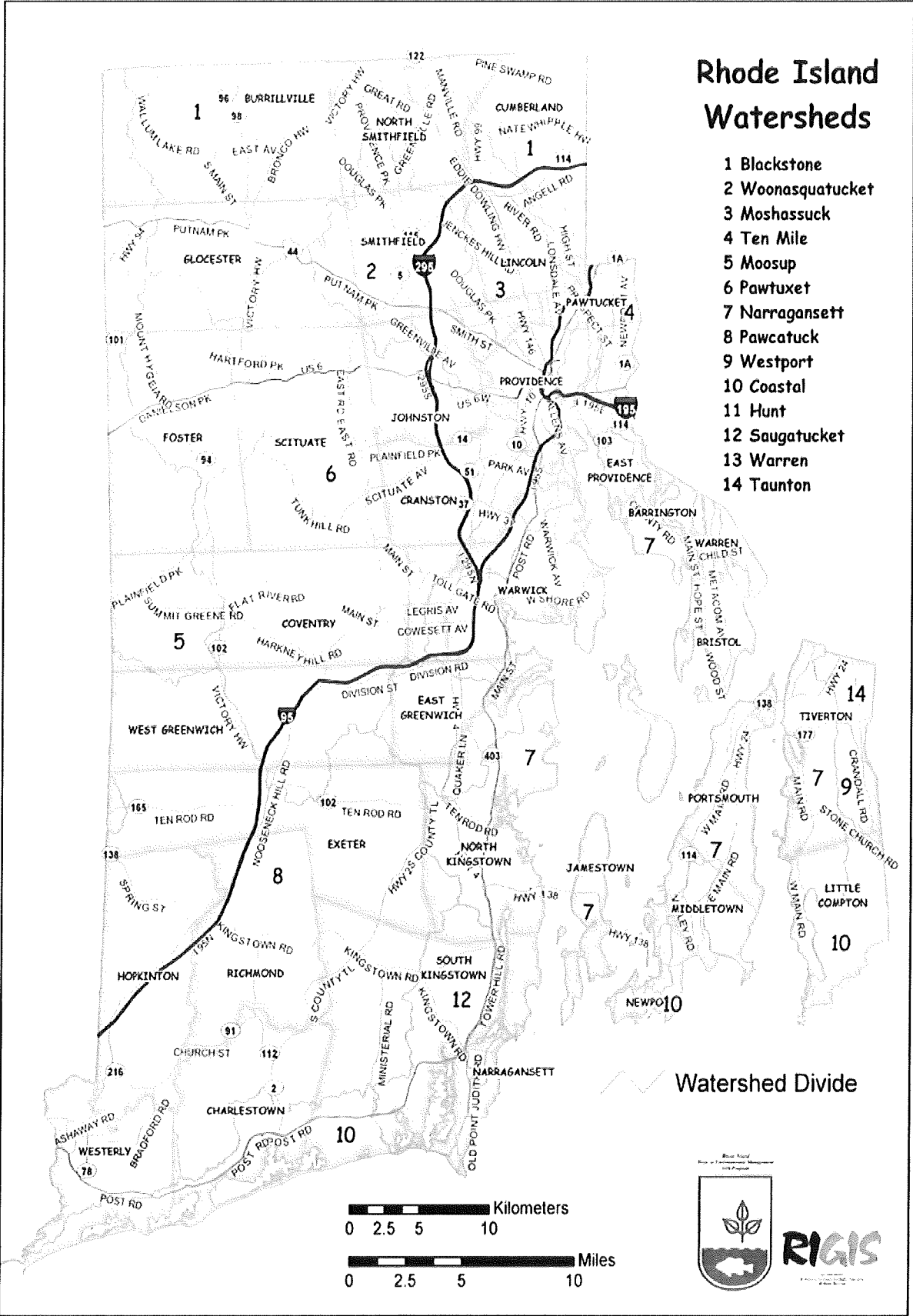
OMS Receipt Date: _____

Fee Amount Received: _____

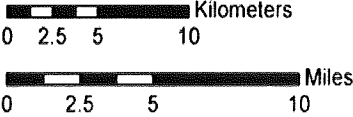
Processor Initials: _____

Rhode Island Watersheds

- 1 Blackstone
- 2 Woonasquatucket
- 3 Moshassuck
- 4 Ten Mile
- 5 Moosup
- 6 Pawtuxet
- 7 Narragansett
- 8 Pawcatuck
- 9 Westport
- 10 Coastal
- 11 Hunt
- 12 Saugatucket
- 13 Warren
- 14 Taunton



Watershed Divide



Appendix E

Copy of Regulatory Permits

- *OWR Water Quality Certification*
- *CRMC Application for State Assent*



RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Office Of Water Resources

235 Promenade Street, Providence, RI 02908-5767
 Telephone: 401-222-6820, Telecommunication Device for the Deaf: 401-831-5508, FAX: 401-222-6177

WATER QUALITY CERTIFICATION PROGRAM APPLICATION

This form is to be completed for all applications to the Department of Environmental Management (DEM), Office of Water Resources, for Water Quality Certification as specified in Rule 13 of the DEM "Water Quality Regulations." Reference the "Rules and Regulations Governing the Establishment of Various Fees" for fees listed below. Attach a non-refundable check payable to "General Treasurer, State of RI."

FOR DEM USE ONLY Date Received	
Amount Paid:	_____
Check #:	_____
File #:	_____

PURPOSE OF APPLICATION (Check only one) AND FEES:

- Application for Water Quality Certification:
 Submit required documentation for Estimated Construction Costs (See Note 1)
 Fee: \$200. for estimated construction costs < \$250,000.
 \$400. for estimated construction costs ≥ \$250,000.
- Request Renewal of Water Quality Certification: File # _____
 Fee: No fee
- Request Modification of Water Quality Certification: File # _____
 Fee: One-half of original fee noted above

(A.) PROJECT NAME AND LOCATION:

Rhode Island Recycled Metals Plot 47, Lot 601
 (Project Name) (Tax Assessor's Plat(s) and Lot No.(s))

434 Allens Avenue Providence 02903
 (Project Location) (Street Address) (City/Town) (ZIP)

(B.) APPLICANT: (Note: Applicant must be the owner of the property on which the activity is proposed.)

Antonio Ramos 15 Branch Pike Smithfield RI 02917
 (Name) (Mailing Address) (City/Town) (State) (ZIP)

ACR Realty, LLC. (401) 232-2040
 (Company/Organization) (Area Code & Telephone Number)

(C.) CONTACT TO ANSWER QUESTIONS REGARDING APPLICATION (If different than Section B):

Edward Sciaba, Jr. 434 Allens Avenue Providence RI 02903
 (Name) (Mailing Address) (City/Town) (State) (ZIP)

Rhode Island Recycled Metals Operator (617) 293-8700
 (Company/Organization) (Title) (Area Code & Telephone Number)

(D.) PROJECT TYPE/ACTIVITY (Check All That Apply):

- Filling of Waters of the State
- Any project \geq five (5) acres disturbance
- Commercial, Industrial, State or Municipal Development
- Flow Alterations
- Harbor Management Plan
- Marinas – New construction or expansion
- Residential Development: six (6) or more dwellings
- Site Disturbances
- Other _____

(E.) GENERAL INFORMATION: Check program and list number(s) of other applications associated with this project.

- Coastal Resources Management Council _____
- US Army Corps of Engineers _____
- Other RIPDES Construction NOI, RIPDES Industrial MSGP NOI, OAR Application to Install Air Pollution Control Equipment

(F.) CERTIFICATION OF APPLICANT:

I hereby certify that I have requested and authorized the investigation, compilation, and submission of all the information, in whatever form, contained in this Application; that I have personally examined and am familiar with the information submitted herein; and that such information is true, accurate and complete to the best of my knowledge.

Signature of Applicant: _____ Date: _____
Print Name: _____

Please return completed form to: Rhode Island Department of Environmental Management
Office of Water Resources, Water Quality Certification Program
235 Promenade Street, Suite 260
Providence, RI 02908-5767

Office Use Only:

Suitable for Public Notice Date: _____

Certification Determination: Approved
Date: _____ Denied
 Withdrawn
 Closed

Project Reviewer: _____

Note 1: Documentation of Estimated Construction Costs (ECC) will be required unless the ECC is \geq \$250,000. ECCs include all costs of construction activities such as materials, labor, and equipment. ECC shall not include the cost of land acquisition and consultant fees for planning, design, and construction supervision. The ECC for proposed projects must be documented and prepared by an appraiser, general contractor, engineer, land surveyor, architect, landscape architect, or another appropriate qualified professional. Such documentation must be submitted by the applicant with the application. All ECCs are subject to the review and acceptance by the Department.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
 COASTAL RESOURCES MANAGEMENT COUNCIL
 4808 TOWER HILL ROAD; Suite 3, WAKEFIELD, RI 02879
 (401) 783-3370

Application for State Assent to perform work regulated by the provisions of Chapter 279 of the Public Laws of 1971 Amended.

	File No.
Location No. 434 Allens Avenue City/Town Providence	
Owner's Name ACR Realty, LLC. Plat No. 47	Lot No. 601
Mailing Address <u>15 Branch Pike</u> City/Town <u>Smithfield</u> State <u>RI</u> Zip Code <u>02917</u>	Res. Tel. # _____ Bus. Tel. # _____
Contractor RI Lic. # Address	Tel. No.
Designer: Coneco Engineers & Scientists, Inc. Address: <u>4 First Street</u> <u>Bridgewater, MA 02324</u>	Tel. No. (508) 697-3191
Name of Waterway <u>Providence River,</u> <u>Narragansett Bay</u> Est. Project Cost \$ <u>300,000.00</u>	Fee/Costs \$ <u>1,750.00</u>

Have you or any previous owner filed an application for and/or received an assent for any activity on this property? (If so please provide the file and/or assent numbers). 1996-02-072; 2005-05-005; 2009-05-015; 2009-08-050; 2010-11-048

IS THIS APPLICATION BEING SUBMITTED IN RESPONSE TO A COASTAL VIOLATION?

YES _____ NO

IF YES, YOU MUST INDICATE NOV OR C&D NUMBER _____

Name and Addresses of adjacent property owners whose property adjoins the project site. (Accurate addresses will insure proper notification. Improper addresses will result in an increase in review time.)

Cumberland Farms, Inc., 100 Crossing Boulevard, Framingham MA 01702; Motiva Enterprises, LLC., 700 Milam Street, Houston TX 77002

Describe accurately the work proposed. (Use additional sheets of paper if necessary and attach this form.)

Stockpiling/processing area of existing scrap yard to be paved with reinforced concrete, which will drain to a proposed stormwater treatment system for the purposes of mitigating contaminated runoff from the site.

Owner's Signature

NOTE: The applicant acknowledges by evidence of their signature that they have reviewed the Rhode Island Coastal Resources Management Program, and have, where possible, adhered to the policies and standards of the program. Where variances or special exceptions are requested by the applicant, the applicant will be prepared to meet and present testimony on the criteria and burdens of proof for each of these relief provisions. The applicant also acknowledges by evidence of their signature that to the best of their knowledge the information contained in the application is true and valid. If the information provided to the CRMC for this review is inaccurate or did not reveal all necessary information or data, then the permit granted under this application may be found to be null and void. Applicant requires that as a condition to the granting of this assent, members of the CRMC or its staff shall have access to the applicants property to make on-site inspections to insure compliance with the assent. This application is made under oath and subject to the penalties of perjury.

08/04

PLEASE REVIEW REVERSE SIDE OF APPLICATION FORM

STATEMENT OF DISCLOSURE AND APPLICANT AGREEMENT AS TO FEES

The fees which must be submitted to the Coastal Resources Management Council are based upon representations made to the Coastal Resources Management Council by the applicant. If after submission of this fee the Coastal Resources Management Council determines that an error has been made either in the applicant's submission or in determining the fee to be paid, the applicant understands that additional fees may be assessed by the Coastal Resources Management Council. These fees must be paid prior to the issuance of any assent by the Coastal Resources Management Council.

The applicant understands the above conditions and agrees to comply with them.



Signature

Date

Print Name and Mailing Address

NOTICE TO APPLICANTS

The Coastal Resources Management Council regulations require that the following must accompany every application otherwise these applicants will be deemed incomplete and returned.

1. **Four copies** of completed application form including plans, are required. If the project requires a type "B" or involves work in the waterway, plans must be 8 1/2" x 11". If the project is type "P" or Prohibited, a Special Exception form will be required, staff will provide you with the necessary forms.

For Formal Applications (Category B): **Site Plans must also be submitted in PDF format and if possible, application materials as well in PDF format.**

2. **Application fee – Please have a currently dated check. Checks older than 2 weeks will not be accepted. (see attached CRMC Fee Schedule for Application fee amount).**
3. **Proof of Ownership.** The CRMC requires a letter from the local tax assessor stating ownership of the property.
4. A copy of the **local building permit** or a **letter from the local building official** stating that a building permit will be issued upon receipt of a CRMC permit, with the exception of recreational boating facilities.
5. Supply **photos of coastal feature construction site.**

In addition, where these additional items are applicable, they are also required:

- a. Affirmation that the proposed structure will be serviced by municipal sewers. (For large projects, local community approval and construction details of the tie-in are required).
- b. An approved Individual Sewage Disposal System (ISDS) permit from DEM/ISDS, 291 Promenade Street, Providence, RI, 02908; phone (401) 222-2306.
- c. An approved "Change of Use" permit from DEM/ISDS is required in un-sewered areas when an increase in the number of bedrooms, an increase in "flow units", or a change from season to year-round use is proposed.

Your application receives a thorough review by our staff biologists and engineers during which they may require additional information to complete their review. If this becomes necessary you will receive a separate information request form.

You are urged during this process to be as complete as you can in fulfilling all informational requirements. In addition, you are also urged to adhere as closely as you can to all the Coastal Resources Program requirements. Failure to do so could cause delays in processing your application.

We thank you for your cooperation in this matter and look forward to working with you in protecting our coastal environment.

CRMC'S FEE SCHEDULE
(current dated check or money order only)

Project Description	Description/Comments	Fee
Residential Boating Facility	New Facility	\$1,500.00
New Structural Shoreline Protection Facility	First 100 linear feet	\$1,500.00
	Each additional linear foot	\$15.00/ft
Residential Development Project (condominiums, subdivisions, paper subdivisions, etc.)	First 6 units/lots	\$3,500.00
	Each additional unit/lot	\$400.00
	Infrastructure (roads, drainage, etc.)	(.005 X EPC)
Review of units/lots within a Council approved Subdivision	Submitted in accordance with all Council conditions/stipulations	1/2 of the All Others fee
Buffer Zone Alterations and Management Plans	For areas less than or equal to 1 acre	\$100.00
	For areas between 1 and 5 acres	\$250.00
	For areas greater than 5 acres	\$500.00
Onsite Sewage Disposal Systems	New Systems	All Others fee
All others (include Section 320 reviews)	Based on Estimated Project Cost:	
	EPC is less than or equal to \$1,000	\$50.00
	EPC Between \$1,000.01 - \$2,500	\$100.00
	\$2,500.01 - \$5,000	\$150.00
	\$5,000.01 - \$10,000	\$200.00
	\$10,000.01 - \$25,000	\$250.00
	\$25,000.01 - \$50,000	\$500.00
	\$50,000.01 - \$100,000	\$750.00
	\$100,000.01 - \$150,000	\$1,000.00
	\$150,000.01 - \$200,000	\$1,250.00
	\$200,000.01 - \$250,000	\$1,500.00
	\$250,000.01 - \$300,000	\$1,750.00
	\$300,000.01 - \$350,000	\$2,000.00
	\$350,000.01 - \$400,000	\$2,250.00
	\$400,000.01 - \$450,000	\$2,500.00
	\$450,000.01 - \$500,000	\$2,750.00
	\$500,000.01 - \$20,000,000	(\$2,750.00 + .005 X EPC beyond \$500,000.00)
EPC greater than \$20,000,000	(\$100,250.00 + .0025 X EPC beyond \$20,000,000)	

EPC = Estimated Project Cost. The EPC shall include all costs associated with site preparation (e.g., earthwork, landscaping, etc.) sewage treatment (e.g., cost of ISDS, sewer tie-ins, etc.) and construct costs (e.g., materials, labor, and installation of all items necessary to obtain a certification of occupancy).

Preliminary Determinations

Fee

Individual residential homeowner/potential homeowner	\$150.00
All other projects (e.g., subdivisions, commercial, industrial, etc.)	\$1,000.00
Jurisdictional determinations	\$100.00

Other Fees

Fee

Single Family Residence Assent Renewal/Extension	\$75.00
All Other Assent Renewal/Extension	\$250.00
Modification-Single Family Residence w/no public hearing	\$100.00
Modification of under 50% of a recreational boating facility	\$250.00
All other Modification Requests	All Other fee or \$250.00 whichever is greater
Lightering Permits	\$250.00
Beach Vehicle Permits: Rhode Island registration	\$100.00
Out-of-State registration	\$200.00
Declaratory Rulings	\$1,000.00
Petitions for regulation changes	\$1,000.00
Contested cases with sub-committee hearings	Applicant pays all costs of hearing process
Temporary Dock Application	\$100.00
Dock Registration	\$20.00

Administrative Fees for Activities which have occurred without a valid CRMC Approval

1. Administrative Reviews

All such activities will be assessed an application fee based on above plus:

- a) Illegally constructed structures and unauthorized activities located in tidal waters and/or on adjacent coastal or shoreline features (See RICRMP Section 200 and Section 210) shall be assessed **\$500.00** administrative fee;
- b) Illegal activities excluding those classified as maintenance activities under the RICRMP shall be assessed a **\$250.00** administrative fee; and,
- c) Unauthorized maintenance activities shall be assessed a **\$100.00** administrative fee.

2. Applications before the Council

- a) In accordance with Council regulations, all activities or alterations which have already occurred, or have been constructed or partially constructed without a Council Assent shall be subject to the fee schedule contained in Section 4.3.2. In addition, the Council shall assess an appropriate administrative fee based on a recommendation by the Executive Director. The recommended administrative fee shall take into account the impact on coastal resources, additional demand on Council resources, and hardship on an applicant (see RICRMP Section 160).

Hardships

Where an applicant can demonstrate that the fee schedule described herein presents an undue hardship, the Council may adjust the application fee, administrative fee, and/or contested case fees.

** NOTE: All fees are Summative. In addition, all fees are filing fees and non-refundable.*

***NOTE: Applicants should consult Section 4.3 of the CRMC's Management Procedures for a more detailed description of the CRMC's fee schedule.*

City of Providence

Duplicate Bill

ACR Realty LLC
 15 Branch Pike
 Esmont, RI 02917



ACCOUNT NO: 9206145001
 LENDER:

2012 TAX DUE:	\$39,783.72
2012 INTEREST DUE:	
PRIOR YEARS TAXES DUE:	
PRIOR YEARS INTEREST DUE:	\$0.00
TOTAL AMOUNT DUE:	\$39,783.72

DESCRIPTION

REAL ESTATE														
YR	PLAT/LOT	PROPERTY LOC.	TOTAL A.	ORIG. DUE	ADJ/AB.	CHARGES	INT.	REVERS.	REFUND	PAYMENTS	TOT. DUE			
2012	047-0601-0000	434 Allens Ave	\$1,443,400.00	\$53,044.96		\$0.00	\$0.00			\$13,261.24	\$9,783.72			
										Interest as of date:	\$0.00			
REAL ESTATE TOTAL:										\$53,044.96	\$0.00	\$0.00	\$13,261.24	\$9,783.72

	<u>PRIOR YEARS</u>	<u>CURRENT YEAR</u>	<u>QTR1</u>	<u>QTR2</u>	<u>QTR3</u>	<u>QTR4</u>
REAL ESTATE TAX:		\$39,783.72		\$13,261.24	\$13,261.24	\$13,261.24
TANGIBLE TAX:						
EXCISE TAX:						
TOTAL AMOUNT DUE :		\$39,783.72		\$13,261.24	\$13,261.24	\$13,261.24



Department of Inspection and Standards

Angel Taveras, Mayor
Jeffrey L. Lykins, R.A. Director
Tony Carvalho, C.B.O.

R.I. Recycled Metals, LLC.
434 Allens Ave.
Providence, R.I. 02905

Tony Carvalho
Building Official
City of Providence
444 Westminster St. 1st floor
Providence, R.I. 02903

08/09/2012

Re: CRMC Permit required prior to Building permit issuance


To whom it may concern:

Please provide a copy of your CRMC permit with your plan submittal for building permit review. As part of the review process for a building permit, in this case, a building permit can only be issued after a CRMC permit is included in the construction documents upon submittal, with the exception of recreational boating facilities.

Tony Carvalho, C.B.O.



AERIAL PHOTO OF PROPOSED CONSTRUCTION SITE

 <p>C O N E C O Engineers, Scientists & Surveyors 4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS 02324 PHONE 508-697-3191 • 800-548-3355 • FAX 508-697-5996 EMAIL: Admin@coneco.com • WEB SITE: http://www.coneco.com</p>	PREPARED FOR: RHODE ISLAND RECYCLED METALS, INC.		PLAN SET: CRMC APPLICATION FOR STATE ASSENT	
	SCALE 1"=150'	DATE 08/22/2012	PROJECT NO. 7400.0	TITLE: RHODE ISLAND RECYCLED METALS

Appendix G

Industrial Activity SWPPP Amendment Log

SWPPP Amendment Log

Describe amendment to be made to SWPPP, the date the person/title making the amendment

Amendment number	Date	Description of Amendment	Amended by: Person/Title
1	08/22/2012	Updated MSGP SWPPP per RIDEM comments	Shane Oates, Project Mgr.
2	12/28/2012	Updated MSGP SWPPP per RIDEM comments	Shane Oates, Project Mgr.
3			
4			
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Appendix F

Site Records

- *Quarterly Stormwater Visual Assessment Template and Reports*
- *Routine Facility Inspection/Maintenance Records*
- *Comprehensive Site Assessment Evaluation Records*
- *Significant Spills & Leaks Records*
- *Employee Training Records*
- *Corrective Action Log*

QUARTERLY STORMWATER VISUAL ASSESSMENT REPORT

Facility: Rhode Island Recycled Metals, Inc.		Sampling Location: Outlet of Retenu filter unit	
Circle the Appropriate Quarter: 1 st (Jan-March) 2 nd (April-June) 3 rd (July-Sept) 4 th (Oct-Dec)			
Date Sample Collected :		Time Sample Collected :	
Date Sample Inspected :		Time Sample Inspected :	
Name of Sample Collector:		Signature:	
Nature of Discharge (circle one): Runoff Snowmelt			
Observations: Record visual observations of the sample quality in the space provided below			
Color:		Suspended solids:	
Odor:		Foam:	
Clarity:		Oil Sheen:	
Floating solids:		Other obvious indicators of storm pollution:	
Settled solids:			
Probable sources of any observed storm water contamination:			
If it was not possible to collect sample within first 30 minutes of discharge, explain why:			

The requirements for storm water sample collection are as follows:

- *Collect samples within the first 30 minutes of actual discharge from a storm event. If it is not possible to collect sample within the first 30 minutes of discharge, the sample shall be collected as soon as practicable after the first 30 minutes and you shall document why it was not possible to take samples within the first 30 minutes. In the case of snowmelt, samples shall be taken during a period with measureable discharge from site.*
- *The rainfall event sample should occur at least 72 hours (3 days) from the previous discharge. The 72-hour storm interval does not apply if you document that less than a 72-hour interval is representative for local storm events during the sampling period.*
- *Collect sample in a clean clear, glass or plastic container, and examine in a well-lit area.*

If evidence of storm water pollution is observed, control measures shall be reviewed and revised in accordance with the MSGP. Describe any incidences of noncompliance observed, summary of corrective actions taken and **date initiated and completed** (attach additional sheets if necessary):

Are modifications to SWPPP necessary Yes No If yes, describe: _____

*Any required modifications to control measures shall be made before the next storm event if possible, or as soon as practicable.

Routine Facility Inspection/Maintenance Records

Comprehensive Site Assessment Evaluation Records

Significant Spills & Leaks Records

Employee Training Records

*Note: A copy of all site records are to be kept with this report for a period of five (5) years following completion of the record.

Appendix H

Facility Standard Operating Procedures

- *Oil & Hazardous Materials Spill Response*
Produced by Lake Shore Environmental, Inc., Cumberland RI 02864
- *Automotive Fluid – Characterization, Management & Disposal/Recycling*
Produced by Lake Shore Environmental, Inc., Cumberland RI 02864
- *Previously Submitted Soil Management Plan*

STANDARD OPERATING PROCEDURE

RI Recycled Metals, Inc.

434 Allens Avenue
Providence, RI

Oil & Hazardous Material Spill Response

Objective: The objective of this Standard Operating Procedure (SOP) is to provide RIRM employees with guidelines for properly responding to spills and releases of automotive fluids wherever they may occur at the MMI facility. Responses to such releases will involve containment, notification, and proper disposal of any spilled liquids. Proper response and cleanup of spilled material will protect soil, groundwater and the Narragansett Bay from adverse impacts from these sometimes toxic materials.

Affected Areas: This SOP applies to all areas of the facility. Most spills occur when automotive fluids are drained from large equipment in the yard that doesn't fit within the Enviro/SEDA Rack enclosure. Other spills may occur at the car crusher, Enviro/SEDA Rack enclosure, non-ferrous processing area, equipment maintenance areas, or the marine salvage areas along the shoreline.

Spilled Materials: These automotive fluids include waste motor oil, gas (good & bad), diesel, hydraulic oil, transmission oil, axle oil, antifreeze and break fluid. A release (spill) of any of these materials requires an immediate response.

Required Materials: In order to have the proper materials on hand to respond to a spill of oil or hazardous materials, some basic materials should always be kept on hand at sufficient quantities. These include speedi-dry (10 bags min.), oil adsorbent containment booms (75 feet), and oil adsorbent pads (a.k.a. diapers). These spill response materials will be stored within the auto-processing tent. A designated stockpile of clean fill that is of low permeability would be good to have on hand. This could be a 10 yard pile of sandy silt (typically referred to as "washings" from a sand and gravel plant such as Material Sand & Stone).

Spill Response/Notification: Small Spills: Any spill of any of the above described materials that causes a stain on the ground surface must be cleaned up immediately. Small spills can be collected manually with shovel and transferred with a 5 gallon bucket or similar container to the designated drum storage area

located at the car processing tent. Any spill caused or observed that is greater than 1 foot diameter and/or is greater than ½-gallon in volume must be reported immediately to Ken Hanley. Contaminated soil resulting from a spill or release of any automotive fluid that results in filling more than half of a 55-gallon drum must be reported to the Rhode Island Department of Environmental Management (RIDEM). Larger spills can be cleaned up under Ken's supervision using the facilities' bobcat or similar heavy equipment.

Large Spills: Spills that result in large standing puddles of automotive fluid present additional threats to surface water and groundwater. Large spills will also likely require more extensive cleanup than can be accomplished with a bobcat & shovel. In these cases, in conjunction with immediately notifying Ken Hanley & the RIDEM, the person that first discovers the spill must assess the potential for the spilled liquid to reach open waters of the Bay or adjoining waterways. **Immediate Action is Vital!!!!** If the fluid is continuing to move or if the release is uncontained, an oil adsorbent boom and mounds of low-permeability soil should be positioned to contain the release and prohibit it from entering the nearby waterways. Speedi-dry should also be used to contain and/or adsorb the spilled liquid.

Contact Information:

RIRM Office: 401-461-9700
Edward Sciaba (Cell): 617-293-8700
Ken Hanley (Cell): 401-450-9514

David Hazebrouck (cell)
Lake Shore Environ. 401-338-3286

RIDEM Emergency

Response Program: (401) 222-1360 (normal business hours)

RIDEM Environ Police: (401) 222-3070 (24-hour hotline)

STANDARD OPERATING PROCEDURE

RI Recycled Metals, Inc.

434 Allens Avenue
Providence, RI

February 15, 2012

Automotive Fluid – Characterization, Management & Disposal/Recycling

Objective:

The objective of this Standard Operating Procedure (SOP) is to describe the various automotive waste streams generated from the automotive scrapping process and document the rationale for how they are managed and disposed or recycled. This SOP is also intended to be used by RIRM employees that are responsible for waste management and to be provided to regulatory agencies upon request to support the waste management procedures followed by RIRM. Note that this SOP does not cover Universal Wastes removed from cars as the associated procedure is covered under a separate SOP for Universal Waste.

Listing of Automotive Fluids:

Automotive Fluid	Management Procedure
Used Oil – Includes: *Motor Oil *Transmission Fluid *Hydraulic Oil Rear Axle Fluid Power Steering Fluid Break Fluid	Of these petroleum compounds, only the fluids mark with an (*) are currently collected on the SEDA/EnviroRack, and stored in the integral above ground storage tank (AST) and transferred to a nearby AST in the auto processing tent. These mixed fluids may also be stored and/or shipped within 55-gallon drums. The petroleum-based fluids are managed in accordance with <u>Rule 15.0 “Used Oil Management Standards” of RIDEM’s Rule and Regulations for Hazardous Waste Management (amend. June 2010)</u> . Additional management detailed are provided below in Parr. 1. Excerpts of the pertinent Haz Wst Regs are included in Appendix A.
Windshield Washer Fluid	Collection of this fluid is not currently considered by RIDEM to be mandatory although collection of it is considered to be a BMP. Future management should include collection and free distribution of this fluid to employees or other benefactors.
Gasoline / Diesel	These fluids are removed on the SEDA/EnviroRack and are managed as good or bad (off-spec) fuel. Good fuel is stored in a 275-gallon AST in the auto processing tent and is distributed to employees. Fuel containing water or which is considered

	degraded is stored in an AST or 55-gallon drums. These fluids have been determined to be non-hazardous and are managed as such since they are sent to a facility that burns it for energy recovery and therefore qualifies for the exemption in 40 CFR 261.2. Additional management details are provided below in Parr. 2.
Hydraulic Oil	This fluid is generally drained from heavy equipment outside of the auto processing tent and transferred to 55-gallon drums stored inside the tent for reuse. If contaminated hydraulic oil is produced, it is mixed with the other “used oil”.
Anti-Freeze	This fluid is collected by RIRM on the SEDA/EnviroRack and drained into integral ASTs or 55-gallon drums for storage. Periodically and as necessary, Western Oil is called to pump out the anti-freeze where it is ultimately recycled off-site and resold.
Freon	As of January 1, 2012, RIRM does not collect Freon from automotive air conditioning units. However, this material is regulated by the EPA and must be properly removed prior to sending cars to the crusher. Freon removal can only be completed by EPA-Certified technicians using EPA-Approved equipment. RIRM has made the decision to properly train its employees and purchase the proper equipment to recover Freon.
Crusher Residuals	The crusher has been moved onto a covered concrete pad along the northern property line and due to frequent spills and inadequate capture of residual liquids, the crusher was recently upgraded to include a more effective collection trough and dedicated collection buckets at each end of the trough. Liquid waste resulting from crusher operations is contained in 55-gallon drum(s) on the crusher pad as a satellite accumulation area and waste is shipped off-site as a hazardous waste. Additional details of the management and disposal of the crusher waste are provided in <u>Parr 3</u> below.
EnviroRack Catwalk Containment Trays	The floor of the SEDA/EnviroRack has two separate containment sections. Cars are always placed onto the rack in the same direction with the gas tank to the right and the engine to the left. At each end of the rack there is a drainage plug. When facing the rack, the plug in the right side is to drain gasoline that has spilled onto the right half of the SEDA/EnviroRack platform; the plug on the left is to drain motor oil. Periodically or when the spill containment sections become full, the oil portion of the platform is drained into the waste oil tank and any gasoline that has accumulated is drained into a 55-gallon drum for future pickup by Cyn Environmental as off-spec fuel.

Additional Details:

Parr 1 – Used Oil Used oil is drained from cars on the SEDA/EnviroRack and stored in one or more AST or in 55-gallon drums in the processing tent. RIRM’s procedure for managing used oil was developed in accordance with Rule 5.4 “Used Oil Generator Standards” of RIDEM’s Rule and Regulations for Hazardous Waste Management (amend. June 2010).

- All ASTs used for used oil storage are permanently labeled as such. The maximum amount of used oil stored on Site in any combination of drums/tanks at any one time is **1,320 gallons** (equivalent to twenty-four, 55-gallon drums).
- Any tank or container used for used oil storage will be in good condition and be clearly marked with the words: “**Used Oil**”. **Do not** label used oil drums with hazardous waste labels.
- All containers of used oil will be stored on a concrete pad under cover such that they are not exposed to precipitation.
- All containers for used oil will remain closed at all times unless they are being filled or drained.
- All ASTs greater than 500 gallons in capacity will be registered with the RIDEM and will be equipped with secondary containment able to contain 110 percent of the tank capacity in the event of a spill.
- Use of ASTs for used oil storage shall also comply with RIDEM’s Oil Pollution Control Regulations,

Used Oil generated at/by RIRM will eventually be burned on-Site in a waste oil burner of less than 500,000 BTU/Hr capacity in accordance with Rule 15.3 of RIDEM’s Rules and Regulations for Hazardous Waste Management (amend. June 2010). However, until such time that the waste oil furnace is operational, used oil will be picked up by a licensed used oil transporter in accordance with Rules 15.7 and 6.0.

Currently, the following used oil vendor removes used oil from the RIRM facility:

Cyn Environmental 100 Tosca Drive Stoughton, MA 02072 781-341-1777

EMERGENCY RESPONSE (24/7) 800-622-6365
--

- Used oil will be transported by drum or in bulk under a Bill-of-Lading. Hazardous Waste Manifests are not required to transport used oil.

Parr 2 – Gasoline & Diesel Fuel Currently, reusable or off-spec fuel is drained from vehicles on the SEDA/Enviro rack and stored in one or more AST or in 55-gallon drums in the processing tent. Occasionally, if vehicles can not be brought into the processing tent, they will be drained of fuel on a concrete pad adjacent to the processing tent and the fuel is transported to the tent in covered 30-gallon drums and transferred to storage tanks or 55-gallon drums. Because vehicle fuel tanks are only drained and not removed, it is critical that gasoline be completely drained from fuel tanks to minimize explosion/fire hazards and to eliminate releases of fuels at the crusher. All draining, transfers and storage of fuel should be completed in accordance with NFPA and Providence Fire Department regulations.

Based on a visual and olfactory (sniff test) evaluation of the drained fuel RIRM determines if the drained fuel is reusable or off-spec.

Drained fuel determined to be reusable is stored in a 275-gallon AST, prominently labeled as “Reusable Gasoline” or “Reusable Diesel”. Reusable gasoline is offered to employees or certain preferred vendors for use in their vehicles. Reusable diesel is reused in the various heavy equipment vehicles on Site.

- Any tank or container used for good or bad fuel storage will be in good condition and be clearly marked with the words: “**Reusable Gasoline**”, “**Reusable Diesel**” or “**Off-Spec Gasoline or Diesel**”.
- All containers of off-spec fuel will be stored on a concrete pad under cover such that they are not exposed to precipitation.
- All containers for off-spec fuel will remain closed at all times unless they are being filled or drained.
- All ASTs greater than 500 gallons in capacity will be registered with the RIDEM and will be equipped with secondary containment able to contain 110 percent of the tank capacity in the event of a spill.

Waste fuel is a D-listed characteristically hazardous waste due to its capacity for ignitability. Up until December 2011, off-spec fuel was managed on-site by RIRM as hazardous waste under EPA ID# RIR000509497 even though the fuel was transported on Bill-of-Lading and recycled as non-hazardous waste. This discrepancy created confusion with respect to RIRM’s waste management procedures and created the potential for non-compliance with RIDEM Regulations.

After reviewing RIRM's waste management practices and their vendor's policies, it was determined that RIRM is eligible for an exemption to the hazardous waste regulations outlined in 40 CFR 261.2(c)(ii) for off-spec fuel that is ultimately burned for energy recovery. Since the off-spec fuel mixtures generated at RIRM are recycled, they are not considered a waste and therefore are not required to be managed as hazardous waste.

Off-spec fuel is picked up periodically by the following vendor and transported under a Bill-of-Lading:

Cyn Environmental Services 100 Tosca Drive Stoughton, MA 02072 781-341-1777 Acct Rep: Mike Mazzeo

EMERGENCY RESPONSE (24/7) 800-622-6365
--

According to Cyn, drums of off-spec fuel are shipped to Enpro Services of Williston, Vt. and bulk pump-outs of off-spec fuel are shipped to Environmental Products and Services of Williston, Vt. Both facilities separate water and fuel and blend the product into recycled fuel which is resold (i.e. burned for energy). Separated water is treated and discharged. A detailed description of the procedures followed by these vendors that quality RIRM for the 40 CFR 261.2(c)(ii) exemption are provided in an Email in Appendix B of this S.O.P. Documentation from each of the waste recyclers that accept RIRM's off-spec fuel for energy recovery is also provided in Appendix B.

Parr 3 – Crusher Waste Residual liquid resulting from car crushing operations consists of a mixture of water, oil, gasoline and any other automotive fluid which is captured in 2-gallon buckets positioned at each end of the crusher collection trough. The crusher pad was covered in early 2012 to deflect precipitation and minimize contact of the equipment with stormwater. The monitoring of crushing operations and liquid levels is the responsibility of the loader operator that transports cars from the processing tent or engine block processing area to the crusher. When the buckets are $\frac{3}{4}$ full, the contents are drained into a 55-gallon drum positioned on the crusher pad. The drum is stored under the crusher roof such that it is not exposed to stormwater. Liquid transfers from the buckets are completed using a funnel to minimize spills while being handled. The drums should be labeled as "Crusher Residuals".

Crusher liquid residuals are not a listed hazardous waste but could be characteristically hazardous. A sample of the liquid from the crusher was

collected on December 13, 2011 and submitted for laboratory analysis of the characteristics of hazardous waste. A clean 8-ounce sample container was dipped into one of the trough buckets and used to fill a 1-liter amber wide-mouth and two 40-milliliter VOA vials preserved with hydrochloric acid. Analytical results included in Appendix C of this S.O.P. indicate that the characteristic of ignitability (i.e. flash point less than 140°F) exceeded the associated RCRA hazardous waste threshold. In order to confirm that the crusher residual sample did not reflect an isolated, unusually high gasoline content, a second sample of the crusher residuals was collected on January 6, 2012 and submitted for laboratory analysis. The characteristic of ignitability was again exceeded and therefore, as of February 2012, the crusher residuals will be managed as a hazardous waste. Under the current procedures for managing crusher waste, the accumulated liquid on the crusher trough will be sampled and analyzed for flash point quarterly for 1 year and the results will be reviewed to determine its future waste characterization status. Once plans for installing a new Seda rack at the facility are implemented, the percentage of gasoline in the waste should be significantly reduced. At that time, crusher waste will be resampled to determine if it is no longer characteristically hazardous.

The 55-gallon drums of crusher residuals will be picked up within 3 days of being filled to capacity by the following vendor and transported off-site for disposal under a Uniform Hazardous Waste Manifest.

Cyn Environmental Services
100 Tosca Drive
Stoughton, MA 02072
781-341-1777
Acct Rep: Mike Mazzeo

EMERGENCY RESPONSE (24/7) 800-622-6365

Drums of crusher residuals are managed as a satellite accumulation area and therefore, the following labeling, storage and management requirements apply to the crusher operation:

- All drums of crusher residuals will be stored on the crusher concrete pad (at the point of generation) under a portion of the equipment or roof that provides protection from precipitation.
- The drums containing crusher residuals will be under the control of the crusher operator and handled/stored so as to not cause a rupture or leak.

- The crusher drum(s) will be in good condition and will always remain closed at all times unless they are being filled or drained.
- Any person causing or witnessing a spill or releases from the crusher area including crusher drums will responded in accordance with RIRM’s Spill Response SOP. Although not required, drums of crusher residuals will be placed on a spill containment pallet and spill response materials will be readily available.
- No incompatible wastes will be stored in close proximity to the crusher residuals drum.
- Any container used for crusher waste will be labeled as Hazardous Waste and clearly marked with the words: “**Crusher Residuals**”.
- When the drum is full, mark the date on the drum and arrange to have the drum picked up for off-site disposal within 3 days. At the point when the drum is picked up, provide this additional information on the label:
 - Company Name (RIRM),
 - RIRM address
 - DOT shipping name: Class 3 Flammable Liquid
 - EPA Waste Code: D001

Contact Information:

RIRM Office: 401-461-9700

Edward Sciaba (Cell): 617-293-8700

Ken Hanley (Cell): 401-450-9514

David Hazebrouck (cell)

Lake Shore Environ. 401-338-3286

APPENDIX A

**Excerpts from Rule 15.0 “Used Oil Management Standards” of RIDEM’s
Rules and Regulations for Hazardous Waste Management (amend. June 2010).**

*Contained regulations provided by the Rhode Island Department of Environmental
Management Office of Waste Management, Providence RI*

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**



**RULES AND REGULATIONS FOR
HAZARDOUS WASTE MANAGEMENT**

Effective 18 July 1984

Amended 20 September 1984

29 January 1986

7 November 1986

24 September 1987

20 October 1988

19 April 1992

17 September 2001

12 December 2002

14 September 2005

9 February 2007

June 2010

Short Title: "Hazardous Waste Regulations"

Regulation #DEM OWM-HW10-01

AUTHORITY: These Rules and Regulations are adopted pursuant to the authority of Sections 23-19.1-7, 23-19.4-3, 23-19.14-18 and 42-17.1-2(s) and in accordance with the procedures set forth in Chapter 42-35 of the Rhode Island General Laws of 1956, as amended.

**RULES AND REGULATIONS FOR
HAZARDOUS WASTE MANAGEMENT**

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14.0 MIXED WASTE

These rules apply to Mixed Waste as defined in Rule 3.0.

Requirements for Mixed Waste: Mixed Waste shall be subject to these Rules and Regulations and to the Rhode Island Department of Health's "Rules and Regulations for the Control of Radiation".

Conditional Exemptions: The provisions of 40 CFR 266 Subpart N are incorporated by reference, relative to the conditional exemptions for low-level mixed waste and the transportation and disposal conditional exemption for eligible NARM waste.

15.0 USED OIL MANAGEMENT STANDARDS.

15.1 Purpose and Applicability

This Rule provides an alternative to managing used oil as hazardous waste under Rules 5-8; it identifies those materials that may and may not be managed as used oil, and establishes standards for their handling, storage, transport, aggregation, collection, and burning of used oil as fuel. This Rule also establishes management standards for used oil that is reused, sent for reclamation, processed or burned for energy recovery. Used oil, as defined in Rule 3.0, that is to be reused, reclaimed, processed, re-refined or burned for energy recovery is subject to the requirements of Rule 15.0. This Rule does not apply to used oil, or material derived from used oil, that is disposed of, sent for disposal or used in a manner constituting disposal, which must be evaluated to determine if the used oil is subject to regulation as a hazardous waste in accordance with Rule 5.8 (Determination). Used oil that does not meet the definition of a hazardous waste and is not managed in accordance with Rule 15.0 shall be managed as a solid waste in accordance with the applicable regulations.

- A. Used oil that exhibits any of the hazardous waste characteristics identified in Rule 3.0 or in 40 CFR 261 Subpart C is subject to Rule 15.0 except that the used oil may be excluded from burning for energy recovery pursuant to Rule 3 and Rule 15.3E.
- B. Mixtures of used oil and hazardous wastes that are Federally listed in 40 CFR 261 Subpart D shall be managed as hazardous waste;
 1. Used oil that contains greater than 1,000 ppm of total halogens is presumed to have been mixed with one or more halogenated hazardous wastes listed in 40 CFR 261 Subpart D. Persons may rebut the presumption that the used oil has been mixed with the hazardous waste designated in 40 CFR 261.31 (a) as F001 or F002 by demonstrating through analysis that none of the following halogenated hazardous waste constituents are present in the used oil at a concentration of greater than 100 parts per million: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane or 1,1,2-trichloroethane. To rebut the

(Section 15.1.B-D omitted from excerpt)

- E. Used automotive engine oil filters that are not terne-plated and were not contaminated by mixtures of used oil and any Federally listed hazardous waste identified in 40 CFR 261 Subpart D are not subject to Rule 15.0 or Rules 1.0 through and including 8.0 and 17.0 if the filters were gravity hot-drained using one of the following methods:
1. Puncturing the filter anti-drain back valve or the filter dome end and hot draining;
 2. Hot-draining and mechanically crushing the filter;
 3. Any other equivalent hot draining method that will remove all pourable liquids from the filter; or
 4. Cold-draining and crushing using a mechanical, pneumatic, or hydraulic device designed for the purpose of crushing oil filters and effectively removing the oil.

Used automotive engine oil filters that are terne-plated are not subject to Rule 15.0 or Rules 1.0 through and including 8.0 and 17.0 if the generator processes the filters in accordance with Rule 15.1(E), sends the processed filters out for scrap metal reclamation and documents the recycling of the filters.

All free liquids that are collected as a result of any draining activity shall be properly managed in accordance with Rule 15.0. Used automotive oil filters that are not fully drained using one of the methods prescribed above may be managed as a material contaminated with used oil in accordance with the requirements of Rule 15.0.

- F. Materials derived or otherwise reclaimed from used oil that are used in place of new product and are not burned for energy recovery or used in a manner constituting disposal are not used oil, are not hazardous waste and are not solid waste. Materials derived from used oil that are burned for energy recovery are subject to the requirements of Rule 15.3. Materials derived from used oil that are used in a manner constituting disposal are subject to the requirements of Rule 5.8.
- G. Wastewater contaminated with “De Minimis” quantities of used oil that is discharged in accordance with the Department’s Water Quality Regulations, permits issued by local POTWs and Section 307 or Section 402 of the Clean Water Act is not regulated by this Rule. De Minimis quantities for the purpose of this Rule shall be defined as leaks or drippings from equipment or machinery that enter the wastewater treatment system inadvertently during normal operations or maintenance. Used oil that enters a wastewater treatment system as a result of abnormal manufacturing processes (e.g., pipeline or pump failures) or by direct discharges and any used oil removed from wastewater is subject to Rule 15.0.
- H. Used oil produced on vessels from shipboard operations is not subject to Rule 15.0 until it is transported onto shore.
- I. Used oil containing levels of polychlorinated biphenyls (PCBs) that are determined to be below 50 ppm through analytical testing (or by satisfying the requirements of 40 CFR 761.2) may be managed under Rule 15.0. Used oil containing PCBs at levels of

(Section 15.1.J-M omitted from excerpt)

(Section 15.2 omitted from excerpt)

15.3 Burning Used Oil for Energy Recovery

This Rule applies to owners and operators of used oil burning equipment as defined in Rule 3.0. Used oil, or any fuel produced by processing used oil, may only be burned at a commercial facility in a space heater, industrial furnace or boiler provided that the used oil burner conducting the burning complies with all of the requirements of this section. Used Oil Processor/re-refiner facilities that burn small amounts of used oil as a result of processing used oil are not subject to the requirements of Rule 15.3.

- A. Used oil burners that utilize used oil burning equipment with heat input capacity of less than or equal to 500,000 BTU/hr to burn either specification used oil or off-specification used oil shall comply with the following requirements:
 - 1. The used oil burner only burns used oil that is generated onsite by routine facility processes; and
 - 2. The emissions produced by the used oil burning equipment are vented to ambient air outside of any building or structure.

- B. Used oil burners that utilize used oil burning equipment with heat input capacity of less than or equal to 500,000 BTU/hr to burn specification used oil that was not generated onsite shall comply with the following requirements:
 - 1. Prior to burning, the used oil burner has the used oil analyzed by a laboratory, or obtains certified copies of analytical test results conducted by a laboratory from the used oil generator, used oil transporter, or used oil processor/re-refiner to verify that it meets the definition of specification used oil;
 - 2. The used oil burner shall maintain copies of the actual analytical testing results at the facility where the burning activity occurs for a period of at least three years and shall provide such records to the DEM upon request;
 - 3. The used oil burner may aggregate off-specification used oil generated onsite with virgin oil or specification used oil for the purposes of burning used oil onsite provided that the used oil burner first has the mixture of used oil analyzed to ensure that it meets the definition of specification used oil in accordance with this section, but may not aggregate for the purposes of producing specification used oil for off-site shipment;
 - 4. The used oil burner, prior to burning any used oil, shall notify the Department's Office of Air Resources of his/her intent to burn specification used oil in accordance with Rule 15.0 of the Hazardous Waste Management Regulations. Used oil burners subject to the requirements of Rule 15.3(B) shall obtain an EPA Identification Number by submitting a completed EPA Form 8700-12 to the Department.

(Section 15.3.C-F omitted from excerpt)

- (a) Comply with the requirements of the *Oil Pollution Control Regulations*, the *Regulations for Underground Storage Facilities Used For Petroleum Products and Hazardous Materials* and all other applicable Federal, State and Municipal Statutes, Rules and Regulations relating to the release and handling of oil/pollutants;
- (b) Take immediate steps to stop the release;
- (c) Contain all of the released used oil;
- (d) Clean up and properly manage the used oil and any other materials that were contaminated with used oil;
- (e) Repair or replace any leaking or damaged storage units; and
- (f) Immediately notify the Department's Emergency Response Program (at 222-1360 or after hours at 222-3070), the local authorities and, if required by 49 CFR 171.15, notify the National Response Center.

8. Tracking. Used oil burners who receive used oil from off-site shall keep a record of each shipment of used oil for a period of at least three years. This record shall contain at least the following information:

- (a) Name, address and EPA Identification number, if applicable, of the used oil generator or used oil processor/re-refiner that generated the used oil;
- (b) The name, address and EPA Identification number of the used oil transporter who delivered the used oil;
- (c) Quantity of used oil received;
- (d) Date of shipment or delivery;
- (e) A cross-reference to the record of the used oil analysis or other information used to make the determination that the used oil meets the definition of specification used oil prior to burning.

G. Management of Residues. Used oil burners who generate residues from the storage or burning of used oil shall manage the residues in compliance with these Rules.

15.4 Used Oil Generator Standards

Used oil generators are subject to the requirements of this Rule. Household used oil generators are not subject to the requirements of this section. Once household used oil is accepted by a used oil collection center the used oil is subject to regulation under this Rule. The owner or operator of vessels and the person removing or accepting used oil from the vessel are co-generators of the used oil and both are responsible for managing the used oil in compliance with this Rule once the used oil is transported ashore. The co-generators may decide which of them will fulfill the requirements of this Rule. Used oil generators shall store used oil onsite in containers, aboveground storage tanks or in underground storage tanks only provided that they comply with the following requirements:

A. Container Storage. Used oil generators that store used oil in containers shall do so in accordance with the following requirements:

1. The amount of used oil stored on-site by a used oil generator shall not exceed 1,320 gallons (equivalent to twenty-four 55 gallon drums) unless the used oil generator;
 - (a) Prepares a contingency plan that satisfies all of the requirements of Rule 5.2 and maintains the plan onsite for use in case of a fire spill or emergency;
 - (b) Does not store the excess used oil (amount greater than 1,320 gallons) on-site for greater than 180 days; and
 - (c) Marks the containers holding the excess used oil with the initial date upon which the excess used oil began accumulating.
 2. Containers holding used oil shall be in good condition and free of rusting or structural defects that threaten the integrity of the container. In the event that a container deteriorates and begins to leak the generator shall transfer the used oil to a container that is in good condition;
 3. Containers holding used oil shall be clearly marked with the words "Used Oil"; and
 4. Containers of used oil that are stored outside the facility shall be placed on an impervious surface under a roofed structure and protected from precipitation and flooding.
- B. Storage in Aboveground Storage Tanks (ASTs). Generators that store used oil in ASTs shall do so in accordance with the following requirements:
1. ASTs used by used oil generators to store used oil shall be registered with the Department and managed in accordance with the Department's *Oil Pollution Control Regulations*;
 2. The total amount of used oil stored in the ASTs shall not exceed two thousand (2,000) gallons at any time;
 3. Aboveground storage tanks holding used oil shall be permanently marked with the words "Used Oil"; and
 4. Aboveground storage tanks holding used oil shall be kept closed at all times, unless adding or removing used oil.
- C. Storage in Underground Storage Tanks (USTs). Used oil generators that store used oil in USTs shall do so in accordance with the following requirements:
1. Underground storage tanks used for storing used oil shall be registered with the Department and managed in accordance with the *Regulations for Underground Storage Facilities Used For Petroleum Products and Hazardous Materials*; and
 2. Underground storage tanks holding used oil shall have the fill pipe marked or labeled to clearly indicate used oil storage.

- D. Response to Used Oil Releases. Used oil generators shall maintain an adequate volume of spill control equipment on-site to contain and clean up the entire volume of used oil stored onsite and upon detection of a release of used oil shall:
1. Take immediate steps to stop and control the release;
 2. Clean up, contain and properly manage the used oil and other resultant wastes;
 3. Repair or replace all damaged or leaking containers or tanks prior to returning them to service;
 4. Notify the Department's Emergency Response Program (at 222-1360 or after hours at 222-3070); the local authorities and, if required by 49 CFR 171.15, notify the National Response Center; and
 5. Comply with the requirements of the *Oil Pollution Control Regulations, Regulations for Underground Storage Facilities Used For Petroleum Products and Hazardous Materials* and all other applicable Federal, State and Municipal Rules and Regulations relating to the release and handling of spilled or released used oil.
- E. Processing of Used Oil. Except as provided in section (E) (1) through (5) below; used oil generators that process or re-refine used oil are subject to the requirements of Rule 15.8. Used oil generators may conduct the following activities provided that the used oil is not sent off-site for burning as specification used oil:
1. Filtering, cleaning or otherwise reconditioning used oil before returning it for reuse by the generator;
 2. Separating used oil from wastewater generated on-site to make the wastewater suitable for discharge in accordance with a permit issued by a local Publicly Owned Treatment Works (POTWs), the Department's *Water Quality Regulations* and Section 307 or 402 of the Clean Water Act;
 3. Using oil mist collectors to remove used oil from the in-plant air to make the air in the plant suitable for continued recirculation;
 4. Draining or otherwise removing used oil from materials containing or otherwise contaminated with used oil in order to remove the oil to the extent practicable pursuant to Rule 15.1(D); and
 5. Filtering, separating or otherwise reconditioning used oil before burning it on-site in a space heater in accordance with Rule 15.4 (F).
- F. Burning of used oil on-site. Used oil generators may burn used oil on-site in space heaters in accordance with the provisions of Rule 15.3.
- G. Off-site shipments. Except as provided in sections (1) and (2) below, used oil generators shall ensure that their used oil is shipped off-site by a used oil transporter who is permitted by the Department in accordance with Rule 15.7 and Rule 6.0.

1. Self-transportation. A used oil generator of used oil may transport used oil generated on-site without complying with the transporter requirements contained in Rule 15.7, provided that:
 - (a) The used oil is transported in a vehicle owned by the used oil generator or a vehicle owned by an employee of the used oil generator;
 - (b) Not more than 55 gallons of used oil is transported at any time;
 - (c) Containers used to transport used oil shall meet USDOT standards and be USDOT approved; and
 - (d) The used oil is transported to an aggregation point as defined in Rule 3.0.

2. Tolling arrangements. Used oil generators may arrange for used oil to be transported by a used oil transporter that does not have an EPA identification number if the used oil is reclaimed under a contractual agreement pursuant to which reclaimed oil is returned by the used oil processor/re-refiner to the used oil generator for use as a lubricant, cutting oil or coolant. The contract (known as a "tolling arrangement") shall indicate the following:
 - (a) The type of used oil and the frequency of shipments;
 - (b) That the vehicle used to transport the used oil to the processing/re-refining facility and to deliver the recycled used oil back to the used oil generator is owned and operated by the used oil processor/re-refiner; and
 - (c) That the reclaimed oil will be returned to the used oil generator.

3. Tracking.

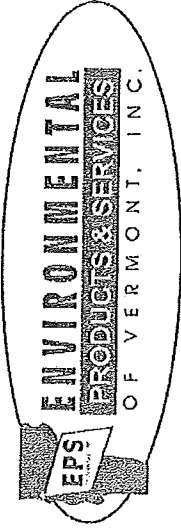
Used oil generators shall keep a record of each used oil shipment sent offsite for processing or burning for a period of at least three years which shall include the following:

- (a) The name and address of the used oil generator, used oil transporter or used oil processor/re-refiner who provided the used oil for transport;
- (b) The EPA Identification Number (if applicable) of the used oil generator, used oil transporter or used oil processor/re-refiner who provided the used oil for transport;
- (c) The quantity of used oil shipped;
- (d) The date the used oil was received by the used oil transporter or used oil processor/re-refiner; and
- (e) The name and signature of an agent of the used oil generator, used oil transporter or used oil processor/re-refiner that provided the used oil for transport.

(Section 15.4.H-15.9 omitted from excerpt)

APPENDIX B

Rationale for Management of Off-Spec Fuel



300 Smith Boulevard, Albany, NY 12202
Ph. (518) 465-4000

CERTIFICATE OF RECYCLING

Quantity
530 Gallons

Material
Gasoline Mixture

Was received as an off-specification product for recycling by Environmental Products and Services of Vermont, Inc. - Albany from Rhode Island Recycled metals on the 7th day of October, 2011. The fuel product has been accepted as a fuel product for recycling in accordance with federal, state and local regulations.

Approval Number
A0211081-PFT

Document Number

STN19904-EPS

Name

Joshua Cuzdey

Title

Environmental Coordinator

Date

01-25-2012

Subject: RE: RE: RE: RI Recycled Metals
From: "Sean Carney" <sean.carney@DEM.RI.GOV>
Date: 12/29/2011 7:56 AM
To: "Dave Hazebrouck" <dhazebrouck@lakeshoreenvironmentalri.com>
CC: "Tracey Tyrrell" <tracey.tyrrell@DEM.RI.GOV>

Hello Dave,

Thanks for following up on this matter. Mike (Cyn) is correct that all I needed was the names of the receiving facilities along with a statement that they are processing the gas/water mixture for use as a fuel and properly managing the water component of the recovered material. I can look into the two named facilities to confirm the statements provided below. I agree with Mike that the burden is on the Generator to confirm that the recovered gas/water qualifies for the exclusion (exemption) contained in 40 CFR 261.2(c)(ii) prior to sending the mixture offsite on a bill of lading. In addition, RIRM (as the generator) should maintain copies of all of the Bills of Lading associated with the shipments of recovered gas/water for a period of at least three (3) years to document proper handling of this material. I would also recommend that RIRM directly request a letter from the receiving facilities confirming that the gas/water mixture is processed and then ultimately burned for energy recovery for its own records. I do not believe such a request places a significant burden on the Facility since a simple one page letter would suffice.

I will print out this email exchange and place it in the RIRM file but I believe that a letter from RIRM to RIDEM detailing the manner in which it sends the subject gasoline mixture offsite would serve to better document its compliance for the official record. The letter should identify the receiving facilities that RIRM uses to process the gasoline and state the final disposition of the unused wastewater component of the mixture.

I am available all day to discuss the results of the analysis of the liquid waste from the car crushing operation. At this time I must direct RIRM to immediately begin managing this waste stream as a hazardous waste which means capturing all of the fluid coming from the car crusher and storing it in containers or tanks that are managed in accordance with the applicable sections of the Hazardous Waste Regulations. Depending on the method chosen for the handling and temporary storage of this waste stream, RIRM may be required to develop a contingency plan, provide secondary containment for the car crushing unit and meet several other regulatory standards. Please direct RIRM to advise me on the company's plan to manage this waste stream so that I can confirm it is operating in compliance with the regulations relating to the subject waste.

Thanks,

Sean R. Carney
Principal Environmental Scientist
Office of Compliance & Inspection
Rhode Island Department of Environmental Management

phone: (401) 222-1360 ext. 7411
fax: (401) 222-3811
email: sean.carney@dem.ri.gov

From: Dave Hazebrouck [mailto:dhazebrouck@lakeshoreenvironmentalri.com]
Sent: Wednesday, December 28, 2011 5:47 PM
To: Sean Carney
Subject: Fwd: RE: RE: RI Recycled Metals

Hi Sean:

Based on my read of Cyn's explanation of how they recycle the bad gas picked up from RIRM, this material is not a solid waste and therefore is not a haz waste. Would you agree?

Dave

----- Original Message -----

Subject:RE: RE: RI Recycled Metals

Date:Wed, 28 Dec 2011 22:15:38 +0000

From:Mike Mazzeo <mike_mazzeo@cynenv.com>

To:Dave Hazebrouck <dhazebrouck@lakeshoreenvironmentalri.com>

Dave,

I cannot simply reference all manifests we have transported for RIRM for the past year as easily as I thought I could. Reason being, is all waste we have manifested has been carried on BOLs. BOLs are treated differently than hazardous waste manifests, as they are not reported to the state, as they are never subjectable to fees or taxes. The only way for me to reference archived non-hazardous manifests, is by having my billing dept. pull all job folders for RIRM. I have done this, and they produced four separate events that have taken place in the past calendar year. If we need to go back farther, it will take considerable time.

Now, it seems as though the very last event (12/15/11) we picked up containerized (in 55g drums) gasoline mixtures. The previous four events (11/14/11, 9/29/11 and 8/7/11), we sent a vacuum truck to RIRM, and pumped the drums onsite into our bulk tanker. The containerized drums were shipped to Enpro Services of VT, and the three prior bulk loads (11/14/11, 9/29/11 and 8/7/11) were shipped to EPS of VT.

This is an excerpt taken directly from Enpro of VT's facilities manager, who was replying directly to my inquiry:

"You are correct in your understanding about how to ship gasoline mixtures. So long as the material is recycled it is not considered "waste" in the RCRA sense and can be shipped on a BOL.

The end game for the material is; it goes through a product/water separation process and the water is sent for treatment via waste water treatment. The product is sent to a facility that cleans it up and blends it back into useable gasoline product for sale. We send our material to ENPRO's gasoline recycling facility in Newburyport. They do the physical separation there and then send the gas portion to the cleaner/blender."

Now, EPS of VT is basically a middle man that directly hauls our offloaded product to Global Companies, LLC, 50 Church St., Albany, NY for us, as we do not have our own clearance to deal with them directly. Their process is the same as Enpro's described above. The only difference being that they blend it right onsite, and ship out as virgin product at the same facility. They are a true end point.

I will say however, I am of the opinion that it is up to the generator themselves as to how they want their waste streams shipped, within reason. Whether profiles and/or manifests were provided for them ahead of time, it is ultimately the generator's responsibility to make corrections/adjustments to the paperwork prior to signing. For instance, if a customer had a gasoline mixture waste stream, and told me they wanted to ship it on a haz. manifest for whatever reason, I would certainly have no problem obliging, and both facilities would certainly still take that manifest. But, this opens us up to transporter taxes/fees that would seem to be unnecessary. This is the reasoning for how we transport our gas mixtures, and it is perfectly legit RCRA-wise.

I have not requested that documents be made up at these facilities specifically for RIRM, as it would take days to receive them. These facilities are very busy places, and typically would take some time for a request like that. The two facilities I named should be enough to satisfy the DEM, as I am sure they know of them already. If this really is still an issue, I will send a request for a couple of legal documents, and then we will play the waiting game to receive. I figured this way would be a lot faster.

Anyways, here are volumes of last four events (all gasoline mixtures shipped on a BOL):

8/9/11 320 gal.
9/29/11 530 gal.
11/14/11 653 gal.
12/15/11 275 gal.

I hope this answers your concerns. Please let me know if I can be of any more help.

Thanks,

Mike Mazzeo

Cyn Environmental Services

From: Dave Hazebrouck [mailto:dhazebrouck@lakeshoreenvironmentalri.com]
Sent: Wednesday, December 28, 2011 4:09 PM
To: Mike Mazzeo
Cc: Ken Hanley
Subject: Fwd: RE: RI Recycled Metals

Mike:

As discussed in our telephone conversation this afternoon, the following Email is from RIDEM regarding the RI Recycled metals salvage yard in Providence, RI. The DEM Email described an exemption from the haz waste rules if the "bad gasoline" is burned for energy recovery. Can you pls check with your vendor where this material is shipped and confirm in writing that it is recycled/burned such that it is used for energy recovery? Thanks & since DEM is waiting for our response, time is of the essence.

Also, we need to determine the quantity of bad gas and any other liquid wastes (per month) that you picked up for RIRM over the past year. We are trying to confirm that they are small quantity generators.

I'll look forward to hearing back from you Mike. Thanks

Dave

David J. Hazebrouck, PG, LSP, LEP
Lake Shore Environmental, Inc.
Mich Bldg, 2nd Flr, Suite 3
10 Nate Whipple Highway
Cumberland, RI 02864
Phone: 401-658-1880
Fax: 401-658-1883
Email: dhazebrouck@lakeshoreenvironmentalri.com

----- Original Message -----

Subject:RE: RI Recycled Metals

Date:Mon, 7 Nov 2011 07:46:03 -0500

From:Sean Carney <sean.carney@DEM.RI.GOV>

To:Dave Hazebrouck <dhazebrouck@lakeshoreenvironmentalri.com>

CC:Tracey Tyrrell <tracey.tyrrell@DEM.RI.GOV>

Hey Dave,

I am sorry for the delayed response to your question. I realized after we got off the phone that the matter is actually quite simple. The gasoline which is recovered from the gas tanks of the scrapped vehicles is not a solid waste as long as the generator can show that it is being burned for energy recovery in accordance with 40 CFR 261.2(c)(2)(ii) as a commercial chemical product. The gasoline is not spent since it has not been used for its intended purpose. From this perspective the gasoline is not a solid waste and so it does not fall subject to the mixing rule under RI's used oil regulations. So, the short answer is "yes" the generator may mix the gasoline with its' used oil for burning onsite. I recommend that this activity/procedure be documented in an SOP so that it's clear to the workers as well as anyone visiting the site. I also recommend that the containers holding the recovered gasoline be labeled as such and managed to prevent spills/releases since such an activity would constitute a violation.

I would also like to meet onsite either Thursday (11/10) or sometime next week to review the interim measures the generator has taken to prevent the spills/releases of petroleum as required by the LNC issued on 5/2/11. If you have any questions regarding this matter feel free to contact me.

Thanks,

Sean R. Carney

Principal Environmental Scientist

Office of Compliance & Inspection

Rhode Island Department of Environmental Management

phone: (401) 222-1360 ext. 7411

fax: (401) 222-3811

email: sean.carney@dem.ri.gov

From: Dave Hazebrouck [<mailto:dhazebrouck@lakeshoreenvironmentalri.com>]

Sent: Thursday, November 03, 2011 10:28 AM

To: Sean Carney

Subject: RI Recycled Metals

Hi Sean:

Thanks for your feedback this morning.

As discussed, I'd like to receive clarification whether or not these guys can blend waste gasoline that would otherwise be hazardous to their waste oil stream if it is burned on-site in a WO furnace.

Also, I will confirm that a site meeting next week is ok & get back to you.

Dave

--

David J. Hazebrouck, PG, LSP, LEP

Lake Shore Environmental, Inc.

Mich Bldg, 2nd Flr, Suite 3

10 Nate Whipple Highway

Cumberland, RI 02864

Phone: 401-658-1880

Fax: 401-658-1883

Email: dhazebrouck@lakeshoreenvironmentalri.com

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APPENDIX C

Crusher Analytical Laboratory Data Report



REPORT OF ANALYTICAL RESULTS

NETLAB Case Number W1213-19

Prepared for:

Lake Shore Environmental
10 Nate Whipple Highway
Cumberland, RI 02864

Report Date: December 20, 2011

Reviewed by:

Richard Warila
Laboratory Director

Lab # RI010

NEW ENGLAND TESTING LABORATORY, INC.

1254 Douglas Avenue, North Providence, RI 02904

(401) 353-3420

SAMPLES SUBMITTED and REQUEST FOR ANALYSIS:

The samples listed in Table I were submitted to New England Testing Laboratory on December 13, 2011. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. The case number for this sample submission is W1213-19.

Custody records are included in this report.

TABLE I, Samples Submitted

Sample ID	Date Sampled	Matrix	Analysis Requested
Crusher-1	12/13/11	Water/Oil	Table II

TABLE II, Analysis and Methods

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
PCBs	3541	8082
pH	NA	9045C
Flashpoint	NA	1010A
Reactive Cyanide	NA	HCN Test Method
Reactive Sulfide	NA	H ₂ S Test Method
Total Halogens		
Total Metals		
Arsenic	3050B	6010C
Barium	3050B	6010C
Cadmium	3050B	6010C
Chromium	3050B	6010C
Lead	3050B	6010C
Mercury	NA	7471A
Selenium	3050B	6010C
Silver	3050B	6010C

These methods are documented in:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd ed., USEPA.

CASE NARRATIVE:

Sample Receipt:

No trip blank or field blank was supplied. (This does not qualify the analytical results but does prevent conducting these SW-846 {Chapter 1, Section 3.4} QA Audits).

The samples were all appropriately cooled and preserved upon receipt.

The samples were received in the appropriate containers.

The chain of custody was adequately completed and corresponded to the samples submitted.

Metals:

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Total Petroleum Hydrocarbons:

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Total Petroleum Hydrocarbons:

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures.

Crusher-1

Parameter	Result	Reporting Limit	Date Analyzed
pH, S.U.	6.73	NA	12/13/11 @ 18:25
Flashpoint, Deg. F	<70	NA	12/14/11
Reactive Cyanide, mg/l	0.09	0.01	12/15/11
Reactive Sulfide, mg/l	ND	0.01	12/14/11
Total Halogens, mg/l	400	200	12/14/11

NA = Not Applicable

N.D. = Not Detected

METALS RESULTS

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Metals Analysis Department certifies that the results included in this section have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

New England Testing Laboratory, Inc.

METALS RESULTS



Case Number: W1213-19
 Sample ID: Crusher-1
 Date collected: 12/13/11
 Matrix: Water/Oil
 Sample Type: Total

Analyst JC/DC

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Detection Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3010A	6010C	ND	0.01	0.01	mg/l	12/16/11	12/16/11
Barium	7440-39-3	3010A	6010C	1.44	0.005	0.005	mg/l	12/16/11	12/16/11
Cadmium	7440-43-9	3010A	6010C	0.047	0.005	0.005	mg/l	12/16/11	12/16/11
Chromium	7440-47-3	3010A	6010C	0.415	0.005	0.005	mg/l	12/16/11	12/16/11
Lead	7439-92-1	3010A	6010C	2.33	0.005	0.005	mg/l	12/16/11	12/16/11
Mercury	7439-97-6	NA	7470	ND	0.0002	0.0002	mg/l	12/16/11	12/16/11
Selenium	7782-49-2	3010A	6010C	0.08	0.01	0.01	mg/l	12/16/11	12/16/11
Silver	7440-22-4	3010A	6010C	ND	0.005	0.005	mg/l	12/16/11	12/16/11

ND indicates Not Detected.

METALS RESULTS



Sample ID: METHOD BLANK

Matrix WATER
 Sample Type: Preparation Blank

Analyst JC/DC

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Detection Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3010A	6010C	ND	0.01	0.01	mg/l	12/16/11	12/16/11
Barium	7440-39-3	3010A	6010C	ND	0.005	0.005	mg/l	12/16/11	12/16/11
Cadmium	7440-43-9	3010A	6010C	ND	0.005	0.005	mg/l	12/16/11	12/16/11
Chromium	7440-47-3	3010A	6010C	ND	0.005	0.005	mg/l	12/16/11	12/16/11
Lead	7439-92-1	3010A	6010C	ND	0.005	0.005	mg/l	12/16/11	12/16/11
Mercury	7439-97-6	NA	7470A	ND	0.0002	0.0002	mg/l	12/16/11	12/16/11
Selenium	7782-49-2	3010A	6010C	ND	0.01	0.01	mg/l	12/16/11	12/16/11
Silver	7440-22-4	3010A	6010C	ND	0.005	0.005	mg/l	12/16/11	12/16/11

ND indicates Not Detected.

LABORATORY CONTROL SAMPLE RECOVERY

Parameter	True Value	Result	Units	Recovery, %	Internal		Date Analyzed
					LCL, %	UCL, %	
Arsenic	0.20	0.19	mg/l	94	80	109	12/16/11
Barium	1.00	0.94	mg/l	94	80	117	12/16/11
Cadmium	1.00	0.97	mg/l	97	80	111	12/16/11
Chromium	1.00	0.96	mg/l	96	80	112	12/16/11
Lead	1.00	0.95	mg/l	95	80	120	12/16/11
Mercury	0.001	0.001	mg/l	91	83	119	12/16/11
Selenium	0.20	0.19	mg/l	94	80	101	12/16/11
Silver	0.60	0.59	mg/l	98	80	108	12/16/11

RESULTS: PCBs

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Organics Analysis Department certifies that the samples included in this section have been prepared and analyzed using the procedures cited and that the results have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

Sample: Crusher-1		Analyst's Initials: NS
Case No. W1213-19		
Date Collected: 12/13/11		
Sample Matrix: Water		
Subject: PCBs	Date Extracted	Date Analyzed
Prep Method: EPA 3510C	12/19/11	12/19/11
Analytical Method: EPA 8082A		
Compound	Concentration ug/l (ppb)	Reporting Limit
Aroclor-1016	N.D.	0.2
Aroclor-1221	N.D.	0.2
Aroclor-1232	N.D.	0.2
Aroclor-1242	N.D.	0.2
Aroclor-1248	N.D.	0.2
Aroclor-1254	N.D.	0.2
Aroclor-1260	N.D.	0.2
Aroclor-1262	N.D.	0.2
Aroclor-1268	N.D.	0.2
Surrogates:		
Compound	% Recovery	Limits
TCMX	63	42-126
DCBP	77	41-142

Sample: Method Blank		Analyst's Initials: NS
Case No. W1213-19		
Date Collected: NA		
Sample Matrix: Water		
Subject: PCBs	Date Extracted	Date Analyzed
Prep Method: EPA 3510C	12/19/11	12/19/11
Analytical Method: EPA 8082A		
Compound	Concentration ug/l (ppb)	Reporting Limit
Aroclor-1016	N.D.	0.2
Aroclor-1221	N.D.	0.2
Aroclor-1232	N.D.	0.2
Aroclor-1242	N.D.	0.2
Aroclor-1248	N.D.	0.2
Aroclor-1254	N.D.	0.2
Aroclor-1260	N.D.	0.2
Aroclor-1262	N.D.	0.2
Aroclor-1268	N.D.	0.2
Surrogates:		
Compound	% Recovery	Limits
TCMX	60	42-126
DCBP	72	41-142

PCB Laboratory Control Spike

Sample Matrix: Water				
Subject: PCB	Date Extracted			Date Analyzed
Prep Method: EPA 3510C	12/19/11			12/19/11
Analytical Method: EPA 8082A				
Compound	Amount Spiked mg/kg	Result mg/kg	Recovery %	Recovery Limits
Aroclor 1016	0.500	0.503	101	42-126
Aroclor 1260	0.500	0.419	84	41-142
Surrogates:				
Compound	% Recovery	Limits		
TCMX	45	39-120		
DCBP	68	34-140		



REPORT OF ANALYTICAL RESULTS

NETLAB Case Number Y0106-16

Prepared for:

Lake Shore Environmental
10 Nate Whipple Highway
Cumberland, RI 02864

Report Date: January 13, 2012

Reviewed by:

Richard Warila
Laboratory Director

Lab # RI010

NEW ENGLAND TESTING LABORATORY, INC.

1254 Douglas Avenue, North Providence, RI 02904

(401) 353-3420

SAMPLES SUBMITTED and REQUEST FOR ANALYSIS:

The samples listed in Table I were submitted to New England Testing Laboratory on January 6, 2012. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. The case number for this sample submission is Y0106-16.

Custody records are included in this report.

TABLE I, Samples Submitted

Sample ID	Date Sampled	Matrix	Analysis Requested
Crusher-2	12/13/11	Water/Oil	Table II

TABLE II, Analysis and Methods

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
PCBs	3541	8082
pH	NA	9045C
Flashpoint	NA	1010A
Reactive Cyanide	NA	HCN Test Method
Reactive Sulfide	NA	H ₂ S Test Method
Volatile Organic Compounds	5030	8260B
Total Metals		
Arsenic	3010A	6010C
Barium	3010A	6010C
Cadmium	3010A	6010C
Chromium	3010A	6010C
Lead	3010A	6010C
Mercury	NA	7471A
Selenium	3010A	6010C
Silver	3010A	6010C

These methods are documented in:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd ed., USEPA.

CASE NARRATIVE:

Sample Receipt:

No trip blank or field blank was supplied. (This does not qualify the analytical results but does prevent conducting these SW-846 {Chapter 1, Section 3.4} QA Audits).

The samples were all appropriately cooled and preserved upon receipt.

The samples were received in the appropriate containers.

The chain of custody was adequately completed and corresponded to the samples submitted.

Metals:

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

PCBs:

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Volatile Organic Compounds:

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria. "Crusher-2" was analyzed at a dilution due to sample matrix.

Wet Chemistry:

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures.

Crusher-2

Parameter	Result	Reporting Limit	Date Analyzed
pH, S.U.	7.03	NA	1/6/12 @ 17:00
Flashpoint, Deg. F	135	NA	1/9/12
Reactive Cyanide, mg/l	ND	0.01	1/9/12
Reactive Sulfide, mg/l	ND	0.01	1/9/12

NA = Not Applicable

N.D. = Not Detected

METALS RESULTS

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Metals Analysis Department certifies that the results included in this section have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

METALS RESULTS



Case Number: Y0106-16
 Sample ID: Crusher-2
 Date collected: 12/13/12
 Matrix: WATER/OIL
 Sample Type: TOTAL

Analyst JC/DC

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3010A	6010C	ND	0.10	mg/l	1/11/12	1/11/12
Barium	7440-39-3	3010A	6010C	4.63	0.05	mg/l	1/11/12	1/11/12
Cadmium	7440-43-9	3010A	6010C	0.28	0.05	mg/l	1/11/12	1/11/12
Chromium	7440-47-3	3010A	6010C	1.47	0.05	mg/l	1/11/12	1/11/12
Lead	7439-92-1	3010A	6010C	18.8	0.05	mg/l	1/11/12	1/11/12
Mercury	7439-97-6	NA	7470A	ND	0.0002	mg/l	1/11/12	1/11/12
Selenium	7782-49-2	3010A	6010C	0.40	0.10	mg/l	1/11/12	1/11/12
Silver	7440-22-4	3010A	6010C	ND	0.05	mg/l	1/11/12	1/11/12

ND indicates Not Detected.

METALS RESULTS



Sample ID: METHOD BLANK

Matrix WATER

Analyst JC/DC

Sample Type: Preparation Blank

	CAS	Preparative	Analytical		Reporting		Date of	Date
Parameter	Number	Method	Method	Result	Limit	Units	Preparation	Analyzed
Arsenic	7440-38-2	3010A	6010C	ND	0.01	mg/l	1/11/12	1/11/12
Barium	7440-39-3	3010A	6010C	ND	0.005	mg/l	1/11/12	1/11/12
Cadmium	7440-43-9	3010A	6010C	ND	0.005	mg/l	1/11/12	1/11/12
Chromium	7440-47-3	3010A	6010C	ND	0.005	mg/l	1/11/12	1/11/12
Lead	7439-92-1	3010A	6010C	ND	0.005	mg/l	1/11/12	1/11/12
Mercury	7439-97-6	NA	7470A	ND	0.0002	mg/l	1/11/12	1/11/12
Selenium	7782-49-2	3010A	6010C	ND	0.01	mg/l	1/11/12	1/11/12
Silver	7440-22-4	3010A	6010C	ND	0.005	mg/l	1/11/12	1/11/12

ND indicates Not Detected.

LABORATORY CONTROL SAMPLE RECOVERY

Parameter	True Value	Result	Units	Recovery, %	Internal		Date Analyzed
					LCL, %	UCL, %	
Arsenic	0.20	0.19	mg/l	94	80	109	1/11/12
Barium	1.00	0.92	mg/l	92	80	117	1/11/12
Cadmium	1.00	0.92	mg/l	92	80	111	1/11/12
Chromium	1.00	0.95	mg/l	95	80	112	1/11/12
Lead	1.00	0.96	mg/l	96	80	120	1/11/12
Mercury	0.001	0.001	mg/l	103	83	119	1/11/12
Selenium	0.20	0.19	mg/l	95	80	101	1/11/12
Silver	0.60	0.55	mg/l	92	80	108	1/11/12

RESULTS: PCBs

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Organics Analysis Department certifies that the samples included in this section have been prepared and analyzed using the procedures cited and that the results have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

Sample: Crusher-2		Analyst's Initials: NS
Case No. Y0106-16		
Date Collected: 1/6/2012		
Sample Matrix: Oil		
Subject: PCBs	Date Extracted	Date Analyzed
Prep Method: EPA 3580A	1/9/12	1/9/12
Analytical Method: EPA 8082A		
Compound	Concentration mg/kg (ppm)	Reporting Limit
Aroclor-1016	N.D.	1.0
Aroclor-1221	N.D.	1.0
Aroclor-1232	N.D.	1.0
Aroclor-1242	N.D.	1.0
Aroclor-1248	N.D.	1.0
Aroclor-1254	N.D.	1.0
Aroclor-1260	N.D.	1.0
Aroclor-1262	N.D.	1.0
Aroclor-1268	N.D.	1.0
Surrogates:		
Compound	% Recovery	Limits
TCMX	45	42-126
DCBP	42	41-142

Sample: Method Blank		Analyst's Initials: NS
Case No. Y0106-16		
Date Collected: NA		
Sample Matrix: Oil		
Subject: PCBs	Date Extracted	Date Analyzed
Prep Method: EPA 3580A	1/9/12	1/9/12
Analytical Method: EPA 8082A		
Compound	Concentration mg/kg (ppm)	Reporting Limit
Aroclor-1016	N.D.	1.0
Aroclor-1221	N.D.	1.0
Aroclor-1232	N.D.	1.0
Aroclor-1242	N.D.	1.0
Aroclor-1248	N.D.	1.0
Aroclor-1254	N.D.	1.0
Aroclor-1260	N.D.	1.0
Aroclor-1262	N.D.	1.0
Aroclor-1268	N.D.	1.0
Surrogates:		
Compound	% Recovery	Limits
TCMX	86	42-126
DCBP	88	41-142

RESULTS: VOLATILE ORGANIC COMPOUNDS

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Organics Analysis Department certifies that the samples included in this section have been prepared and analyzed using the procedures cited and that the results have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: Y0106-16 Client Name: Lake Shore Environment
 Method: 8260 Lab Sample ID: Crusher-2
 Matrix: (soil/water) WATER Lab File ID: C011216.D
 Sample wt/vol: 5.0 (g/ml) ML Date Sampled: 1/6/2012
 % Moisture _____ Date Analyzed: 1/12/2012
 Soil Extract Volume: _____ (uL) Dilution Factor: 200.0
 Analyst's Initials: _____ Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	UNITS: <u>ug/L</u>	Q
75-01-4	Vinyl Chloride	200	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	200	U
67-64-1	Acetone	3800	
75-35-4	1,1-Dichloroethene	200	U
75-15-0	Carbon Disulfide	200	U
75-09-2	Methylene Chloride	200	U
1634-04-4	tert-Butyl methyl ether	200	U
156-60-5	trans-1,2 Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	200	U
78-93-3	2-Butanone	4200	
594-20-7	2,2-Dichloropropane	200	U
156-59-2	cis-1,2-Dichloroethene	200	U
67-66-3	Chloroform	200	U
74-97-5	Bromochloromethane	200	U
71-55-6	1,1,1-Trichloroethane	200	U
563-58-6	1,1-Dichloropropene	200	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	380	
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	200	U
78-87-5	1,2-Dichloropropane	200	U
75-27-4	Bromodichloromethane	200	U
74-95-3	Dibromomethane	200	U
108-10-1	4-Methyl-2-pentanone	200	U
106-93-4	Ethylene Dibromide	200	U
10061-01-5	cis-1,3-Dichloropropene	200	U
108-88-3	Toluene	21000	
10061-02-6	Trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
591-78-6	2-Hexanone	5500	
127-18-4	Tetrachloroethene	200	U
124-48-1	Chlorodibromomethane	200	U
108-90-7	Chlorobenzene	200	U
630-20-6	1,1,1,2-Tetrachloroethane	200	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: Y0106-16 Client Name: Lake Shore Environment
 Method: 8260 Lab Sample ID: Crusher-2
 Matrix: (soil/water) WATER Lab File ID: C011216.D
 Sample wt/vol: 5.0 (g/ml) ML Date Sampled: 1/6/2012
 % Moisture _____ Date Analyzed: 1/12/2012
 Soil Extract Volume: _____ (uL) Dilution Factor: 200.0
 Analyst's Initials: _____ Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	UNITS: <u>ug/L</u>	Q
100-41-4	Ethylbenzene	5500	
1330-20-7	m & p-Xylene	26000	
95-47-6	o-Xylene	12000	
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
98-82-8	Isopropylbenzene	400	
79-34-5	1,1,2,2-Tetrachloroethane	200	U
108-86-1	Bromobenzene	200	U
96-18-4	1,2,3-Trichloropropane	200	U
95-49-8	2-Chlorotoluene	200	U
103-65-1	n-Propylbenzene	2300	
108-67-8	1,3,5-Trimethylbenzene	3400	
106-43-4	4-Chlorotoluene	200	U
98-06-6	tert-Butylbenzene	200	U
95-63-6	1,2,4-Trimethylbenzene	10000	
135-98-8	sec-Butylbenzene	360	
99-87-6	p-Isopropyltoluene	330	
75-87-3	Chloromethane	200	U
75-65-0	tert butyl alcohol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
109-99-9	Tetrahydrofuran	200	U
106-46-7	1,4-Dichlorobenzene	200	U
60-29-7	Diethyl Ether	200	U
104-51-8	n-Butylbenzene	790	
95-50-1	1,2-Dichlorobenzene	200	U
96-12-8	1,2-Dibromo-3-chloropropane	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
87-68-3	Hexachlorobutadiene	200	U
91-20-3	Naphthalene	2200	
87-61-6	1,2,3-Trichlorobenzene	200	U
994-05-8	Tert-amyl Methyl Ether	200	U
75-71-8	Dichlorodifluoromethane	200	U
142-28-9	1,3-Dichloropropane	200	U
75-69-4	Trichlorofluoromethane	200	U
637-92-3	Ethyl Tert-butyl ether	200	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: Y0106-16 Client Name: Lake Shore Environment
 Method: 8260 Lab Sample ID: Crusher-2
 Matrix: (soil/water) WATER Lab File ID: C011216.D
 Sample wt/vol: 5.0 (g/ml) ML Date Sampled: 1/6/2012
 % Moisture _____ Date Analyzed: 1/12/2012
 Soil Extract Volume: _____ (uL) Dilution Factor: 200.0
 Analyst's Initials: _____ Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	UNITS: <u>ug/L</u>	Q
108-20-3	Diisopropyl Ether	200	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: Y0106-16 Client Name: Lake Shore Environment
 Method: 8260 Lab Sample ID: VBLK011212
 Matrix: (soil/water) WATER Lab File ID: C011215.D
 Sample wt/vol: 5.0 (g/ml) ML Date Sampled: 1/6/2012
 % Moisture _____ Date Analyzed: 1/12/2012
 Soil Extract Volume: _____ (uL) Dilution Factor: 1.0
 Analyst's Initials: _____ Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	UNITS: <u>ug/L</u>	Q
75-01-4	Vinyl Chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
67-64-1	Acetone	5.0	U
75-35-4	1,1-Dichloroethene	1.0	U
75-15-0	Carbon Disulfide	1.0	U
75-09-2	Methylene Chloride	1.0	U
1634-04-4	tert-Butyl methyl ether	1.0	U
156-60-5	trans-1,2 Dichloroethene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
78-93-3	2-Butanone	5.0	U
594-20-7	2,2-Dichloropropane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
67-66-3	Chloroform	1.0	U
74-97-5	Bromochloromethane	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
563-58-6	1,1-Dichloropropene	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
74-95-3	Dibromomethane	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
106-93-4	Ethylene Dibromide	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	1.0	U
10061-02-6	Trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethene	1.0	U
124-48-1	Chlorodibromomethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U

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New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: Y0106-16 Client Name: Lake Shore Environment
 Method: 8260 Lab Sample ID: VBLK011212
 Matrix: (soil/water) WATER Lab File ID: C011215.D
 Sample wt/vol: 5.0 (g/ml) ML Date Sampled: 1/6/2012
 % Moisture _____ Date Analyzed: 1/12/2012
 Soil Extract Volume: _____ (uL) Dilution Factor: 1.0
 Analyst's Initials: _____ Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	UNITS: <u>ug/L</u>	Q
100-41-4	Ethylbenzene	1.0	U
1330-20-7	m & p-Xylene	2.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-86-1	Bromobenzene	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
95-49-8	2-Chlorotoluene	1.0	U
103-65-1	n-Propylbenzene	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
106-43-4	4-Chlorotoluene	1.0	U
98-06-6	tert-Butylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
135-98-8	sec-Butylbenzene	1.0	U
99-87-6	p-Isopropyltoluene	1.0	U
75-87-3	Chloromethane	1.0	U
75-65-0	tert butyl alcohol	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
109-99-9	Tetrahydrofuran	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
60-29-7	Diethyl Ether	1.0	U
104-51-8	n-Butylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
91-20-3	Naphthalene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U
994-05-8	Tert-amyl Methyl Ether	1.0	U
75-71-8	Dichlorodifluoromethane	1.0	U
142-28-9	1,3-Dichloropropane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
637-92-3	Ethyl Tert-butyl ether	1.0	U

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New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: Y0106-16 Client Name: Lake Shore Environment
 Method: 8260 Lab Sample ID: VBLK011212
 Matrix: (soil/water) WATER Lab File ID: C011215.D
 Sample wt/vol: 5.0 (g/ml) ML Date Sampled: 1/6/2012
 % Moisture _____ Date Analyzed: 1/12/2012
 Soil Extract Volume: _____ (uL) Dilution Factor: 1.0
 Analyst's Initials: _____ Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	UNITS: <u>ug/L</u>	Q
108-20-3	Diisopropyl Ether	1.0	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: New England Testing Laboratory Contract: _____

Lab Code: RI010 Case No.: Y0106-16 SAS No.: Lake S SDG No.: Lake Shor

	EPA SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	TOT OUT
01	VLCS011212	102	104	101	0
02	VBLK011212	95	98	97	0
03	CRUSHER-2	100	100	93	0

QC LIMITS

SMC1 = 4-Bromofluorobenzene (70-130)
 SMC2 = Toluene-D8 (70-130)
 SMC3 = 1,2-Dichloroethane-D4 (70-130)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D System Monitoring Compound diluted out

New England Testing Laboratory, Inc.

Volatile Organics Laboratory Control Spike

Date Analyzed:01/12/2012

Sample ID: VLCS011212

Compound	Spike Added	Spike Result	Recovery, %	Lower Control Limit, %	Upper Control Limit, %
1,1-Dichloroethene	50.0	50.6	101	70	129
Benzene	50.0	59.7	119	73	129
Trichloroethene	50.0	53.1	106	77	122
Toluene	50.0	57.4	115	75	123
Chlorobenzene	50.0	48.8	98	73	125

SOIL MANAGEMENT PLAN

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

This Soil Management Plan (SMP) has been prepared to establish procedures that will be followed during the bulkhead installation at 434 & 444 Allens Avenue in Providence, Rhode Island. This proposed project requires the need to manage soils excavated from the subsurface. The plan serves to supplement, and will be initiated by, the RIDEM notification requirement established by the Environmental Land Use Restriction (ELUR) for the property.

Background

The property is located at 434 & 444 Allens Avenue in Providence. According to the U.S. EPA, Region I - New England, the site was formerly "...owned by various parties including U.S. Lumber Company and Putnam Lumber Company. From 1972 to 1979, the property was owned by Texaco, Inc. Refine Met International (Refine Met) acquired the property in 1979 and reportedly used the property as a resource recovery facility where scrap metal, computer parts, circuit boards, capacitors, radios, and selected electronic components were shredded. Capacitors manufactured prior to the 1970s frequently contained dielectric fluid composed of polychlorinated biphenyls (PCBs). On-site activities conducted while Refine Met occupied the property are unknown. Boliden purchased the property from Refine Met in 1983 and operated the site as a resource recovery facility engaged in the reclamation of precious metals and minerals from 1983 to 1989. Scrap metals were received in bulk form, shredded, sampled, categorized, and accumulated for shipment to smelters overseas. The property is currently inactive."

The property was found to contain PCBs during a site investigation performed at the property. More recently, the site has been remediated and been found in compliance with RIDEM's Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases and has remained undeveloped since this time. The Department approved remedy apparently included the excavation of contaminated cells and filling with clean material. The regulated site soils are covered with Department approved engineered controls, consisting of clean soil and vegetation in order to prevent direct exposure to regulated soils and/or infiltration through soils which exceed the Department's Method 1 (GA or GB) Leachability Criteria.

Project Purpose

The purpose of this plan is to provide precautions and measures to be taken during and after construction to minimize soil erosion and sedimentation. The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. All structural components, save the three tie-off piles, will be located landward of the mean high water line. The proposed bulkhead and tie-off piles, in conjunction with the dredging, will allow derelict vessels to temporarily berth in a perpendicular fashion directly along the property's shoreline. The redeveloped waterfront will serve to facilitate the dismantling of derelict vessels. The scrap metal produced during the dismantling process will then be transferred to the upland and transported off-site to an appropriate upland recycling facility. The proposed upland activities involve the

installation of the bulkhead deadman anchor & tie-rod system with associated infiltration trench, and installation of a low-profile concrete work pad. The proposed structures involve negligible change in grade landward of the bulkhead location and no construction of above-ground structures. As a result, the proposed project will maintain existing upland topography.

Applicable Area

This SMP and affiliated PLUR, which restricts the property to Industrial/Commercial use, pertain to the entire property.

Project Details

The proposed activities include installation of a steel sheetpile bulkhead with a deadman anchor and tie-rod system with associated infiltration trench and installation of a low profile concrete work pad. All components will be constructed landward of the mean high water line. The proposed activities involve negligible change in grade landward of the bulkhead location with no above-ground structures. As a result, the proposed project will maintain existing upland topography. The anticipated construction methodology and project sequencing is outlined in the following section. At this time, it is projected that a total of approximately 2,146 cubic yards of material will be temporarily excavated for the bulkhead tie-back system and infiltration trench in multiple stages. The limit of this temporary excavation is shown on the application drawings. Any excess soil will be analyzed to confirm that it is below RIDEM direct exposure criteria. If the excess material meets RIDEM requirements, it will be redeposited on-site. Any material not meeting minimum RIDEM requirements will be properly disposed of at a RIDEM approved facility. In addition, it is projected that a total of approximately 500 cubic yards of material will be excavated waterward of the bulkhead down to the MHW elevation of +4.4' MLW. The limit of this excavation is shown on the application drawings. Any excavated soil will also be tested and either redeposited on-site or transported off-site per RIDEM instruction and approval. The project is anticipated to take approximately 90 working days to complete.

Construction Methodology & Project Sequencing

The installation of the above noted components will be conducted in multiple stages as outlined below.

1. The first phase of the project will consist of installing the steel sheeting. The bulkhead location will be properly staked with survey equipment prior to the initiation of construction activities. The installation of the sheeting will be conducted from a land based crane using a vibratory hammer. No excavation is planned with this phase, as the contractor will install the sheeting by ground penetration. The contractor will start at the northerly end of the property and work in a southerly direction, installing all sheeting in its entirety prior to installation of the deadman system.
2. Next, the contractor will begin installation of the tie-back system and infiltration trench by excavating the soil on the landward side of the new steel sheeting. The work will be conducted from the upland, landward of the mean high water line, and will not impact coastal resources. This work will be accomplished by use of a

backhoe stationed on the upland. The contractor will temporarily stockpile the backfill material on an upland portion of the site. A silt fence will be installed around the perimeter of all stockpiled material.

3. Next, the contractor will begin installing the upland concrete deadman. Temporary timber framing will be constructed to form the concrete deadman. The deadman will be then poured by machinery stationed from the upland. Once the concrete has cured, the timber forms will be removed.
4. Next, the Contractor will begin installing the walers and tie-rods. Twelve-inch walers will be installed on the landward face of the new steel sheeting. Tie-rods will then be connected from the deadman system to the walers on the backside of the new steel sheeting.
5. Once the steel tie-rods are connected, the infiltration trench will be lined with geotextile fabric and backfilled with clean crushed stone obtained from an approved offsite location. The trench will be covered with a layer of geotextile fabric and topped with clean soil. A backhoe and skid steer will return the ground to existing grade.
6. The contractor will then excavate the area waterward of the new steel bulkhead down to the MHW elevation of +4.4' M.W. Excavation will be conducted using an upland based excavator. This material will be disposed of on the project site landward of the proposed bulkhead or transported off site to an appropriate upland facility per RIDEM instruction and approval.
7. As the final step before the dredging project, the contractor will then install the low profile concrete work pad. The pad will be located within the area already disturbed by the installation of the deadman system.

Soil Management

The direct exposure pathway is the primary concern at the site. Individuals engaged in activities at the site may be exposed through incidental ingestion, dermal contact, or inhalation of vapors or entrained soil particles if proper precautions are not taken. Therefore, the following procedures will be followed to minimize the potential of exposure:

1. All standards and specifications set forth in the most recent RI Soil Erosion and Sediment Control Handbook (RISESCCH) will be strictly adhered to. Control measures will follow the specifications depicted in the attached R.I. Standards drawings from the Rhode Island Department of Transportation.
2. Hay bales will be tied in to a depth of 3 to 4 inches and maintained by replacing bales where necessary until permanent re-vegetation of the site is completed.
3. Where natural or manmade slopes are or have become susceptible to erosion, the slopes will be graded to a suitable slope and re-vegetated with thick rooting brush vegetation. Mulch will be applied as necessary to provide protection against erosion until the vegetation is established.

4. Construction will be timed to accommodate runoff flow and to allow flows over exposed, un-stabilized soils, or into or through the area of temporary excavation.
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 in 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 capped 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 ELUR recorded on the land records. The clean fill material brought on site will meet the Department's Method 1 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 ELUR, groundwater under the property will not be used for potable purposes. The temporary excavation necessary to install the bulkhead tie-back system, infiltration trench, and low profile concrete work pad will not affect groundwater. However, any unanticipated pumping of groundwater, which may be necessary for dewatering, 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 encircling these traps will be recessed 4 to 6 inches into the soil and maintained.

In order to ensure that water passing through the infiltration trench contacts only clean materials, the infiltration trench will extend to the juncture with groundwater. The trench will be lined with a geotextile fabric and filled using clean crushed stone.

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.

PROJECT INFORMATION

Proposed Filing Category

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create a deep water berthing area. As a result, this proposed project should qualify for the RI Coastal Resource Management Program Category B Assent Application Section 300.1.

Proposed Project Description & Scope of Authorization

The applicant proposes to install a new steel bulkhead along the property's waterfront and to conduct improvement dredging waterward of the new bulkhead. The complete proposed Scope of Authorization is outlined below and is shown on application Figures 1-14.

1. Install a new *steel bulkhead* landward of the MLW line that measures 355 linear feet and is comprised of steel sheeting. The steel sheeting will have two (2) 12" x 12" walers installed on the landward side.
2. Install a *deadman and tie-back system*, consisting of 355 linear feet of 4' x 4' concrete anchor with steel rod tie-backs installed approximately every 9 feet.
3. Install an *infiltration trench* along the landward face of the proposed bulkhead measuring 10 feet deep, 5 feet wide and 355 feet in linear length, resulting in 17,750 cubic feet of trenching.
4. Remove the *decayed timber structures* located along the waterside area.
5. Remove an area of *riprap* measuring 244' long, 31' at its widest point, covering 4,602 square feet, and consists of approximately 512 cubic yards of material.
6. Consolidate an area of *riprap* measuring 115' long, 21' wide, covering 1,780 square feet, and consists of approximately 198 cubic yards of material. Remove any foreign objects which have become lodged within the riprap.
7. *Excavate* 500 cubic yards of sediment from an area that is irregular in shape and measures approximately 33' at its widest point, 244' in length, and covers 3,813 square feet. This material will be excavated down to the MLW elevation of -14.4' MLW.
8. Install an upland *concrete work/storage pad* measuring 80' wide, 120' long, and 10" deep.
9. Conduct *improvement dredging* of 48,000 cubic yards of sediment from an area that is roughly rectangular in shape and measures approximately 350' at its widest point, 630' in length, and covers 212,775 square feet. Dredging within this footprint is proposed to a control depth of -14.0' MLW (+1.0' overdredge), dredged in a box-cut fashion with an inadvertent 3:1 side slope.
10. Install three new *timber dolphin pile clusters* consisting of seven (7) piles each.

Construction Methodology & Project Sequencing

The proposed project will be conducted in multiple stages as outlined below:

1. The first phase of the project will consist of installing the steel sheeting. The bulkhead location will be properly staked with survey equipment prior to the initiation of construction activities. The installation of the sheeting will be conducted from a land-based crane or waterside barge using a vibratory hammer. If conducted from a barge, all work will take place during periods of high water. At no time will the barge rest on the harbor substrate. No excavation is planned with this phase, as the contractor will install the sheeting by ground penetration. The contractor will start at the northerly end of the property and work in a southerly direction, installing all sheeting in its entirety prior to installation of the deadman system.
2. Next, the contractor will begin installation of the tie-back system with associated infiltration trench by excavating the soil on the landward side of the new steel sheeting. The work will be conducted from the upland, landward of the mean high water line, and will not impact coastal resources. This work will be accomplished by use of a backhoe stationed on the upland. The contractor will temporarily stockpile the backfill material on an upland portion of the site. Erosion and sedimentation controls will be installed around the perimeter of all stockpiled material.
3. Next, the contractor will begin installing the upland concrete deadman inlot. Temporary timber framing will be constructed to form the concrete deadman. The deadman will be then poured by machinery stationed from the upland. Once the concrete has cured, the timber forms will be removed.
4. Next, the contractor will begin installing the walers and tie-rods. Twelve-inch walers will be installed on the landward face of the new steel sheeting. Tie-rods will then be connected from the deadman system to the walers on the backside of the sheeting.
5. Once the steel tie-rods are connected, the infiltration trench will be lined with geotextile fabric and backfilled with clean crushed stone obtained from an approved offsite location. The trench will be covered with a layer of geotextile fabric and topped with clean soil. A backhoe and skid steer will return the ground to existing grade.
6. Once the bulkhead is in place the contractor will begin removing the derelict timber structures located along the waterside area. Working from a either a land-based or waterside mounted crane, the contractor will lift the structures from the substrate and place them into trucks waiting just landward of the newly constructed bulkhead. The material will be properly disposed of at an appropriate upland facility. At no time will the barge rest on the harbor substrate.
7. Next, the contractor will work on removal of the riprap. Working from a either a land-based or waterside mounted crane, the contractor will extract the riprap stones and lift them into trucks waiting along the waterside. The material will be properly disposed of at an appropriate upland facility.

8. Next, the contractor will work on consolidating the area of riprap which is to remain. First, the contractor will remove any foreign material which has become lodged in the riprap. The material will be removed by hand or using a land-base/barge mounted crane as appropriate. All material will be properly disposed of at an appropriate upland facility. The contractor will then proceed by strategically stacking and interlocking appropriately sized stones within the existing riprap until the dislodged stones have been completely relocated. All of these activities will be conducted during periods of low water from a land-base/barge mounted crane as appropriate. No new stone material is proposed for this activity.
9. The contractor will then excavate the area waterward of the new steel bulkhead down to the MHW elevation of +4.4' M.L.W. Excavation will be conducted using an upland based excavator. This material will be analyzed, and if below RIDEEM direct exposure criteria, will be disposed of on the project site landward of the proposed bulkhead. If the material does not meet minimum requirements, it will be transported off site to an appropriate upland facility per RIDEEM instruction and approval.
10. Next, the contractor will install the upland concrete work/storage pad. The area will be temporarily excavated with a small skid steer and hand tools as appropriate. Temporary timber forms will then be secured to form the shape of the pad. Reinforcing rebar will then be tied in place on the interior of the form. Concrete will then be fed into the form. Once the concrete has cured, the temporary timber forms will be removed and clean soil will be backfilled against the sides of the pad.
11. Next, the contractor will work on the dredging portion of the project. Dredging and disposal operations are proposed to be conducted using the mechanical clam-shell and/or large based excavator method. A dredge window of October 1 through January 1 is being proposed, as per Dan Goulet in a phone conversation on January 27, 2010. A thorough disposal alternatives analysis will be performed following the completion of the sediment sampling investigation to evaluate the potential uses and/or methods of disposal. However, it is anticipated that dredge spoils will be disposed of at the Confined Aquatic Disposal (CAD) cells located in the upper reaches of the Providence River. Dredging will be conducted in phases, based upon funding at the time. Given the lack of dredging in the immediate area, accretion rates cannot be determined, and therefore maintenance dredging will be performed as needed.
12. Lastly, the contractor will install the dolphin pile clusters. Pile driving will be conducted using a barge mounted crane and pneumatic/vibratory hammer. For each dolphin cluster, the king pile will be driven first, and the battered piles will then be installed around it. Once the final battered pile is installed, the battered piles will be affixed to the king pile using steel cables.

SECTION 300.1 – CATEGORY B REQUIREMENTS

Need For Proposed Activity

The applicant wishes to develop this vacant lot into a scrap metal transfer facility. This operation will require the installation of a new steel bulkhead along the property shoreline, removal of various shoreline structures, improvement dredging to create deep-water access and berthing, and installation of dolphin pile clusters. The property is located at 434 & 444 Allens Avenue, Providence, Rhode Island on the shore of Providence Harbor near the mouth of the Thurbers Avenue Creek. The property has historically been used for industrial purposes, but has remained largely undeveloped for many years. The inactivity of the property is evident as the site is comprised of derelict bulkheads, a derelict timber pier, and riprap stabilization along the shoreline.

The proposed project involves the installation of a steel sheetpile bulkhead with a concrete deadman anchor and steel tie-rod system, removal of various shoreline structures, improvement dredging to create deep-water access and berthing, and installation of dolphin pile clusters. All components of the bulkhead will be located landward of the mean high water line. The proposed bulkhead, in conjunction with the structure removal and dredging, will allow commercial vessels to temporarily berth in a perpendicular fashion directly along the property's new deepwater shoreline. The dolphin pile clusters will allow the applicant to temporarily tie up derelict vessels which will be salvaged for scrap metal. The redeveloped waterfront will serve to facilitate acceptance of scrap metal from the dismantling of derelict vessels marked for salvage. The scrap metal produced from this operation will be transported off-site to an appropriate upland recycling facility. As such, the application intends to return the property to its historical use as an operational industrial facility.

Local Ordinances, Codes, Standards, and Requirements

The proposed activities will conform to all applicable local ordinances. The following is a summary of local regulatory consultations and associated site/operation details.

The City of Providence Tax Assessor has provided us with the "Summary Record Cards" as proof that ACR Realty, LLC is the owner of the property (see Project Correspondences).

A formal correspondence (see Project Correspondences) has been obtained from Mr. Kerry Anderson, Building Official, City of Providence, Department of Inspections and Standards, outlining his comments on the project. In addition, the City of Providence, Department of Inspections and Standards, completed and returned the CRMC Building Code & Zoning Ordinance review form (see Project Correspondences). This completed form confirms that the project conforms with all elements of the zoning ordinance.

The proposed activities will not involve any new parking areas – facility employees will utilize existing parking areas. The proposed activities will not involve any new sanitary systems – facility employees will use temporary portable toilets until the restrooms in the "Existing Wood Frame Building" can be repaired.

Boundaries of Coastal Waters and Land Area

The proposed project site is a vacant lot located at 434 & 444 Adams Avenue, Providence. The northerly abutting property consists of a property owned by the City of East Providence which serves as an upland lot for the waterline crossing Providence Harbor. The direct southerly abutting property is a small paper lot known as Thubers Avenue which is owned by the City of Providence. The next southerly developed property consists of an oil terminal owned by Motiva Enterprises, LLC. A recent site review by Coastline Consulting & Development, LLC shows that the project site consists of a large undeveloped parcel of land with derelict buildings and railroad tracks. Along the water there is a derelict bulkhead, a derelict timber pier, and riprap stabilization. The derelict structures have not been maintained for many years, are no longer serviceable, and will be removed as a component of this project. The riprap stabilization is described in greater detail below:

Riprap Stabilization - Riprap stabilization covers the complete length of the property shoreline from the northerly abutting property to Thubers Avenue Creek. The riprap measures 380' in linear length, is approximately 10' - 20' wide, 1' - 3' deep, and contains approximately 400 cubic yards of stone and broken concrete slabs.

Erosion and Deposition Analysis

The purpose of the proposed project is to provide a necessary berthing lane with adjacent deep-water access and berthing directly along the property's shoreline. Shoreline erosion and deposition is not anticipated as no solid fill structures are proposed. Minimal natural siltation is anticipated once dredging is complete.

Plant & Animal Life Analysis

Coastline Consulting & Development, LLC evaluated potential impacts to the abundance and diversity of plant and animal life. An assessment of each is provided below.

Plant Life

The project has been specifically located in an area so as not to affect the tidal wetlands on the project site. The bulkhead is located over an area that has historically been used for shoreline stabilization as found evident by the derelict structures and riprap & stone rubble. Also, there is no SAV within the dredge footprint. Therefore, no impacts are anticipated to plant life.

Animal Life

No impacts are anticipated to animal life as the proposed project has been properly designed according to specific site characteristics. The bulkhead has been located landward of the MFLW line and outside of coastal resources. Furthermore, bulkheads are common structures along this stretch of Providence Harbor including a bulkhead immediately to the south. Dredging is being proposed within a window which has been determined to minimize impacts to animal life. Therefore, no impacts are anticipated to animal life.

Public Access Evaluation

With regard to public use of the public trust lands and waters waterward of the MHW line, little to no adverse impacts are anticipated as the proposed project is located in an area defined as Type VI waters. These waters are defined by the Rhode Island CRMC as Industrial Waterfront and the intended use of these waters are for servicing water dependent facilities. As previously discussed, this project intends to return this site to historical use as an operational industrial facility. As a result, there will be no new adverse impacts to the public trust.

Water Circulation Analysis

The project will not involve any activity within the waterway that would cause adverse impacts to circulation or flushing. Following completion of the dredging activities, the wave energy breaking along the bulkhead line will largely disperse before reaching the mud line, and therefore will not likely re-suspend small particulates. As such, turbidity will not be significantly impacted. The hydrography in the area does not indicate that significant sedimentation is occurring at the site, and as such no significant impacts are anticipated to sedimentation. Finally, the three proposed dolphin piles will be spaced 50 feet apart, thus eliminating any localized adverse impacts to water circulation.

Water Quality Analysis

The proposed project will include the installation of an infiltration trench to manage stormwater runoff from the site. The trench has been designed as per the Stormwater Design and Installation Standards Manual. As such, no adverse impacts are anticipated from the proposed project.

Historic and Archaeological Significance

Coastline Consulting & Development, LLC conducted a phone interview on November 5, 2009 with Jason Martin of the City of Providence, Historic District Commission. Mr. Martin stated that this project site is not located in an area of historic and archaeological significance.

Water Dependent Uses

During the initial planning stages, Coastline Consulting & Development, LLC carefully evaluated the potential impacts to water dependent uses. In order to avoid potential impacts, it was important to evaluate specific site characteristics so that appropriate design measures could be implemented. Based upon our review, it is our opinion that there will be no adverse impacts to local navigation due to the following factors:

1. The applicant's property is located along a stretch of Providence Harbor where large vessels and barges transit regularly. The infrequent vessel traffic that will result from the dismantling of derelict vessels will create no new navigation impacts.
2. The bulkhead has been designed to allow large vessels to berth directly up to and alongside the property's shoreline. The bulkhead is located away from the federal navigation channel and is centrally located along the property. Therefore, when the vessels are berthed up to the bulkhead, there will be no obstructions to navigation within the channel.

3. The proposed dredging will allow vessels to access the bulkhead directly through their navigational areas and will therefore not impact neighboring facilities.

Scenic Impact Evaluation

During the preliminary planning stages of this project, Coastline Consulting & Development, LLC carefully evaluated the potential scenic impacts to the surrounding area. Based upon our review, the project site is located in an industrialized portion of Providence Harbor. The water dependent facilities serve to support the large vessels that transit this area, and this project is consistent with all neighboring activities. It is therefore evident that this project will not impose any new adverse scenic impacts.

ADDITIONAL CATEGORY B REQUIREMENTS

Section 300.2 Filling, Removing, or Grading of Shoreline Features

Coastline Consulting & Development, LLC reviewed and evaluated Section 300.2 to determine the applicable requirements as it pertains to the proposed project. In addition, it was also necessary to determine the appropriate steps to meet the requirements of the property's Environmental Land Use Restriction (ELUR). In accordance with the ELUR, a formal request for soil disturbance has been made to the RI DEM (see attached). This request to the DEM includes a project specific Soil Management Plan. In an e-mail correspondence from Mr. Dan Goulet on November 24, 2009, Mr. Goulet stated that CRMC would accept the DEM Plan in place of a separate Erosion & Sedimentation Control Plan.

Section 300.3 Residential, Commercial, Industrial, and Recreational Structures

Coastline Consulting & Development, LLC reviewed and evaluated Section 300.3 to determine the applicable requirements as it pertains to the proposed project. The results of our evaluation are outlined in the following sections.

Public Access Plan - The applicant is requesting a variance to remove the requirement of a Public Access Plan for the site. An analysis of the six criteria outlined under Section 120 - Variances follows below.

1. Conformance to Applicable Goals and Policies

The two applicable Standards for *Port Use* are 200.6 - Type 6 Industrial Waterfronts and Commercial Navigation Channels and 210.6 - Municipal Shorelines.

Standard 200.6 states the following: "Highest priority uses of Type 6 waters and adjacent lands under Council jurisdiction are: (a) berthing, loading and unloading, and servicing of commercial vessels; (b) construction and maintenance of port facilities, navigation channels, and berths; and (c) construction and maintenance of facilities required for the support of commercial shipping and fishing activities."

Since the purpose of the project is to create a berthing area for a commercial operation, this project conforms to the goals and policies of Standard 200.6.

Standard 210.6 states the following: "The Council's goals are: (a) to encourage the maintenance of structures that effectively mitigate erosion and/or sustain landforms adjacent to the water; and (b) prevent the accumulation of debris along the shore where such structures are ineffective or no longer in active use."

The proposed bulkhead will mitigate erosion along the waterfront. The bulkhead will also mitigate the current problem of debris accumulating along the dilapidated shore structures. As such, this project conforms to the goals of Section 210.6.

The project will also conform to the applicable Standards listed under *Part Three*, as outlined in the following sections (300.4 - 300.78).

7. *Environmental Impacts & Use Conflicts*
The proposed project will conform to all applicable environmental guidelines, and therefore is not anticipated to cause any significant adverse environmental impacts. The project location is currently an undeveloped lot with a dilapidated riprap shoreline. The current conditions of the waterfront area are such that passage below the mean high water line is unsafe. As such, the project is not anticipated to have any significant adverse impacts to use.
3. *Site Conditions*
The purpose of the project is to facilitate the berthing of derelict vessels for decommissioning and dismantling. The dismantling and scrap material transfer process would pose potential hazards to pedestrians attempting to traverse the bulkhead. As such, conditions at the site would prevent the applicable Standard from being met.
4. *Minimum Variance*
The only portion of the Standard for which a variance is being sought is the need for public access. All other aspects of the Standard are being adhered to and will be met.
5. *Prior Action of the Applicant or Predecessors in Title*
The requested variance is not due to any prior action of the applicant or the applicant's predecessors in title.
6. *Public Necessity*
The purpose of the project is to facilitate the dismantling of derelict vessels. The scrap material transfer process would pose potential hazards to pedestrians attempting to traverse the bulkhead. As such, conditions at the site would prevent the applicable Standard from being met.

Conformance with Local Zoning Ordinance - The City of Providence, Department of Inspections and Standards, completed and returned the CRMC Building Code & Zoning Ordinance review form (see attached) confirming that the plans conform with all elements of the zoning ordinance.

Conformance with the Rhode Island State Building Code - A formal correspondence (see attached) has been obtained from Mr. Kerry Anderson, Building Official, City of Providence, Department of Inspections and Standards, stating his review comments on the bulkhead portion of the project. In addition, the City of Providence, Department of Inspections and Standards, completed and returned the CRMC Building Code & Zoning Ordinance review form (see attached).

Conformance with State Safety/Fire Codes and Environmental Requirements – The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. All structural components will be located landward of the mean high water line. In conjunction with the dredging, the proposed structure will serve to facilitate the dismantling of derelict vessels. The results of an evaluation of applicable codes is outlined in the following sections.

Safety Codes

There are no habitable or other traditional enclosed structures proposed as part of this application. The applicant will install all safety items (i.e., fence along bulkhead, gates, warning signs, etc.) as required by applicable codes.

Fire Codes

There are no habitable structures, enclosed structures, electrical components, or flammable materials included as part of this application. As such, the project should be in conformance with applicable fire codes.

Environmental Requirements

With regard to the site's Brownfield history, the property has a Certificate of Completion from the US EPA, a Letter of Compliance from the RI DEM, and an Environmental Land Use Restriction document on file with the City land records. A formal correspondence and Soil Management Plan (see attached) has been submitted to Ms. Margaret Bradley, Project Manager, Rhode Island Department of Environmental Management, requesting disturbance of site soils.

In addition, the aforementioned formal correspondence received from Mr. Kerry Anderson, Building Official, City of Providence Department of Inspections and Standards, includes a checklist of "Minimum Requirements to Apply for Commercial and Mixed Use" which lists the project specific submittal requirements.

Section 300.4 Recreational Boating Facilities

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. All structural components, save the three tie-off piles, will be located landward of the mean high water line. The proposed bulkhead and tie-off piles, in conjunction with the dredging, will allow derelict vessels to temporarily berth in a perpendicular fashion directly along the property's shoreline. The redeveloped waterfront will serve to facilitate the dismantling of derelict vessels. The scrap metal produced from dismantling will then be transferred to the upland and transported off-site to an appropriate upland recycling facility. As such, the proposed project does not involve structures or activities that are part of a recreational boating facility.

Section 300.5 Mooring and Anchoring of Houseboats & Floating Businesses

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. All structural components, save the three tie-off piles, will be located landward of the mean high water line. The proposed bulkhead and tie-off piles, in conjunction with the dredging, will allow dewater vessels to temporarily berth in a perpendicular fashion directly along the property's shoreline. The redeveloped waterfront will serve to facilitate the dismantling of dewater vessels. The scrap metal produced from dismantling will then be transferred to the upland and transported off-site to an appropriate upland recycling facility. As such, the proposed project does not involve structures or activities that are part of the mooring/anchoring of houseboats and floating businesses.

Section 300.6 Treatment of Sewage and Stormwater

The proposed activities do not meet the definition of Large Projects as outlined in Section 300.6 A.7. The proposed activities have therefore been designed in accordance with stormwater management requirements for Small Projects as defined in Section 300.6 A.8. The project's Stormwater Management Plan is attached in the back section of this application report.

Section 300.7 Construction of Shoreline Protection Facilities

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. All structural components are proposed to be located landward of the mean high water line. As the existing shoreline is currently well stabilized with a proper slope and riprap, the purpose of the proposed bulkhead is not to control erosion. As stated earlier, the purpose of the project is to retain upland material in order to create a deepwater berthing location directly along the property's shoreline.

An analysis of the applicable Standards as outlined under Section 300.7.F follows below:

1. All applicable standards for earthwork have been outlined in the attached Soil Management Plan. The base of the proposed bulkhead has been located immediately landward of mean high water line and away from coastal wetlands.
2. As there are no adjacent structures, the ends of the proposed bulkhead have been shown to gradually return to the slope of the upland. These proposed bulkhead returns will minimize opportunities for erosion around the back of the primary bulkhead line.
3. The proposed sheetpiles will be vibrated into place, through consolidated sediments, to an approximate base depth of -50.5' M.H.W.
4. To promote good drainage behind seawalls and bulkheads, to minimize the flow of sediment into the adjacent waterway, and to avoid loss of backfill, all proposed backfill material will contain less than 10% silt. In addition, a filtering layer of 1'-6" crushed stone and geotextile fabric will be installed directly landward of the bulkhead. Finally, to minimize post

construction drainage, weep holes will be installed along the seaward face of the bulkhead.

5. The area landward of the bulkhead will be level for a distance equivalent to the height of the structure (approximately 15').
6. No restraints are proposed as part of this application.
7. No restraints are proposed as part of this application.
8. The proposed bulkhead has been designed and stamped by a registered professional engineer (see Application Drawings).
9. No concrete is proposed as part of the primary bulkhead construction.
10. The proposed bulkhead has been intentionally located landward of the mean high water line. The method of the installation is by vibratory hammer. All associated excavation activities will be temporary, minimized to the greatest extent possible, and conducted in stages. As a result, it is evident that the construction activities will minimize disturbance of shoreline sediments thereby avoiding adverse impact to water quality.

In addition to the bulkhead portion of the project, a small area of riprap will be consolidated. An analysis of the Maintenance and Repair as outlined under Section 300.7.3 follows below.

1. The riprap consolidation will not result in the seaward expansion of structural shoreline protection facilities.
2. The riprap consolidation has been minimized to the greatest extent possible. No new stone material is proposed for this activity.
3. The riprap consolidation has been minimized to the greatest extent possible so as to minimize adverse impacts to water quality.
4. All applicable standards for Section 300.2 shall be met, as noted above.
5. The proposed project has been designed and stamped by a registered professional engineer (see Application Drawings).

Section 300.8 Energy-Related Activities and Structures

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. All structural components, save the three tie-off piles, will be located landward of the mean high water line. The proposed bulkhead and tie-off piles, in conjunction with the dredging, will allow merchant vessels to temporarily berth in a perpendicular fashion directly along the property's shoreline. The redeveloped waterfront will serve to

facilitate the dismantling of derelict vessels. The scrap metal produced from dismantling will then be transferred to the upland and transported off-site to an appropriate upland recycling facility. As such, the proposed project does not involve an energy-related activity within structure.

Section 300.9 Dredging and Dredged Materials Disposal

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. The dredging portion of the project has been specifically designed to conform to the Standards as outlined in Section 300.9, as outlined below:

1. *For Dredging*

- a. The proposed dredging plan has been designed with inadvertent side slopes to maximize tidal flushing.
- b. Bottom slopes at the edges of dredged areas will have a slope of 3:1 percent.
- c. The project has been designed to avoid impacts to the proposed bulkhead. There are no other adjacent shoreline protection structures in the vicinity of the proposed dredge footprint.
- d. No shellfish dredged from the project will be used for human consumption or bait.
- e. The proposed project will not occur at a marina facility and therefore this section does not apply.

2. *For Dredged Materials Disposal in Open Water*

- a. It is anticipated that the dredge spoils will be disposed of at the Confined Aquatic Disposal (CAD) cells located in the upper reaches of the Providence River. Therefore, the material will not be disposed of in an area determined by the CBMC to be prime fishing grounds.
- b. The dredge will come to a stop at the specific CAD cell disposal coordinates identified by the regulatory agencies. Material will be point dumped at this location.
- c. It is anticipated that the dredge spoils will be disposed of at the Confined Aquatic Disposal (CAD) cells located in the upper reaches of the Providence River. As such, the hydrographic conditions at the site will be such that the disposed dredged materials will remain within the disposal area and re-suspension of bottom sediments will be minimal.
- d. If a regulatory review of lab data determines that the material is contaminated, a Cap Plan will be prepared at that time.

- c. It is anticipated that the dredge spoils will be disposed of at the Confined Aquatic Disposal (CAD) cells located in the upper reaches of the Providence River. As such, monitoring of the disposal site is not required.
4. It is anticipated that the dredge spoils will be disposed of at the Confined Aquatic Disposal (CAD) cells located in the upper reaches of the Providence River, and will not involve the creation of wetlands, aquatic habitat, or islands. As such, this section does not apply to this project.
4. It is anticipated that the dredge spoils will be disposed of at the Confined Aquatic Disposal (CAD) cells located in the upper reaches of the Providence River, and will not include any upland disposal. As such, this section does not apply to this project.
5. It is anticipated that the dredge spoils will be disposed of at the Confined Aquatic Disposal (CAD) cells located in the upper reaches of the Providence River and will not involve beach nourishment. As such, this section does not apply to this project.

Section 304.10 Filling in Tidal Waters

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. All structural components will be located landward of the mean high water line. Therefore, the proposed project does not involve the filling in of tidal waters.

Section 304.11 Aquaculture

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep water access and berthing. All structural components, save the three tie-off piles, will be located landward of the mean high water line. The proposed bulkhead and tie-off piles, in conjunction with the dredging, will allow derelict vessels to temporarily berth in a perpendicular fashion directly along the property's shoreline. The redeveloped waterfront will serve to facilitate the dismantling of derelict vessels. The scrap metal produced from dismantling will then be transferred to the upland and transported off-site to an appropriate upland recycling facility. As such, the proposed project does not involve structures or activities that are part of a marine aquaculture operation.

Section 304.12 Coastal Wetland Mitigation

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. All structural components, save the tie-off piles, will be located landward of the mean high water line. Coastline Consulting & Development, LLC conducted a site evaluation in order to determine the presence of tidal wetland vegetation in the proximity of the proposed project. According to this review, the shoreline at the project site is stabilized with riprap stabilization and therefore has no tidal vegetation in the immediate project footprint.

However, tidal vegetation is located in close proximity to the project area. The banks of Taubers Avenue Creek are lined with the vegetative species *Spartina alterniflora* and there are isolated patches of these wetlands along the southerly portion of the property. During the initial planning stages, Coastline Consulting & Development, LLC carefully evaluated the potential impacts to these tidal wetlands. Based upon our review, it is our opinion that there will be no adverse impact on coastal wetlands due to the following site characteristics and design measures:

1. The tidal wetlands in the area were located and are identified on the attached Existing Conditions Drawing.
2. The bulkhead and dredging has been specifically designed in an area absent of coastal wetlands.
3. The construction activities will not adversely impact the coastal wetlands as all staging and construction areas are located landward of the mean high water line and therefore outside the growing range of coastal plant species.

Section 300.13 Public Roadways, Bridges, Parking Lots, Railroad Lines & Airports

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. All structural components, save the three tie-off piles, will be located landward of the mean high water line. The proposed bulkhead and tie-off piles, in conjunction with the dredging, will allow derelict vessels to temporarily berth in a perpendicular fashion directly along the property's shoreline. The redeveloped waterfront will serve to facilitate the dismantling of derelict vessels. The scrap metal produced from dismantling will then be transferred to the upland and transported off-site to an appropriate upland recycling facility. As such, the proposed project does not involve the construction of any new roadways, highways, bridges, parking lots, railroad lines, and airports.

Section 300.14 Maintenance of Structures

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. The majority of existing waterside structures are derelict and are proposed for removal. As noted above in Section 300.7, a small area of riprap is being retained and reconsolidated - no new stone material is proposed.

Section 300.15 Municipal Harbor Regulations

The applicant of the proposed project is a private organization. As such, the proposed project does not involve the exercising of rules, regulations, programs or management functions by a municipality.

Section 300.16 Boat Lift and Float Lift Systems

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. As such, the proposed project does not involve the installation of a boat/float lift system.

Section 300.17 Wetland Walkover Structures

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. All structural components, save the tie-off piles, will be located landward of the mean high water line. An assessment of the project site revealed that there are no coastal wetlands along the immediate area of the proposed activities. As such, the proposed project does not involve the installation of a wetland walkover structure.

Section 300.18 SAV & Aquatic Habitats of Particular Concern

The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing in Type 6 waters. All structural components, save the tie-off piles, will be located landward of the mean high water line. An August 2009 site assessment and waterside survey of the project site revealed that there are apparently no communities of SAV in the surrounding waters. As such, the proposed project will completely avoid adverse impacts to SAV.



Coastline Consulting & Development, LLC

Waterfront Planning, Permitting, and Development

NEW BULKHEAD & IMPROVEMENT DREDGING PROJECT
434 & 444 Allens Avenue, Providence, Rhode Island

PROPERTY OWNER
ACR REALTY, LLC

CONTRACT PURCHASER & PROPERTY DEVELOPER
RHODE ISLAND RECYCLED METALS

COASTAL RESOURCES MANAGEMENT COUNCIL
ASSENT APPLICATION

February 10, 2010

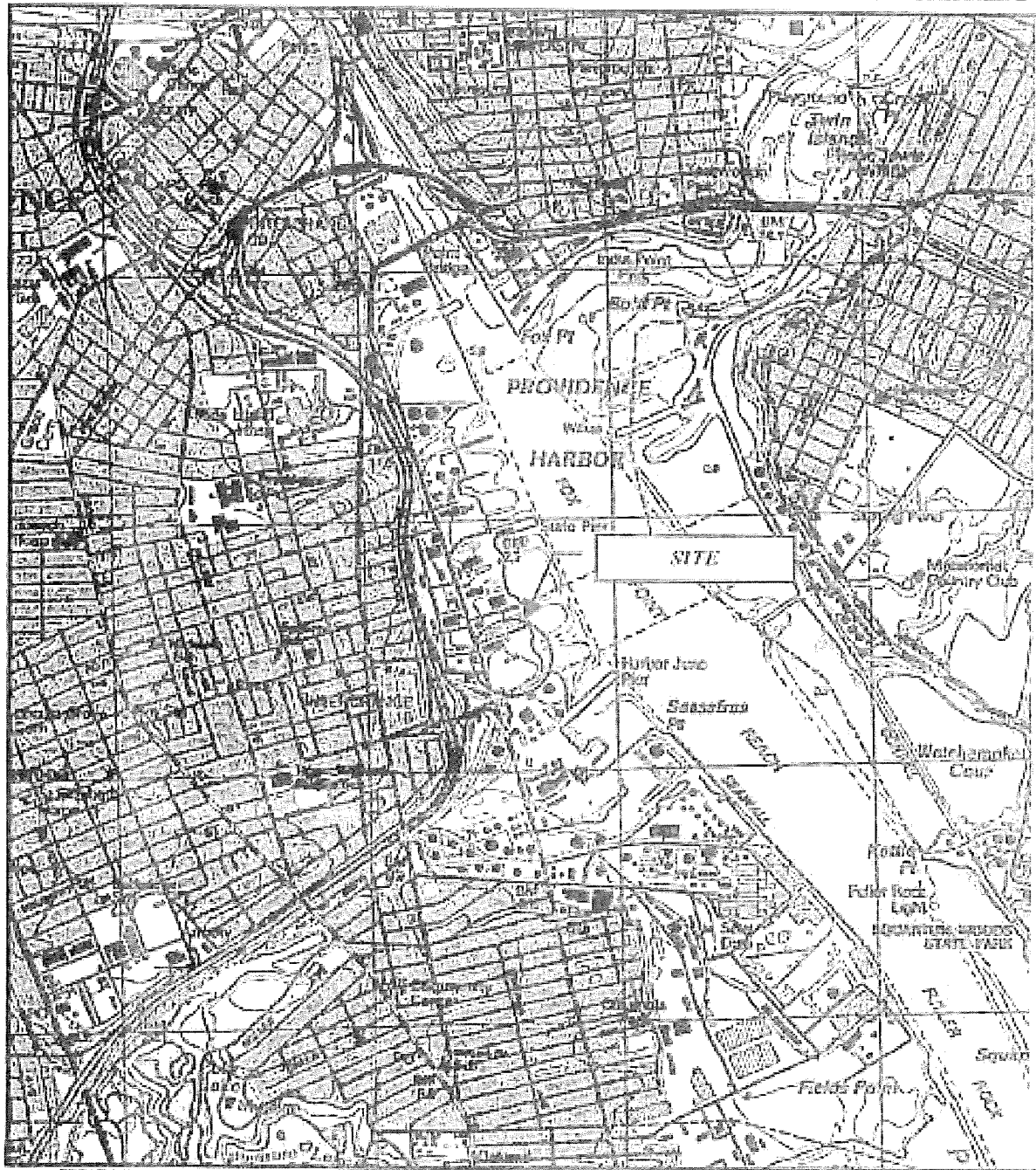
Prepared For:
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Prepared By:
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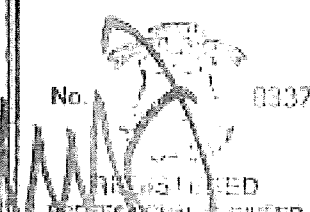
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(203) 861-9900



NICOLANGELO CUOCO

No. 0337



NOTE: MAP TAKEN FROM 7.5 MINUTE USGS TOPOGRAPHIC MAPS OF THE PROVIDENCE, RHODE ISLAND QUADRANGLE, 1969 (PHOTOINSPECTED 1976, PHOTOREVISED 1984)

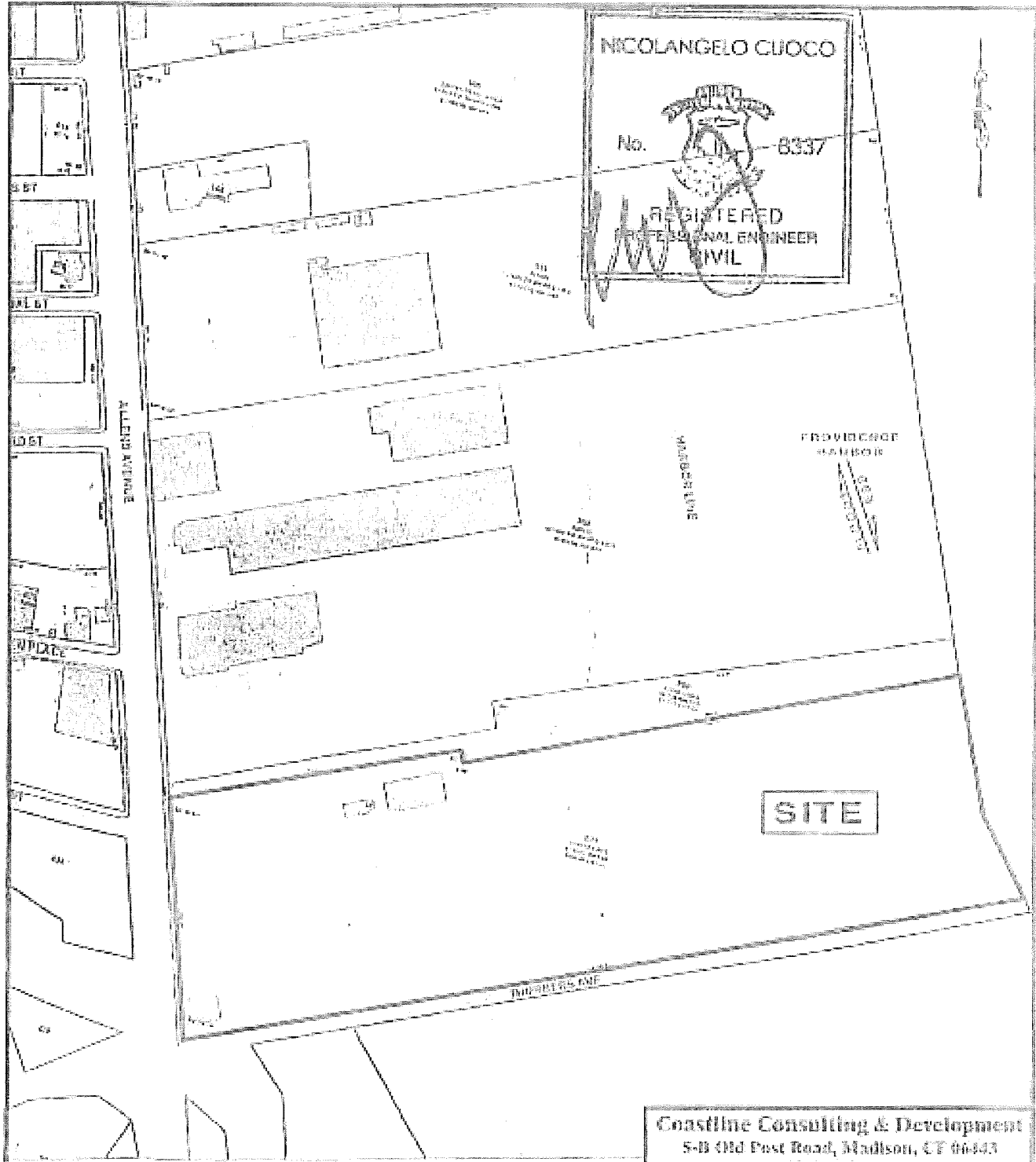
Coastline Consulting & Development
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 (203) 245-8138

FIGURE 1 OF 14
 SITE LOCATION MAP

ACR REALTY, LLC
 RHODE ISLAND RECYCLED METALS
 434 & 444 ALLENS AVE
 PROVIDENCE, RHODE ISLAND

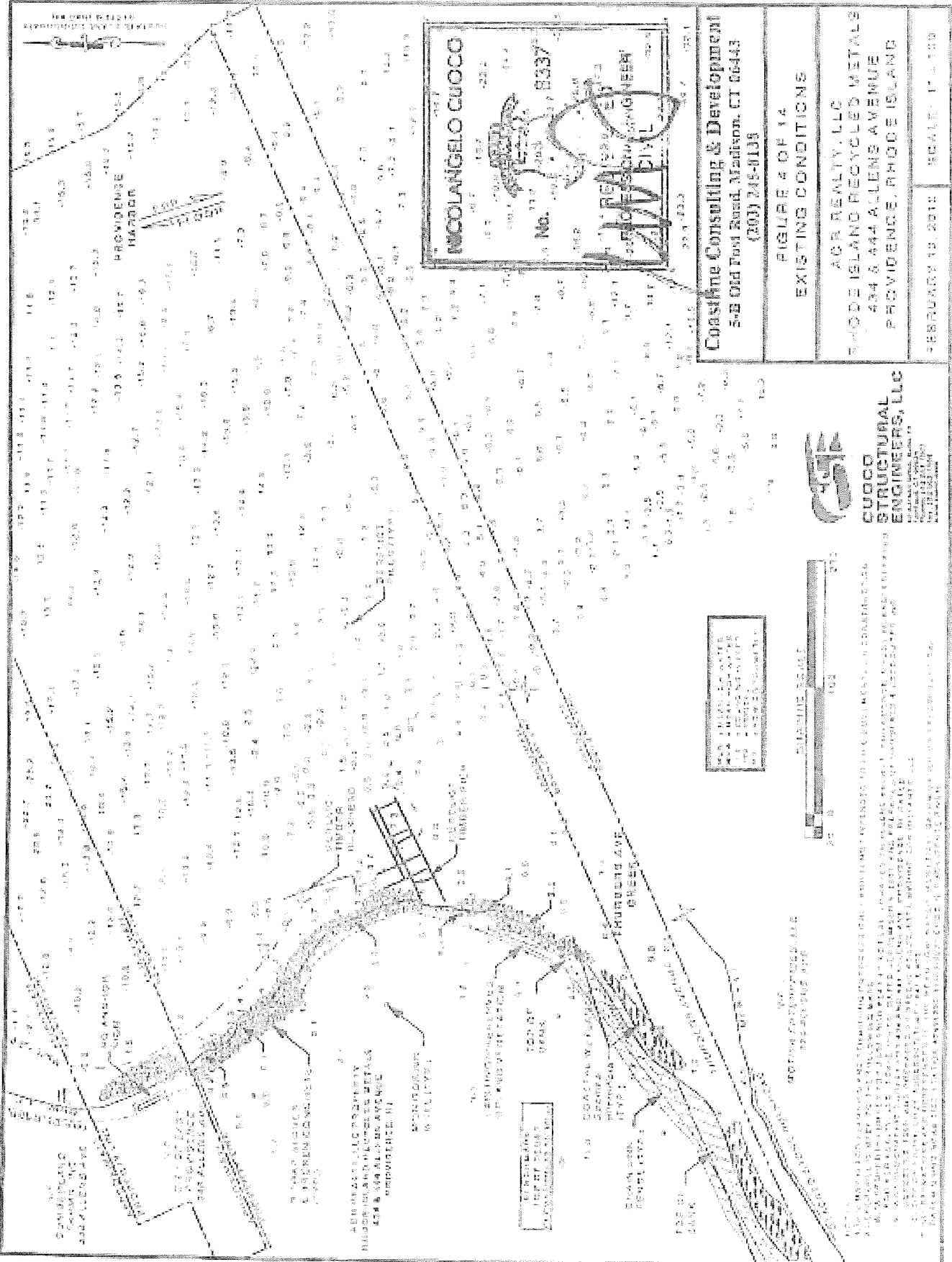
FEBRUARY 10, 2010

SCALE 1" = 1,000'



NOTES:
 1. THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. IT DOES NOT REPRESENT A CONTRACT OR A GUARANTEE OF ANY KIND.
 2. THE INFORMATION ON THIS MAP IS BASED ON THE RECORDS OF THE CITY OF PROVIDENCE AND THE STATE OF RHODE ISLAND.
 3. THE ENGINEER HAS MADE A VISUAL CHECK OF THE INFORMATION AND HAS FOUND IT TO BE CORRECT.

Coastline Consulting & Development 5-B Old Post Road, Madison, CT 06443 (203) 245-8138	
FIGURE 2 OF 14 SITE PLAN VIEW	
AGR REALTY, LLC RHODE ISLAND RECYCLED METALS 434 & 444 ALLENS AVENUE PROVIDENCE, RHODE ISLAND	
FEBRUARY 20, 2010	SCALE: 1" = 400'



NICOLANGELO CUOCO
 REGISTERED PROFESSIONAL ENGINEER
 No. 12008
 STATE OF RHODE ISLAND
 8337

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FIGURE 4 OF 14
 EXISTING CONDITIONS

RHODE ISLAND RECYCLED METALS
 434 & 444 ALLENS AVENUE
 PROVIDENCE, RHODE ISLAND

FEBRUARY 19, 2011 SCALE: 1" = 100'



CUOCO STRUCTURAL ENGINEERS, LLC
 100 WASHINGTON STREET, SUITE 100
 PROVIDENCE, RHODE ISLAND 02903
 TEL: 401.455.1000
 WWW.CUOCOENGINEERS.COM

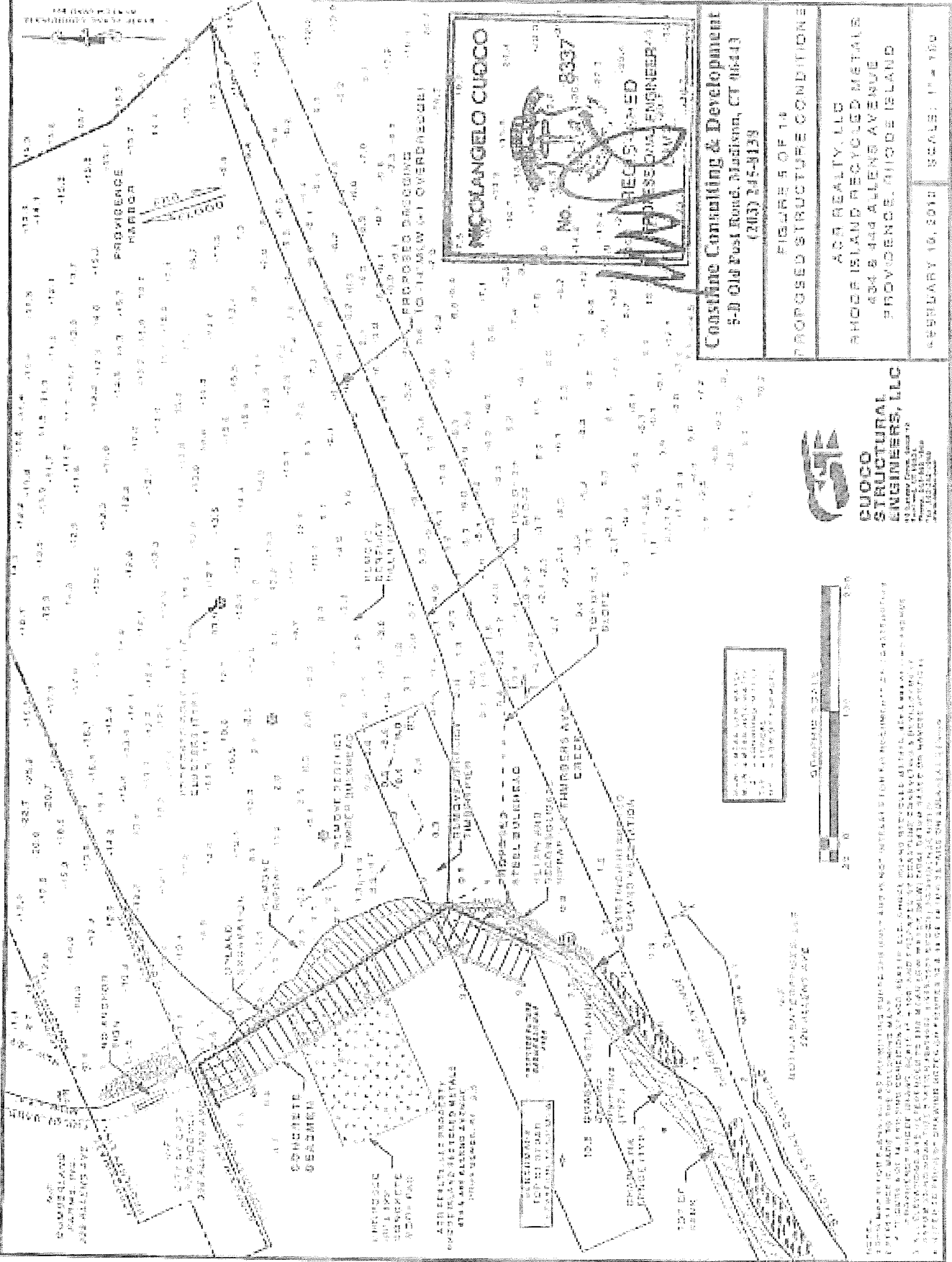


LEGEND

- 1.00 COASTAL WETLANDS
- 2.00 SPARSE HERBAGE
- 3.00 OPEN PASTURE
- 4.00 OPEN PASTURE
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- 96.00 OPEN PASTURE
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- 98.00 OPEN PASTURE
- 99.00 OPEN PASTURE
- 100.00 OPEN PASTURE

NOTES:

1. THIS PLAN IS TO BE USED IN CONJUNCTION WITH THE EXISTING CONDITIONS PLAN AND THE EXISTING CONDITIONS PLAN.
2. THE EXISTING CONDITIONS PLAN IS TO BE USED TO DETERMINE THE EXISTING CONDITIONS OF THE PROPERTY.
3. THE EXISTING CONDITIONS PLAN IS TO BE USED TO DETERMINE THE EXISTING CONDITIONS OF THE PROPERTY.
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10. THE EXISTING CONDITIONS PLAN IS TO BE USED TO DETERMINE THE EXISTING CONDITIONS OF THE PROPERTY.



NICCOLANGELO CUOCO
 REGISTERED PROFESSIONAL ENGINEER
 No. 10-11-10000-01 OVERSIGHT
 No. 10-11-10000-01 OVERSIGHT

Coastline Consulting & Development
 5-D Old Post Road, Madison, CT 06443
 (203) 245-4139

FIGURE 5 OF 14
 PROPOSED STRUCTURE CONDITIONS

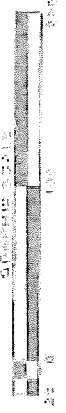
ACE REALTY, LLC
 BRIDGE ISLAND RECYCLED METALS
 404 S 444 ALLENS AVENUE
 PROVIDENCE, RHODE ISLAND

REVISION 10.2013 SCALE: 1" = 100'



CUOCO STRUCTURAL ENGINEERS, LLC
 41 Water Street, Suite 10
 Providence, RI 02903
 Tel: 401-845-1100
 Fax: 401-845-1101

PROPOSED BRIDGE OVER RIVER
 PROPOSED BRIDGE OVER RIVER
 PROPOSED BRIDGE OVER RIVER

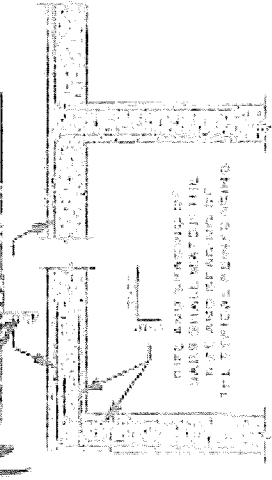


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NICOLANGELO CUOCO

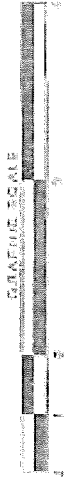
No. 8337

REGISTERED PROFESSIONAL ENGINEER (P.E.)



CONCRETE REINFORCING DETAIL

SEE REVISIONS TO STANDARD DETAILS FOR TYPICAL REINFORCING WALL AND OPENING

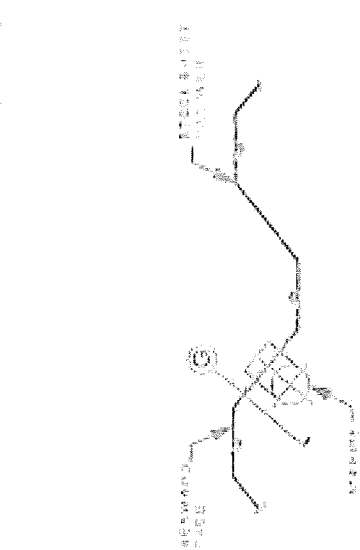


Coastline Consulting & Development
 5-B Old Post Road, Middletown, CT 06443
 (203) 245-8135

FIGURE 9 OF 14
 PROPOSED BULKHEAD
 CROSS-SECTION DETAIL 9

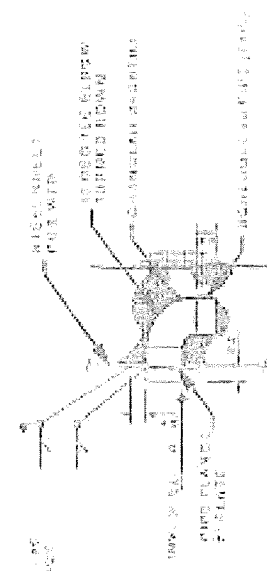
ACA REALTY, LLC
 RHODE ISLAND RECYCLED METALS
 484 & 444 ALLENS AVENUE
 PROVIDENCE, RHODE ISLAND

FEBRUARY 13, 2018 SCALE: 1" = 4'

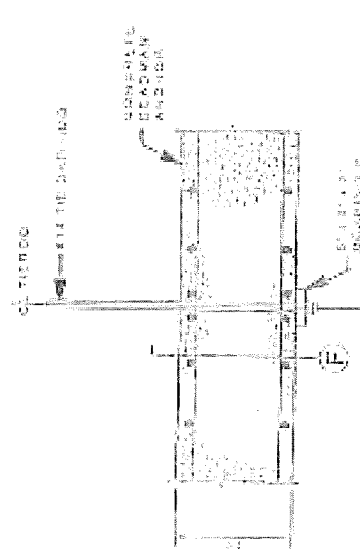


FLAT SLAB OVER WALL

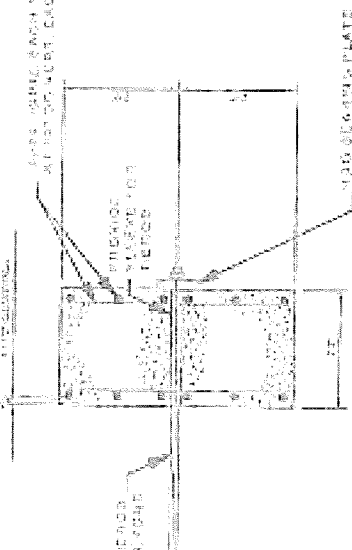
SEE REVISIONS TO STANDARD DETAILS FOR TYPICAL REINFORCING WALL AND OPENING



SECTION G



DETAIL AT CONCRETE DESIGNER



SECTION E



CUOCO STRUCTURAL ENGINEERS, LLC
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BULKHEAD DRAWING NOTES

GENERAL NOTES:

1. THE COMPLETED STRUCTURE HAS BEEN DESIGNED TO WITHSTAND THE FOLLOWING DESIGN LIVE LOADS APPLIED IN CONFORMANCE WITH DESIGN PROGRAMS: ELEVATIONS INDICATED ON THE CONTRACT DRAWINGS.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND STATE BUILDING CODE, NINTH EDITION WITH AN EFFECTIVE DATE OF AUGUST 1, 2007.
3. LIVE LOADS:
 - 250 PSF UNIFORM LOAD
 - 5000 LB CONCENTRATED LOAD
4. SITE INFORMATION TAKEN FROM "PROPERTY SURVEY FOR ASSESSOR PLAT 47, LOT 601" PREPARED BY GAROFALO & ASSOCIATES, INC. DATED SEPTEMBER 9, 2009.
5. SUBSURFACE SOIL INFORMATION TAKEN FROM SOIL TEST BORING LOGS PREPARED BY NEW ENGLAND BORING CONTRACTORS OF CT, INC., GLASTONBURY, CT.
6. ELEVATIONS REFERENCE LOCAL MEAN LOW WATER, UNLESS NOTED OTHERWISE.
7. THE PARCEL IS LOCATED IN FEMA FLOOD ZONES VE (DL 18) AND AE (DL 15) BASED ON FLOOD INSURANCE RATE MAP FOR THE CITY OF PROVIDENCE, RHODE ISLAND, PROVIDENCE COUNTY, COMMUNITY PANEL, NUMBER 41945-017 G, MAP NUMBER 4400C017G WITH AN EFFECTIVE DATE OF MARCH 2, 2009.
8. ALL DETAILS SHALL BE CONSIDERED TYPICAL AND SHALL APPLY AT SAME AND SIMILAR CONDITIONS.
9. PILES SHALL BE DRIVEN STRAIGHT AND TRUE AT INDICATED LOCATIONS, WITH DEVIATION FROM THE LONGITUDINAL AXIS OF NOT MORE THAN 1/8 INCH PER FOOT. LOCATE THE PILES WITHIN 1 FEET OF THE POSITIONS INDICATED ON THE DRAWINGS.
10. TO DETERMINE ACCURATE DIMENSIONS, DO NOT SCALE DRAWINGS. DIMENSIONS SHALL BE READ OR CALCULATED.
11. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITY LINES, SEWERS, AND FUEL STORAGE TANKS TO AVOID ANY DAMAGE TO THESE. CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" PRIOR TO ANY EXCAVATION.

SELECTIVE DEMOLITION AND DISPOSAL:

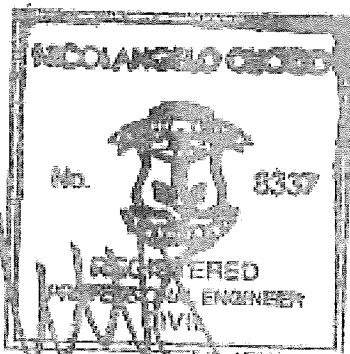
1. SELECTIVE DEMOLITION AND DISPOSAL SHALL BE PERFORMED IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL PERMITS AND BUILDING CODE REQUIREMENTS.
2. THE CONTRACTOR SHALL REMOVE AND DISPOSE THOSE STRUCTURES AND DEMOLITION COMPONENTS REQUIRED TO PERFORM THE WORK. THIS WORK INCLUDES BUT IS NOT LIMITED TO THE EXISTING BULKHEAD, PILE, AND PILES.
3. SELECTIVE DEMOLITION INCLUDES BUT IS NOT LIMITED TO REMOVAL OF EXISTING MATERIALS, UTILITIES, AND OTHER COMPONENTS ESSENTIAL FOR A COMPLETE PROJECT.
4. THE CONTRACTOR SHALL TAKE REASONABLE CARE IN REMOVING ELEMENTS SELECTED TO BE DEMOLISHED.
5. PRIOR TO COMMENCEMENT OF DEMOLITION, THE CONTRACTOR SHALL CLEARLY MARK THE LIMITS OF THE DEMOLITION.
6. COMPLETELY REMOVE ITEMS DESIGNATED LEAVING SURFACES CLEAN, SOUND, AND READY TO RECEIVE NEW MATERIALS.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING THE COURSE OF DEMOLITION.

EROSION AND SEDIMENTATION CONTROLS:

1. EROSION AND SEDIMENTATION CONTROL SHALL BE INSTALLED AND MAINTAINED AS PER REGULATORY AUTHORIZATIONS.
2. DURING EXECUTION OF THE WORK, THE CONTRACTOR IS REQUIRED TO INSTALL AND MAINTAIN REQUIRED SEDIMENTATION AND EROSION CONTROL MEASURES TO PROTECT ADJACENT WATERWAYS, STREETS, AND HIGHWAYS. MEASURES INCLUDE BUT ARE NOT LIMITED TO TEMPORARY BERMS, FLAG BARRIERS, SILT FENCE'S, CONTAINMENT BOOMS, AND FURROW CURTAINS.
3. EROSION AND SEDIMENTATION CONTROL MEASURES AND PROVISIONS SHALL BE MAINTAINED IN OPERATIONAL CONDITION BY THE CONTRACTOR AND SHALL BE REMOVED AND LEGALLY DISPOSED AT THE COMPLETION OF THE PROJECT.

PILE DRIVING:

1. DRIVE THE PILES STRAIGHT AND TRUE AT INDICATED LOCATIONS, WITH DEVIATION FROM THE LONGITUDINAL AXIS OF NOT MORE THAN 1/8 INCH PER FOOT.
2. LOCATE THE PILES WITHIN 1 FEET OF THE POSITIONS INDICATED ON THE DRAWINGS.
3. CONTINUOUSLY DRIVE EACH PILE TO REACH THE CAPACITY AND/or FULL EMBEDDED LENGTH CALLED FOR ON THE DRAWINGS.
4. WITHDRAW PILES THAT ENCOUNTER UNDERGROUND OBSTRUCTIONS SUBJECT TO INSPECTION. REMOVE AS CLOSE AS POSSIBLE TO ORIGINAL POSITION, SUBJECT TO REVIEW OF THE OWNER. REMOVE PILES WHICH SPLIT, BROOM, BREAK, OR DRIVE OUT OF LINE. DRIVE ANOTHER PILE IN ITS PLACE. PROVIDE AND MAINTAIN NECESSARY LIGHTING AND BARRIERS TO ADEQUATELY ASSURE PUBLIC SAFETY. PROVIDE ADEQUATE SAFEGUARDS TO PROTECT FROM DAMAGE IMPROVEMENTS ON THE WORK SITE AND/OR ADJACENT PROPERTIES.



**CUDCO
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Providence, RI 02903
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Fax: 402-862-1300
www.cudco.com

<p align="center">Constline Consulting & Development 5-12 Old Post Road, Wadsworth CT 06443 (203) 245-8135</p>	
<p align="center">FIGURE 10 OF 14 BULKHEAD DRAWING NOTES 1 OF 2</p>	
<p align="center">ACR REALTY, LLC RHODE ISLAND RECYCLED METALS 434 & 444 ALLENS AVENUE PROVIDENCE, RHODE ISLAND</p>	
<p>FEBRUARY 10, 2010</p>	<p>FILE NO.: 09-059</p>

BULKHEAD DRAWING NOTES CONTINUED

STRUCTURAL STEEL:

1. THE DESIGN COMPLIES WITH THE AISC "MANUAL OF STEEL CONSTRUCTION - ALLOWABLE STRESS DESIGN", NINTH EDITION.
2. STEEL WORK SHALL BE IN ACCORDANCE WITH AISC "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
3. WELDING SHALL CONFORM TO THE "STRUCTURAL WELDING CODE - STEEL", AS ADOPTED BY THE AMERICAN WELDING SOCIETY (AWS D1.1). A WELDER CERTIFIED IN ACCORDANCE WITH AWS STANDARDS SHALL PERFORM WELDING.
4. WELDING ELECTRODES SHALL BE E60XX-X AND COMPLY WITH AWS A5.1 AND AWS A5.5.
5. STRUCTURAL STEEL WIDE-FLANGE SHAPES SHALL CONFORM TO ASTM A992 OR ASTM A772, GRADE 50. OTHER STRUCTURAL STEEL SHAPES AND MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36, UNLESS OTHERWISE NOTED. STEEL TUBES SHALL CONFORM TO ASTM A500, GRADE B. STEEL PIPES SHALL CONFORM TO ASTM A51, GRADE B OR ASTM A500, GRADE B. STEEL PLATES SHALL CONFORM TO ASTM A36/11 - 50KSL.
6. STEEL SHEET PILE SHALL BE AISC/A319-700 ASTM A578 MATERIAL AND COATED WITH TWO COATS OF BAR-HUNT 235 FOR A TOTAL DRY FILM THICKNESS OF 45 MILS. COATING SHALL BE APPLIED TO BOTH SIDE OF THE STEEL AND TO THE LIMES AS SHOWN ON THE DRAWINGS.

STEEL HARDWARE PIPE:	ASTM A53 GRADE B, SCHEDULE 40
ANCHOR BOLTS:	ASTM F1554
CARRIAGE BOLTS:	ASTM A307
HIGH STRENGTH	
STRUCTURAL BOLTS:	ASTM A193, HEXAGONAL HEADS
WIPS:	ASTM A561
WASHERS:	ASTM F436


7. STEEL HARDWARE LISTED ABOVE SHALL BE HOT DIPPED GALVANIZED.
8. THE ROD ASSEMBLIES CONSISTING OF THE ROD, STEEL COUPLERS, AND NUTS, SHALL BE DOWIDAG THREADBAR REINFORCING SYSTEM AS MANUFACTURED BY DOWIDAG SYSTEMS INTERNATIONAL, USA, INC. THREADBAR SHALL BE GRADE-75 CONFORMING TO ASTM A615 (CONCRETE FOR MARRINGS). THE ROD ASSEMBLIES SHALL BE HOT DIPPED GALVANIZED.

CAST-IN-PLACE CONCRETE:

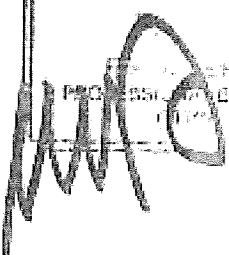
1. CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI-318 LATEST EDITION "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AS ADOPTED BY THE AMERICAN CONCRETE INSTITUTE.
2. DETAILING, FABRICATION, AND ERECTION OF REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ACI-318 AND ACI-318 LATEST EDITION "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT".
3. CONCRETE SHALL BE NORMAL WEIGHT WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS. PORTLAND CEMENT SHALL BE TYPE II. CONCRETE SHALL CONTAIN 1% TO 6% ENTRAINED AIR AND HAVE A MAXIMUM WATER TO CEMENT RATIO OF 0.45.
4. REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60.

NICOLANGILO CUOCO

No. 8337



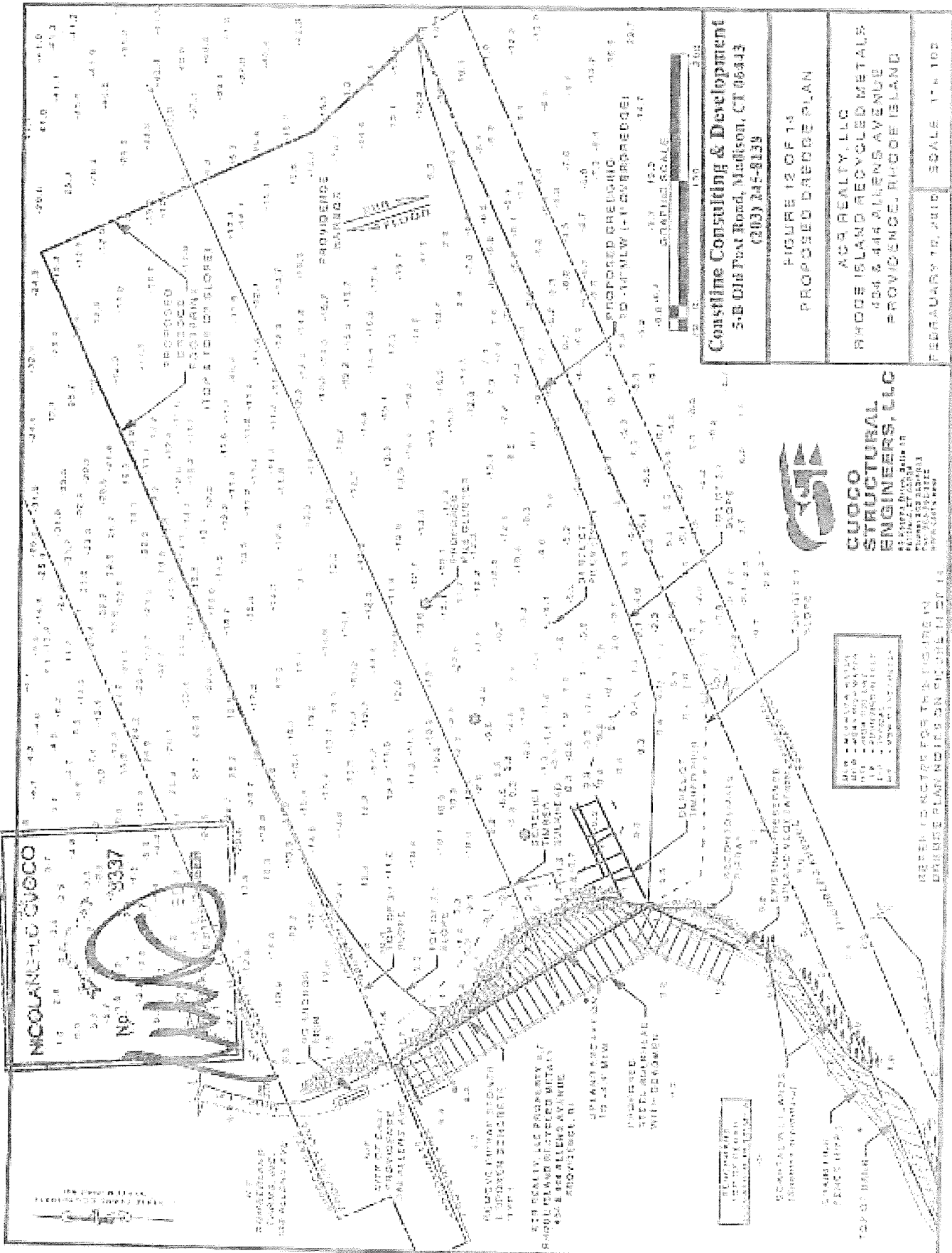
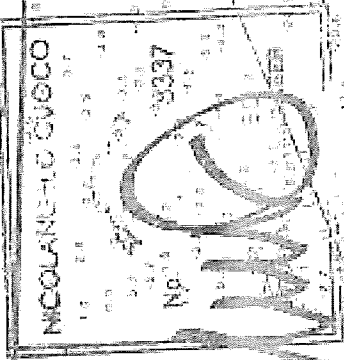
REGISTERED
PROFESSIONAL ENGINEER





**CUOCO
STRUCTURAL
ENGINEERS, LLC**
55 Helena Drive, Suite 112
 Pawtucket, RI 02864
 Phone: 401-202-0101
 Fax: 401-258-1099
 www.cseinc.com

Coastline Consulting & Development 5-B Old Post Road, Madison CT 06443 (203) 245-8138	
FIGURE 11 OF 14 BULKHEAD DRAWING NOTES 2 OF 2	
ACR REALTY, LLC RHODE ISLAND RECYCLED METALS 434 & 444 ALLENS AVENUE PROVIDENCE, RHODE ISLAND	
FEBRUARY 10, 2010	FILE NO.: 09-059



Constline Consulting & Development
 5-B Old Post Road, Madison, CT 06443
 (203) 245-8139

FIGURE 12 OF 14
 PROPOSED DREDGE PLAN

AGG REALTY, LLC
 RHODE ISLAND RECYCLED METALS
 404 & 444 ALLENS AVENUE
 PROVIDENCE, RHODE ISLAND

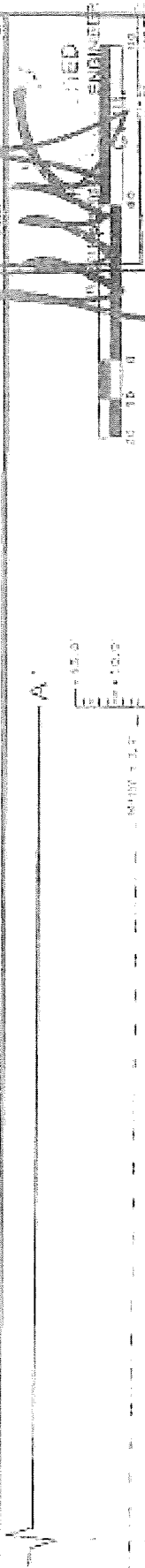
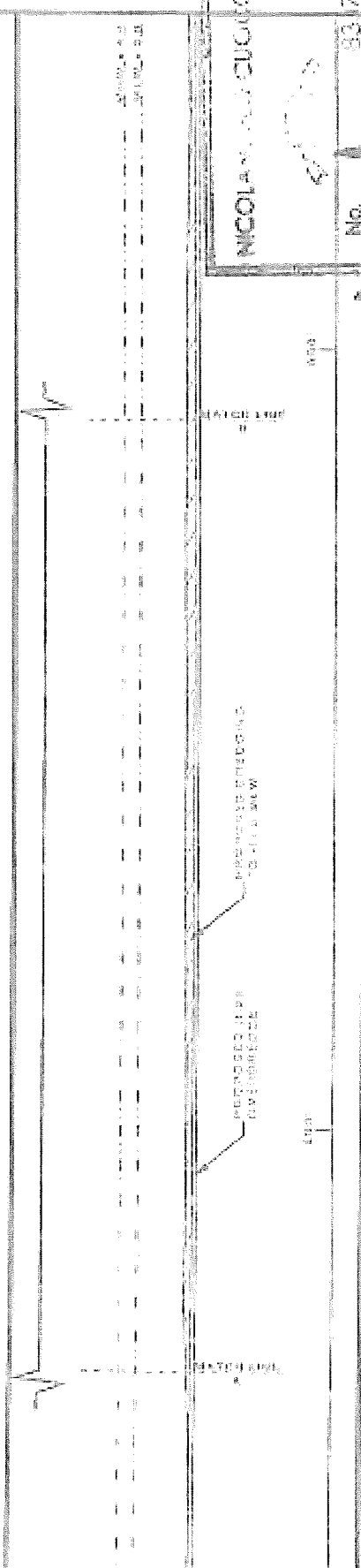
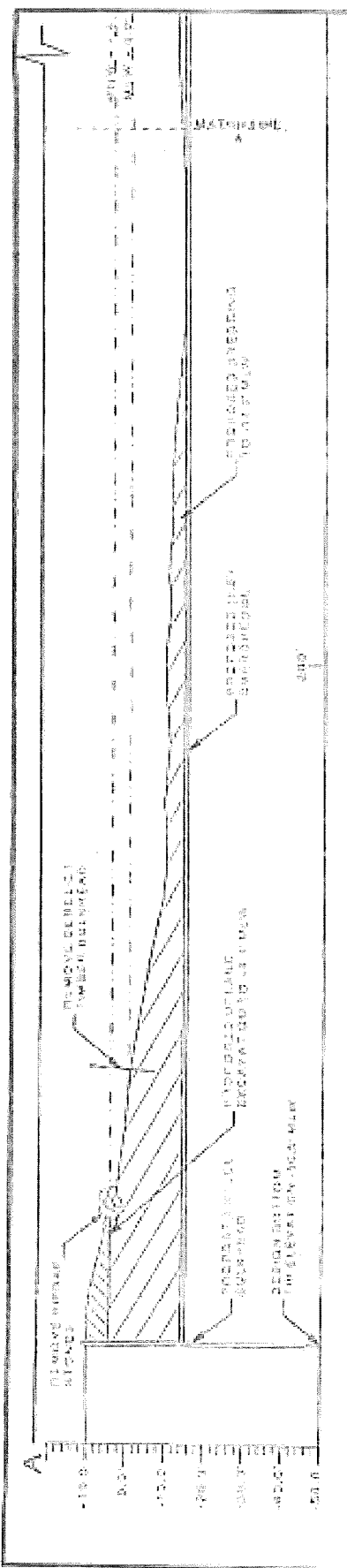
FEBRUARY 10, 2010 SCALE 1" = 100'



GUOCO
STRUCTURAL
ENGINEERS, LLC
 1000 WASHINGTON STREET
 PROVIDENCE, RHODE ISLAND 02903
 WWW.GUOCO.COM

ALL DIMENSIONS ARE IN FEET
 UNLESS OTHERWISE NOTED
 ALL DIMENSIONS ARE TO FACE
 UNLESS OTHERWISE NOTED
 ALL DIMENSIONS ARE TO FACE
 UNLESS OTHERWISE NOTED

REFER TO NOTES FOR THIS FIGURE IN
 DREDGE PLAN SHEET ON SHEET 12 OF 14



NICOLA M. DI CICCIO
 No. 9317
 REGISTERED ENGINEER

Constline Consulting & Development
 5-B Old Post Road, Madison, CT 06443
 (203) 245-8139

FIGURE 14 OF 14
 BRIDGE CROSS-SECTION A - A'

ACR REALTY, LLC
 RHODE ISLAND RECYCLED METALS
 424 S. 444 ALLENS AVENUE
 PROVIDENCE, RHODE ISLAND

FEBRUARY 10, 2010 SCALE: 1" = 40'

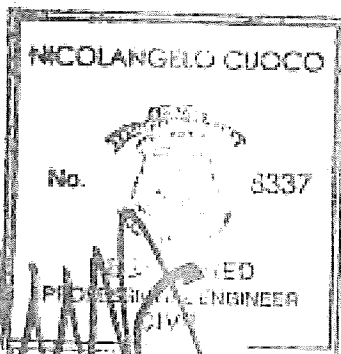
CUOCO STRUCTURAL ENGINEERS, LLC
 1000 WEST MAIN ST. SUITE 100
 PROVIDENCE, RI 02903
 TEL: 401-863-1111 FAX: 401-863-1112
 WWW.CUOCOENGINEERS.COM

SEE TO NOTES FOR THIS FIGURE IN CROSS SECTION BY FIGURE 14 OF 14.

DREDGE PLAN NOTES

FIGURES 12 & 13 OF 14
PROPOSED DREDGE PLAN &
DREDGE CROSS-SECTION

1. THESE APPLICATION DRAWINGS WERE PREPARED FROM RECORDED RESEARCH, OTHER MAPS, LIMITED FIELD MEASUREMENTS COLLECTED ON AUGUST 26, 2009, AND OTHER SOURCES. THEY ARE NOT TO BE CONSTRUED AS PROPERTY/BOUNDARY OR LIMITED PROPERTY/BOUNDARY SURVEYS.
2. REFERENCE IS MADE TO:
 - a. "FIGURE 4 OF 14, EXISTING CONDITIONS, ACR REALTY, LLC, RHODE ISLAND RECYCLED METALS, 434 & 444 ALLENS AVENUE, PROVIDENCE, RHODE ISLAND" PREPARED BY COASTLINE CONSULTING & DEVELOPMENT, LLC.
 - b. "FIGURE 12 OF 14, PROPOSED DREDGE PLAN, ACR REALTY, LLC, RHODE ISLAND RECYCLED METALS, 434 & 444 ALLENS AVENUE, PROVIDENCE, RHODE ISLAND" PREPARED BY COASTLINE CONSULTING & DEVELOPMENT, LLC.
3. SOUNDINGS AND UPLAND ELEVATIONS ARE IN FEET AND REFERENCED TO THE MEAN LOW WATER (MLW) TIDAL DATUM BASED ON NAVD83.
4. THESE APPLICATION DRAWINGS ARE FOR PLANNING & PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR BID DOCUMENTS, STRUCTURAL DESIGN, OR CONSTRUCTION. NOT ALL IMPROVEMENTS AND FEATURES HAVE BEEN DEPICTED.
5. ANY UNDERGROUND AND/OR UNDERWATER UTILITY, STRUCTURE, AND FACILITY LOCATIONS DEPICTED AND/OR NOTED HEREON MAY HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROLE TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE LOCATIONS OF WHICH ARE UNKNOWN TO COASTLINE CONSULTING AND DEVELOPMENT, LLC. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION. CALL BEFORE YOU DIG: 1-800-922-4455.



**CUOCO
STRUCTURAL
ENGINEERS, LLC**

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Fax: 204-841-1000
www.cuoco.com

Coastline Consulting & Development 5-B Old Post Road, Madison CT 06413 (203) 245-8138	
FIGURE 14 OF 14 DREDGE PLAN NOTES	
ACR REALTY, LLC RHODE ISLAND RECYCLED METALS 434 & 444 ALLENS AVENUE PROVIDENCE, RHODE ISLAND	
JANUARY 10, 2010	FILE NO.: 09-059

SOIL MANAGEMENT PLAN

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

This Soil Management Plan (SMP) has been prepared to establish procedures that will be followed during the bulkhead installation at 434 & 444 Allens Avenue in Providence, Rhode Island. This proposed project requires the need to manage soils excavated from the subsurface. The plan serves to supplement, and will be initiated by, the RIDEM notification requirement established by the Environmental Land Use Restriction (ELUR) for the property.

Background

The property is located at 434 & 444 Allens Avenue in Providence. According to the U.S. EPA, Region I - New England, the site was formerly "owned by various parties including U.S. Lumber Company and Pitman Lumber Company. From 1972 to 1979, the property was owned by Texaco, Inc. Refine Met International (Refine Met) acquired the property in 1979 and reportedly used the property as a resource recovery facility where scrap metal, computer parts, circuit boards, capacitors, radios, and selected electronic components were shredded. Capacitors manufactured prior to the 1970s frequently contained dielectric fluid composed of polychlorinated biphenyls (PCBs). On-site activities conducted while Refine Met occupied the property are unknown. Boliden purchased the property from Refine Met in 1983 and operated the site as a resource recovery facility engaged in the reclamation of precious metals and minerals from 1983 to 1989. Scrap metals were received in bulk form, shredded, sampled, categorized, and accumulated for shipment to smelters overseas. The property is currently inactive."

The property was found to contain PCBs during a site investigation performed at the property. More recently, the site has been remediated and been found in compliance with RIDEM's Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases and has remained undeveloped since this time. The Department approved remedy apparently included the excavation of contaminated cells and filling with clean material. The regulated site soils are covered with Department approved engineered controls, consisting of clean soil and vegetation in order to prevent direct exposure to regulated soils and/or infiltration through soils which exceed the Department's Method 1 (GA or GB) Leachability Criteria.

Project Purpose

The purpose of this plan is to provide precautions and measures to be taken during and after construction to minimize soil erosion and sedimentation. The activity along the waterfront consists of the installation of a commercial/industrial shoreline protection structure and improvement dredging to create deep-water access and berthing. All structural components, save the three tie-off piles, will be located landward of the mean high water line. The proposed bulkhead and tie-off piles, in conjunction with the dredging, will allow derelict vessels to temporarily berth in a perpendicular fashion directly along the property's shoreline. The redeveloped waterfront will serve to facilitate the dismantling of derelict vessels. The scrap metal produced during the dismantling process will then be transferred to the upland and transported off-site to an

appropriate upland recycling facility. The proposed upland activities involve the installation of the bulkhead deadman anchor & tie-rod system and installation of a low-profile concrete work pad. The proposed structures involve negligible change in grade landward of the bulkhead location and no construction of above-ground structures. As a result, the proposed project will maintain existing upland topography.

Applicable Area

This SMP and affiliated ELUR, which restricts the property to Industrial/Commercial use, pertains to the entire property.

Project Details

The proposed activities include installation of a steel sheetpile bulkhead with a deadman anchor and tie-rod system. All components will be constructed landward of the mean high water line. The proposed activities involve negligible change in grade landward of the bulkhead location with no above-ground structures. As a result, the proposed project will maintain existing upland topography. The anticipated construction methodology and project sequencing is outlined in the following section. At this time, it is projected that a total of approximately 2,166 cubic yards of material will be temporarily excavated for the bulkhead tie-back system in multiple stages. The limit of this temporary excavation is shown on the application drawings. Any excess soil will be redeposited on-site per RIDEM instruction and approval. In addition, it is projected that a total of approximately 500 cubic yards of material will be excavated waterward of the bulkhead down to the MHW elevation of +4.4' MLW. The limit of this excavation is shown on the application drawings. Any excavated soil will be either redeposited on-site or transported off-site per RIDEM instruction and approval. The project is anticipated to take approximately 90 working days to complete.

Construction Methodology & Project Sequencing

The installation of the new steel bulkhead and tie-back system will be conducted in multiple stages as outlined below.

1. The first phase of the project will consist of installing the steel sheeting. The bulkhead location will be properly staked with survey equipment prior to the initiation of construction activities. The installation of the sheeting will be conducted from a land based crane using a vibratory hammer. No excavation is planned with this phase, as the contractor will install the sheeting by ground penetration. The contractor will start at the northerly end of the property and work in a southerly direction, installing all sheeting in its entirety prior to installation of the deadman system.
2. Next, the contractor will begin installation of the tie-back system by excavating the soil on the landward side of the new steel sheeting. The work will be conducted from the upland, landward of the mean high water line, and will not impact coastal resources. This work will be accomplished by use of a backhoe stationed on the upland. The contractor will temporarily stockpile the backfill

material on an upland portion of the site. A silt fence will be installed around the perimeter of all stockpiled material.

3. Next, the contractor will begin installing the upland concrete deadman. Temporary timber framing will be constructed to form the concrete deadman. The deadman will be then poured by machinery stationed from the upland. Once the concrete has cured, the timber forms will be removed.
4. Next, the Contractor will begin installing the walers and tie-rods. Twelve-inch walers will be installed on the landward face of the new steel sheeting. Tie-rods will then be connected from the deadman system to the walers on the back-side of the new steel sheeting. Once the steel tie-rods are connected, geotextile fabric and crushed stone will be installed on the immediate landward side of the bulkhead. A backhoe and skid steer will return the ground to existing grade.
5. As the final step before the dredging project, the contractor will then excavate the area waterward of the new steel bulkhead down to the MHW elevation of +4.4' MLW. Excavation will be conducted using an upland based excavator. This material will be disposed of on the project site landward of the proposed bulkhead or transported off site to an appropriate upland facility per RIDEM instruction and approval.

Soil Management

The direct exposure pathway is the primary concern at the site. Individuals engaged in activities at the site may be exposed through incidental ingestion, dermal contact, or inhalation of vapors or entrained soil particles if proper precautions are not taken. Therefore, the following procedures will be followed to minimize the potential of exposure:

1. All standards and specifications set forth in the most recent RI Soil Erosion and Sediment Control Handbook (RISESCH) will be strictly adhered to. Control measures will follow the specifications depicted in the attached RI Standards drawings from the Rhode Island Department of Transportation.
2. Hay bales will be tied in to a depth of 3 to 4 inches and maintained by replacing bales where necessary until permanent re-vegetation of the site is completed.
3. Where natural or manmade slopes are or have become susceptible to erosion, the slopes will be graded to a suitable slope and re-vegetated with thick rooting brush vegetation. Mulch will be applied as necessary to provide protection against erosion until the vegetation is established.
4. Construction will be timed to accommodate runoff flow and to allow flows over exposed, un-stabilized soils, or into or through the area of temporary excavation.

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) w/ 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 1 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 traps enclosing crushed stone or trap rock of a size sufficient to disperse inflow velocity. Hay bales anchoring 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 § 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.1.

300.6.B.1 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.B.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.E.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%.

300.6.E.3.b Peak Runoff Rate And Average Volume

The proposed BMP has been designed to mitigate peak runoff and average volume. As such, there are no anticipated changes from pre-development to post-development.

300.6.E.3.c Surface Runoff

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. Following a review of the manual, it was determined that the most appropriate BMP to mitigate stormwater runoff is to utilize an infiltration trench along the landward face of the proposed bulkhead. As noted above, it has been demonstrated that the infiltration trench will properly treat surface runoff.

300.6.E.3.d Concentrated Runoff and Roof Top Runoff

The proposed project will incorporate an infiltration trench that will avoid producing concentrated flows. The property does not currently experience roof top runoff, thus no adverse impacts are anticipated from this source.

300.6.E.3.e Natural Vegetation

The proposed project location has minimal vegetation in the immediate vicinity. It is understood that some of the existing vegetation was a result of the remedial activities associated with the site's Brownfield designation. The majority of the local vegetation is located in areas that will not be impacted by the project. As such, there are no anticipated impacts to natural vegetation.

300.6.E.3.f Conveyance

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. Following a review of the manual, it was determined that the most appropriate BMP to mitigate stormwater runoff is to utilize an infiltration trench along the landward face of the proposed bulkhead. The infiltration trench has been designed to the standards set forth in the Manual, and therefore will adequately convey the runoff from a ten-year storm event.

300.6.E.3.g Connections to Storm, Surface, Subsurface Drains or ISDS

The project will not include the connection to any storm, surface, or subsurface drains. There are no ISDS's located within 25 feet of the proposed project.

300.6.E.3.h Design and Installation Standards

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.