StormSafe Helix

Stormwater Filtration Chamber

Inspection and Maintenance Guide

Important:

- Inspection and maintenance to be performed by qualified personnel only.
- Helical filter replacement will require personnel properly trained for confined space activity in accordance with Local and OSHA regulations.

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Inspection and Cleaning Overview

The StormSafe, like any other stormwater remediation device, requires regular maintenance intervals to remain effective as a stormwater filter. Since maintenance requirements and frequency are dependent on the pollutant load characteristics of each site, Fabco recommends a regular inspection and maintenance regime to maintain peak performance of the helical filters. As required, both the influent and effluent chambers should be cleaned of any collected oil, trash, debris and sediment that may inhibit filter performance.

Recommended Cleaning Frequency

Site conditions will determine the required cleaning frequency to maintain peak performance of the StormSafe Helix treatment chamber. There is no universal rule to predict the optimal cleanout cycle for stormwater filter systems; however locations with stabilized surface conditions will require less frequent cleaning then areas exposed to erosion or construction. Over a short period of time, regular inspection by maintenance personnel will dictate the appropriate cleaning frequency. For new installations, Fabco recommends at least two (2) inspections per year. Additional inspections are recommended following major rain events. Cleaning and filter replacement should be "as needed" based on these inspections. Fabco recommends an initial filter replacement frequency of once per year until sufficient historical data predicts otherwise.

In Case of Spills

In the event of a spill, all inspection and cleaning operations should be aborted until trained HAZMAT personnel secure the jobsite.

Included Reference Material

StormSafe Detail (Figure 1), Maintenance Log Sheet.

Visual Inspection Procedure

Inspection and cleaning should be performed only after NO rainfall for at least 24 hours.

If working in the street, wear proper safety equipment and follow the local road safety rules & regulations.

Begin by removing both the 36" and 30" manhole access covers located over the influent and effluent chambers of the StormSafe. Allow several minutes for the system to vent.

CAUTION: Grates are extremely heavy. Some type of lifting mechanism is highly recommended.

Visually inspect both chambers for heavy sediment, trash and debris loading that may limit or prevent water flow into the filter housings. A battery powered flashlight or droplight is recommended for thorough inspection.

Some telltale signs that cleaning or filter replacement is necessary are as follows:

- Waterline marks less than 12-in below the top of the bypass weir.
- Water level differential between the influent chamber and the effluent chamber.
- For most installations, not more than three-quarters (3/4) of the filter housing diameter should be submerged on a dry day.
- Obvious heavy loading of leaves, sticks or construction debris.

Record observations and comments on the maintenance log sheet. In addition, the use of digital photographs and/or sketches may be warranted to maintain the most accurate historical records.

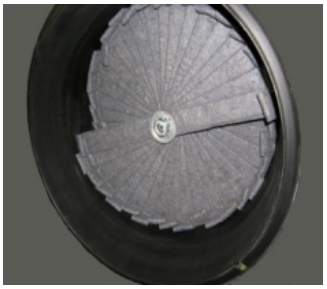
Cleaning and Helical Filter Replacement

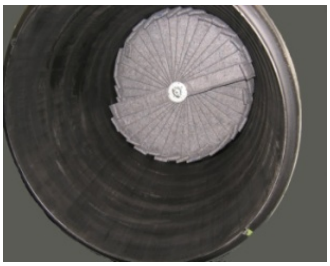
If cleaning or helical filter replacement is deemed necessary, the following procedure is recommended:

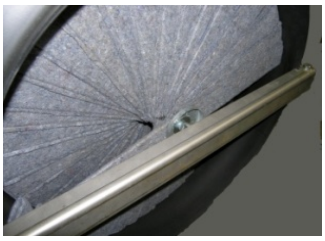
1. Secure the worksite with the appropriate safety equipment in accordance with local and OSHA regulations.
2. Remove both the 36” and 30” manhole access covers located over the influent and effluent chambers of the StormSafe. Allow several minutes for the chambers to vent.
3. Perform an internal and external visual inspection of the vault’s general condition including both access manhole covers and castings, as well any exposed concrete surfaces. Record any visual anomalies such as cracks, gouges, hollows, excess wear or settling.
4. Without entering the vault, both the Influent and effluent chambers can be cleaned using a typical vacuum truck or similar vacuum equipment with sufficient storage capacity.
5. Both the influent and effluent chambers are designed to accommodate standard suction hoses typical to vacuum equipment. Thoroughly vacuum liquids, debris and sediment from both chambers.
6. If helical filter replacement is deemed unnecessary, reinstall both the 36” and 30” manhole access covers. Clean the jobsite as necessary and record pertinent information on the attached “Maintenance Log Sheet” to complete the job.
7. If helical filter replacement is deemed necessary, vault entry is required, and OSHA rules for confined space entry must be followed.
8. Removal of the helical filters is done from the influent chamber. Due to possible slippery floor conditions, care should be taken to avoid falls.
9. Using a suitable ladder, enter the influent chamber and start by removing the diffuser assembly located on the face of each filter housing tube. Each diffuser assembly is attached to the housings by means of three (3) wing nuts. A pair of pliers may be required to loosen the wing nuts.
10. With the diffuser assembly removed, the helical filters are exposed and can be pulled directly out of the housing. In general, each housing will contain five (5) separate helical filters. Each helical filter contains a centrally located eye-nut. The eye-nut conveniently allows for a pole hook to aid in the removal of each helical filter.

Cleaning and Helical Filter Replacement *(continued)*

11. In the unusual circumstance that a helical filter is difficult to remove by hand, wall anchors are provide and located directly across from the filter housings. The wall anchors can be used to attach a ratchet pulling device or a crank puller.
12. Remove the helical filters from the housing one at a time and locate under the 36" manhole. Using a rope or chain and hook assemble (rated for a 100-lb load min.) lift the spent helical filter out of the vault. Note that the eye-nut located on each end of the filter is designed to support the full weight of the spent filter. Repeat this process until all the spent helical filters have been removed from the vault.
13. Although not generally required, a small crane system can be used to lift (or lower) the helical filters. Typical spent filter weight is approximately 75-lb.
14. With the helical filters removed, visually inspect the housing tube(s) for any sign of damage. Remove as much sediment and /or debris as possible to allow for a clean installation of the new helical filters.
15. Again, using the eye-nuts located on either side of the helical filters, lower each new filter through the 36" manhole opening to the vault floor.
16. With the diffuser assembly removed, carefully push each new helical filter into the housing tube, ensuring that each filter is fully inserted prior to installing the next.
17. After installing the five (5) helical filters into each of the housing tubes, replace the diffuser assemblies and secure in place by tighten the wing nuts.
18. Filter installation is now complete. Remove any tools, ropes, chains or installation devices from both chambers.
19. Brush or scrape as necessary the manhole covers and support frames prior to reinstalling both the 36" and 30" manhole covers.
20. Clean the jobsite as necessary and record pertinent information on the attached "Maintenance Log Sheet".



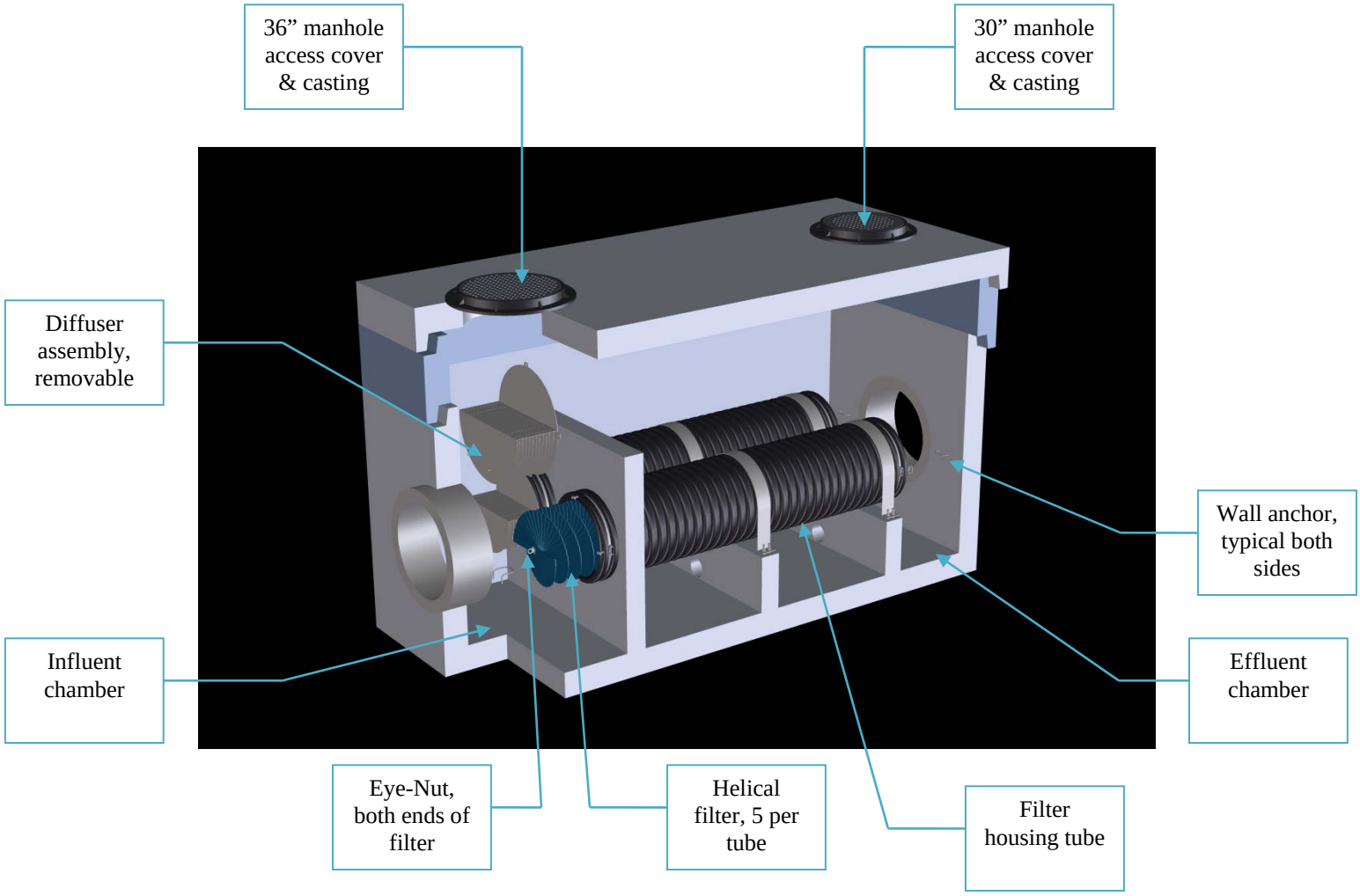




Disposal

All removed water, oils, sediment, debris, trash and other accumulates collected in the StormSafe must be handled and disposed of in accordance with local, state and federal regulations.

Disposal considerations must be part of a well-planed and scheduled vault maintenance regime. Solid waste disposal can typically be coordinated with a local landfill, whereas liquid waste can be disposed of at either a wastewater treatment plant, or a municipal vacuum truck decant facility.



StormSafe Fig. 1

Inspection and Maintenance Log-Sheet **StormSafe –Helix Stormwater Treatment Chamber**	
Maintenance Company Information	
Company Name:	
Onsite Technician:	
Contact Phone No:	
StormSafe-Helix Vault Information	
Date of Maintenance:	Fabco Vault P/N:
Vault Location:	
Water Depth (prior to maintenance):	**Comments**
Sediment Depth (prior to maintenance):	
Structural Damage:	
Maintenance Performed:	
Water level differential between chambers:	
Additional Work Required:	
Structural Repairs:	

ASP Enterprises | Bowman Construction Supply Inc. | Quick Supply Co. | Cascade GEOSYNTHETICS

LOCATIONS & CONTACT INFO

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SOLUTIONS WE SUPPLY

GEOSYNTHETICS
Filter Fabrics
Stabilization Fabrics
Geogrids
- Road Grids
- Wall Grids
- Slope Stabilization

Specialty Fabrics
Composite Geomembranes
- GCLs, PVC, HDPE, LLDPE, EPDM, Granular Bentonite

SEDIMENT CONTROL
Inlet Protection
- Grated Inlet, Curb Inlet, Area Inlet Protection

Ditch Checks
- Triangle Silt Dike
- GeoRidge

Perimeter Protection
- High and Low-Porosity Silt Fence, Straw Wattles, Silt Socks
- Safety Fence

Flocculants & Water Treatment
- Polymer-Based & Natural Flocculants

Sediment Basin Skimmers
Dewatering Bags
Trackout Control
- FODS
- Rumble Grates

Turbidity Curtains

EROSION CONTROL
Basic Hydraulically Applied Mulches
- Wood
- Paper
- Blends
- Straw

High-Performance Hydraulically Applied Products
- BFM
- FGM
- Additives & Tackifiers

Temporary Erosion Control Blankets
- Coir & Jute Mat/Nettings
- Short-Term ECBs
- Extended-Term ECBs

Permanent Erosion Control Blankets
- Turf Reinforcement Mats
- HP-TRMs
- Anchor Reinforced Vegetation System

Structural BMPs
- Transition Mats
- Geoweb Cellular Confinement
- Composite Vegetated Armor System
- Flex MSE Vegetated Wall System
- Articulated Concrete Block
- Gabions
- Grout-Filled Geotextile Mats

Vegetation Establishment
- Native Seed & Turf Seed
- Fertilizers
- Organic Soil Additives
- Stratavault Soil Cells

STORMWATER MANAGEMENT
Water Quality
- Inlet Filter Boxes
- Pre-Treatment Chamber
- Nutrient Separating Baffle Boxes
- High-Flow Biofiltration Media
- Hydrodynamic Separators
- Stratavault

Water Quantity
- Modular Underground Storage Systems
- Chamber Detention Systems

Drainage
- HDPE Swale Liner
- Pipe & Fittings
- Drainage Composites
- Strip Drain

Inlet Structures
- PVC
- Drain Basins, In-Line Drains
- Landscape

Permeable Pavers
- Permeable Articulating Concrete Block
- Grass Pavers
- Gravel Pavers
- Concrete Pavers

SPECIALTY
Natural & Synthetic Coir Fiber Logs
Vegetated Reinforced Soil Slopes
Soil Anchors
Root Barrier System
AquaBlok
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