



Standard Operating Procedure 013: Stormwater Treatment Devices; Inspection & Cleaning Procedure

1.0 PURPOSE

This procedure defines the process for inspecting and cleaning the stormwater treatment devices that are in use at all of the Port of Virginia Marine Terminals.

2.0 REFERENCES

- 2.1 Vortechs™ Stormwater Treatment System Owner's Manual
- 2.2 SWP3 for Norfolk International Terminals
- 2.3 SWP3 for Newport News Marine Terminal
- 2.4 SPW3 for Portsmouth Marine Terminal
- 2.5 SWP3 for Virginia International Gateway

3.0 SCOPE AND RESPONSIBILITIES

3.1 The scope of this procedure includes all Vortechnic™ units, Oil-Water Separator (OWS) Grit Removal Chambers, and Aqua-Guard™ drop inlet filters that are located on The Port of Virginia Marine Terminals.

3.2 Responsibilities-

3.2.1. Sustainability Department is responsible for inspections of the storm water treatment devices.

3.2.2. Facility Maintenance Division is responsible for servicing the storm water treatment devices.

4.0 REQUIREMENTS

4.1 **Terminal Storm Water System Drainage Maps (also located in each terminals SWP3)**

4.1.1 **NIT**

https://vaports.sharepoint.com/sites/innovation/EnvMgmt/POV_EMS/SWP3%20and%20SPCC/NIT/NIT%20SW%20Site%20Diagram.pdf

4.1.2 **NNMT**

https://vaports.sharepoint.com/sites/innovation/EnvMgmt/POV_EMS/SWP3%20and%20SPCC/NNMT/NNMT%20SW%20Site%20Diagram.pdf

4.1.3 **VIG**

https://vaports.sharepoint.com/sites/innovation/EnvMgmt/POV_EMS/SWP3%20and%20SPCC/VIG/VIG%20SW%20Site%20Diagram.pdf

4.1.4 **PMT**
https://vaports.sharepoint.com/sites/innovation/EnvMgmt/POV_EMS/SWP3%20and%20SPCC/PMT/PMT%20SW%20Site%20Diagram.pdf

4.1.5 **VIP**
https://vaports.sharepoint.com/sites/innovation/EnvMgmt/POV_EMS/SWP3%20and%20SPCC/VIP/VIP%20SWP3%20Site%20Diagram.pdf

4.1.6 **RMT**
https://vaports.sharepoint.com/sites/innovation/EnvMgmt/POV_EMS/SWP3%20and%20SPCC/RMT/RMT%20site%20diagram%20Exhibit%206.pdf

4.2 **Vortech™ / OWS Grit Removal Chambers (VIG) Locations**

4.2.1 **NIT** (closest drop inlets as shown on NIT Stormwater Map)

- 4.2.1.1 2-4
- 4.2.1.2 6-6
- 4.2.1.3 6-5
- 4.2.1.4 6-21
- 4.2.1.5 10-51
- 4.2.1.6 10-49

4.2.2 **PMT** (closest drop inlets as shown on PMT Stormwater Map)

- 4.2.2.1 Vortech 1: 1-48
- 4.2.2.2 Vortech 2: 1-21
- 4.2.2.3 Vortech 3: 16-19

4.2.3 **NNMT** (closest drop inlet as shown on NNMT stormwater map)

- 4.2.3.1 4-15

4.2.4 **VIG**

- 4.2.4.1 2 OWS units are located on the **south** end of **Trench Drain C**
- 4.2.4.2 1 OWS unit is located on the **north** end of **Trench Drain B**

4.3 **Vortech™ / OWS Grit Removal Chambers (VIG) Requirements**

4.3.1 **Inspection Requirements**



- 4.3.1.1 The Sustainability Department is responsible for inspections of the Vortech and OWS units. A record of each inspection and the findings will be kept by the Sustainability Department.
- 4.3.1.2 Inspections of sediment accumulation in the Vortech units can be made by taking two measurements with a stadia rod or similar measuring device. The first measurement is the distance from the manhole opening to the water surface. The second measurement is the distance from the manhole opening to the top of the sediment pile. If the distance between the two measurements is less than 6 inches, the system should be cleaned out.
- 4.3.1.3 OWS can be visually inspected to ensure the system is working adequately. A rod can be stuck down into the OWS to check for depth and thickness of sediment.
- 4.3.1.4 Inspections of liquid contaminants in the Vortech and OWS units are done by visual examination. When an appreciable layer has accumulated, the Vortech or OWS units needs to be cleaned.

4.3.2 **Cleaning Requirements**

- 4.3.2.1 If the results from the inspection require the Vortechs' or OWS units to be cleaned, the Sustainability Manager is to inform the appropriate Facilities Maintenance Supervisor. Facilities Maintenance Supervisor will coordinate with approved Disposal Company for the cleaning of the Vortechs' or OWS units. The pump-out dates are to be recorded and maintained in the Facilities Maintenance Records. (Cleaning of the Vortechs' requires a VAC-Truck)

4.3 **NIT Aqua-Guard™ drop inlet filter locations (as shown on NIT Stormwater Map)**

- 4.3.1 1-21 (one unit)
- 4.3.2 1-24 (one unit)
- 4.3.3 2B-10 (one unit)
- 4.3.4 2B-5 (two units)
- 4.3.5 2B-4 (two units)

4.4 **Aqua-Guard™ Requirements**

- 4.4.1 The Sustainability Department is responsible for inspections of the drop inlets for sand, grit, and litter. This is to be coordinated with Facilities Maintenance.



A record of each inspection and the findings will be kept by the Sustainability Department.

- 4.4.2 Facilities Maintenance & the Sustainability Department is responsible for changing the filters and cleaning out the units when needed. This can be done at the same time the Sustainability Department is on site to conduct the inspection. The filter inspections/changes and pump-outs dates are to be recorded and maintained in the Facilities Maintenance Records.

4.5 NIT Crane Maintenance Pad Storm Water Filter

- 4.5.1 The crane maintenance department is responsible for monthly inspections of the drop inlet filter. The filter will be changed if the result of the inspection merits a filter change. A record of each inspection will be maintained by the Sustainability Department.
- 4.5.2 A quarterly inspection will be conducted by the Sustainability Department or their designee. If the filter needs to be changed, this is to be coordinated with Facilities Maintenance for the removal of the drop inlet grate. The filter shall be changed at least once every 6 months, a record of these inspections and filter changes are maintained within the Sustainability Department.
- 4.5.3 The filter used for this drop inlet is the PIG ® Drain Insert Plus.

4.6 VIG Spill Containment Area

- 4.6.1 The spill containment area is equipped with two sump pumps and a collection tank. The sump pumps will pump storm water into the collection tank when the water reaches a certain level to ensure the storm water does not overflow the containment area.
- 4.6.2 Facilities Maintenance is responsible for the oversight of the collection tank. When the collection tank is full, the tank is taken to the wash rack and the water is poured down the drain in the wash rack that leads to the oil water separator.
- 4.6.3 Facilities Maintenance is responsible to conduct a monthly tank inspection on the collection tank.

5 Maintenance Log

https://vaports.sharepoint.com/sites/innovation/EnvMgmt/POV_EMS/EMS%20Completed%20Records/Quarterly%20Stormwater%20Inspections/Vortechs%20%20Drop%20Inlet%20and%20oil%20water%20sep%20%20Log.xlsx



6 CONSEQUENCES OF DEVIATION FROM PROCEDURE

Deviations from this procedure could result in the improper disposal of universal/hazardous wastes or in the improper record of disposal of universal/hazardous waste. Both the improper record of disposal or improper disposal of wastes could result in fines or notices of violation from the Virginia Department of Environmental Quality and/or EPA and/or could result in harm to individuals or the environment.

7 ATTACHMENTS (Controlled Documents)

- 6.1 NIT Stormwater Map
- 6.2 NNMT Stormwater Map
- 6.3 PMT Stormwater Map
- 6.4 VIG Stormwater Map
- 6.5 Vortechs, Aqua Guard's, and Oil/water separators maintenance log

7 RECORDS FOR MONITORING AND MEASUREMENT

- 7.1 Quarterly Inspection Reports
- 7.2 Vortech Pump-Out Dates – Facility Maintenance
- 7.3 Aqua-Guard Pump-Out Dates and Filter Bag Change Dates –Facility Maintenance
- 7.4 VIG Facilities Maintenance Monthly Inspection of Collection Tank

8 DEFINITIONS

Not required

9 REVISION HISTORY

- 9.1 Effective Date: 6/17/10
- 9.2 Previous Revision Date: 4/8/15 – Removed “Quarterly” from vortech and filter inspections. 5/13/14 – updated for new filter at NIT Crane Maintenance. 11/13/13 – updated division and employee titles. 6/20/2013 – added APM spill containment area requirements. 7/23/12 – combined all SOP's into one. 6/17/10
- 9.3 Approval: Scott Whitehurst, Director Environmental Policy and Compliance
- 9.4 Last Reviewed: 12/12/18
- 9.5 Reviewer: Billy Goodson, Environmental Compliance Specialist