

# **Specifications for Municipal Deployment of Catch Basin Insert Filters**

Municipality or County of \_\_\_\_\_  
State of \_\_\_\_\_

Contract Number \_\_\_\_\_

## **PART 1.00 SCOPE**

This specification describes a post developed catch basin filtration device that captures gross pollutants (sediment, trash and hydrocarbons) from runoff and is installed in new or existing stormdrain infrastructure consisting of drop, combo or curb only inlets.

Municipal separate storm drains selected for treatment are those located in high traffic areas, municipal parking lots, public right of ways and environmentally sensitive areas draining to impaired open water bodies and are identified on the site location map located in Attachment A.

Catch basin structure sizes and configurations shall be verified and confirmed in the field by the Town or County Engineer, High Superintendent and selected vendor\contractor prior to acceptance of a purchase order and manufacturing\delivery of materials. Either the Municipality or vendor\contractor shall develop and furnish a worksheet similar to the one included in Attachment B to measure and certify the actual condition of the catch basins.

### **1.2 Submittals**

The contractor and\or municipality shall be provided with engineering details or standardized top drawings of the catch basin filter device and, when specified, utilize these drawings for approval. Drawings shall be annotated to indicate overall physical dimensions (WXLXH), all materials to be used, design assumptions and performance characteristics that include the following:

1. Treatment capacity
2. Primary bypass capacity
3. Secondary bypass capacity
4. Pollutant storage capacity
5. Approximate oil boom absorption capacity

## **PART 2.00 PRODUCT DETAILS**

### **2.1 General Configuration:**

This technology is a post developed stormwater treatment system. The StormSack or approved equal device provides effective filtration of solid pollutants and debris typical

of urban runoff, while utilizing existing or new storm drain infrastructure. The StormSack or approved equal is designed to rest on the flanges of conventional catch basin frames and supports a filter sack made of geotextile material. The general configuration of the StormSack or approved equal shall include the following basic design features.

#### *Structural Load*

The filter sack, frame and support items (e.g., drop flanges, sack support clips or hooks) will be engineered to support a dead load significantly greater than the load exerted when the filter sack is filled to capacity with pollutants.

#### *Baffle Wall*

The device shall provide for isolation of trapped pollutants, including debris, sediments, trash and hydrocarbons from bypass flow in order to minimize washout during peak flows. This shall be accomplished using a baffle or partition wall integral to the frame of the device.

#### *Oil Boom*

Water suspended pollutants such as oils and grease shall be captured through a non-leaching, absorbent material deployed in the form of a sock or tube. The oil sock or tube shall be secured at multiple points using at least two different fasteners (e.g., zip-ties and PVC clips) near the top of the filter sack and shall be visible from street level throughout the maintenance cycle.

#### *Filter Sack Liner*

A protective filter sack liner made of HDPE mesh shall be integral with the sack in order to facilitate maintenance with a vacuum hose. Alternate filter sack devices must be able to demonstrate in-situ maintenance with a vacuum hose attached to a vactor or sweeper truck without causing the entire unit to become displaced from the catch basin or damaged (i.e., rips, tears, and cuts to the filter sack).

## 2.2 Flow Capacity:

The filter sack specified shall effectively filter flow rates up to the water quality design flow specified by the Town or County Engineer.

Peak flows that exceed the treatment capacity of the filtration sack either clean or during the normal course of service must be able to escape through at least one mode of bypass (an overflow port) at the top of the insert. When deployed in a high traffic area or municipal highway, preference will be given to devices like the StormSack, which has two modes of bypass.

The device shall not impede flow into or through the catch basin when properly sized and installed. Any exceptions to this must be approved by the Town or County Engineer, Highway Superintendent or appropriate municipal official.

### 2.3 Materials of Construction

A complete list of materials and pertinent material properties are included in the table below. Consideration may be given to alternate materials provided they have shown longevity of at least 8-years in cold climate environments exposed to freeze thaw cycles and winter deicing materials (road sand and salts).

Filter sacks shall be fabricated from Geotextile 117F, a woven polypropylene monofilament geotextile with a protective liner made of HDPE mesh. The aperture opening and clean flow through capacity of the filter sack shall be no smaller than US Mesh 35 (500 microns) and 200 US GAL/min/ft<sup>2</sup> (0.82 L/min/cm<sup>2</sup>), respectively.

<b>StormSack Item</b>	<b>Material Specifications</b>
Frame and adjustable flange and deflector	Aluminum Allow 6063-T6
StormSack	Geotextile 117F with reinforced mesh liner
Corner filler	Aluminum Alloy 5052-H32
Lifting tabs	Aluminum Alloy 5052-H32
Support hardware	CRES 300 Series
Oil boom	100% Polypropylene 3" (76 mm) diameter
Mesh liner	HDPE diamond pattern 1.25"X1.25" (32 mm X 32 mm) openings
Corner braces	Co-polymer (injection molded)
Splash guard	Neoprene Rubber
Aluminum Alloy 6063-T6	Yield Strength 40,000 PSI (275 MPa)
	Tensile Strength 45,000 PSI (310 MPa)
	Shear Strength 30,000 PSI (206 MPa)
Aluminum Alloy 5052-H32	Yield Strength 31,000 PSI (214 MPa)
	Tensile Strength 38,000 PSI (262 MPa)
	Shear Strength 21,000 PSI (145 MPa)
Neoprene Splash Guard	Thickness 0.25 inches (6.4 mm)
	Temperature Rating -45 °F to 250 °F (-42.7 °C to 121 °C)
	Durometer 80
Co-Polymer Corner Braces	Tensile Strength 3,200 PSI (22 MPa)
	Heat Deflection Temperature at 66 PSI (0.45 MPa) 175 °F (79 °C)
	Notched IZOD Impact Strength at 73 °F (22.7 °C) – No Break
Hardware: Black Oxide Steel or Equal	Meets ASTM F912 Rockwell Hardness C45-C53

#### 2.4 Clearance

Recommended minimum clearance from bottom of cartridge to inside bottom of vault or resting water surface is 2 inches (50 mm).

#### 2.5 Frame Adjustability

Typical frame adjustability range of 5 inches (127 mm) in each direction.

#### 2.6 Delivery, Storage and Handling

All materials shall be protected during loading, transportation and unloading, in accordance with the manufacturer's recommendations.

#### 2.7 Manufacturer

The manufacturer of said system shall have been regularly engaged in the engineering design and production of systems for physical treatment of stormwater runoff for a minimum of 8-years and shall have greater than five-hundred (500) installation in two or more municipalities. The StormSack shall be supplied by FABCO Industries, Inc., 66 Central Avenue, Farmingdale, NY 11735, phone 631.393.6024 or an approved Distributor\Representative of the product.

### PART 3.00 INSTALLATION and MAINTENANCE

Installation: Prior to commencing with installation, the Town or County Engineer shall have verified (preferably as part of the Catch Basin Sizing Survey) the catch basin structure has been pre-cleaned and is free from obstructions and gross pollutants. Typical drop or combination inlet installation procedures shall include removing the storm grate, cleaning the ledge of debris and solids, measuring catch basin clear opening and adjusting flanges to rest on grate support ledge. Install StormSack so the adjustable flanges are resting on the grate support ledge. Install corner filler pieces as needed. Reinstall storm grate directly on support flanges such that the rise shall be no more than 1/8 inch (3 mm).

*For curb only inlet installations please refer to Addendum One of the bid specifications or contact the manufacturer for an installation manual and list of tools.*

Maintenance: Typically the StormSack is serviceable from the street level, and therefore maintenance does not require confined space entry into the catch basin structure. The unit is designed to be maintained in place with a vacuum hose attached to a sweeper or a vactor truck. In the event the StormSack is damaged contact FABCO Industries, Inc., for replaceable parts or a replacement unit.

END OF SECTION

**APPENDIX A**  
**(Catch Basin Site Location Map)**

**APPENDIX B**  
**(Sizing Worksheet)**