

**RIGID INLET PROTECTION DEVICE  
GENERAL SPECIFICATION  
SPECIFICATION SECTION 1111**

**A. GENERAL**

**1. DESCRIPTION**

- A. This section of the specification describes the sediment retaining device and the associated components. The equipment shall be installed as shown on the plans, as recommended by the supplier, and in compliance with all OSHA, local, state, and federal codes and regulations.
- B. The number of Rigid Inlet Protection Assemblies shall be one (1) per inlet structure or as indicated on contract drawing(s). Each assembly shall include a separate Main Housing, and Fitted Filter Assembly.
- C. All Inlet Protection Devices must be submitted for pre-approval prior to usage.

**2. QUALITY ASSURANCE**

- A. Main Housing and Fitted Filter Media shall, as applicable, meet the requirements of the following industry standards:
  - 1. American Society for Testing and Materials (ASTM) D4976-00b; Standard Specification for Polyethylene Plastic Molding and Extrusion Material.
  - 2. ISO 868 Plastics-Determination of Indention Hardness by Means of a Durometer (Shore Hardness).
  - 3. American Society for Testing and Materials (ASTM) D1117-99; Standard Guide for Evaluating Nonwoven Fabrics.
  - 4. American Society for Testing and Materials (ASTM) D6193-97; Standard Practice for Stitches and Seams.
- B. Qualified Manufacturers shall have a minimum 3 years experience at manufacturing rigid inlet protection assemblies for use as sediment control equipment and be experienced in installation of equivalent applications. Manufacturer shall be able to provide a list of at least 20 references of installations as requested by Engineer or Owner's Representative.
- C. Qualified Manufacturers shall maintain sufficient inventory.

## **B. PRODUCTS**

### **1. ACCEPTABLE MANUFACTURERS**

- A. The Rigid Inlet Protection Assembly shall be manufactured by Silt-Saver, Inc. and shall be Model #'s (SS-100A / SS-200A) or pre-approved equivalent. Silt-Saver, Inc. is located at 1401 Business Center Drive, Conyers, Georgia 30094, Toll Free (888) 382-SILT (7458). A list of Acceptable Local Area Suppliers can be obtained by contacting Silt-Saver, Inc.
  
- B. When a Manufacturer and/or Supplier of an alternate inlet protection device takes exception or requests a waiver of certain aspects of this specification, a test demonstration shall be performed to the satisfaction of the Engineer and/or Local, State or Federal Regulating Authority. The device Manufacturer and/or Supplier shall cover the costs of equipment, materials, and labor required to perform the demonstration. The test shall include, but **NOT** be limited to the following:
  - 1. The ability of the inlet protection device to provide acceptable environmental protection in a wide variety of conditions and materials to be encountered.
  - 2. Fineness and uniformity of resultant filter effluent.
  - 3. Control system performance and repeatability.
  - 4. Hydrostatic load test for Main Housing shall be minimum: 150-psi for 30-minutes without degradation.

### **2. IDENTIFICATION**

- A. Each unit shall include complete identification, including but NOT limited to the following: Manufacturer name and location, telephone, web address, model and/or serial number.

## **C. RIGID INLET PROTECTION ASSEMBLY**

### **1. GENERAL**

- A. Each Rigid Inlet Protection Assembly shall consist of the following components:
  - a) Main Housing and
  - b) Fitted Filter Assembly.

- B. The Main Housing shall be lightweight and be capable of continuous operation in all climate conditions. The Main Housing shall be manufactured with high molecular weight, high-density polyethylene copolymer. Main Housings that are not reusable and recyclable are **NOT** acceptable.
- C. The Rigid Inlet Protection Assembly shall require no ancillary tools to assemble and shall be self-sealing adjacent to the inlet structure. To reduce risk of failure, multi-component Main Housings shall not be acceptable.
- D. The Fitted Filter Assembly shall provide complete coverage of Main Housing and provide 2-stage filtering capacity.
- E. Rigid Inlet Protection Assembly shall meet or exceed manual material handling and lifting weight limitations as outlined in the NIOSH Lifting Equation.

## 2. MAIN HOUSING

- A. The Main Housing shall be a solid formed high molecular weight, high-density polyethylene copolymer. The Main Housing shall be designed to meet or exceed the Standard Specifications for Polyethylene Plastic Molding and Extrusion Materials specification section (ASTM) D4976-00B.
- B. The Main Housing material shall have a minimum tensile impact rating of 170 ft. lbs/sq. in., with a minimum tensile strength yield of 3600 psi. The Main Housing structure shall completely span and enclose the inlet structure.
- C. The inside profile of the Main Housing shall be cylindrical to follow the radial arc of the domed top of cover. The top of the Main Housing shall have an open area to facilitate high flow conditions where large volumes of water must pass through at a rapid rate.
- D. The Main Housing peripheral frame shall consist of multiple slatted openings, providing a minimum of 6.4 sq. ft. open area, to facilitate filtration of the storm water during normal operational conditions.
- E. The Main Housing shall be self-sealing around the inlet structure, have a minimum height of 26" above the inlet structure, and have an enclosed top.

## 3. FITTED FILTER ASSEMBLY

- A. The Fitted Filter Assembly shall be constructed of 100% continuous polyester needle-punched non-woven engineering fabric and follow the guidelines in the American Society for Testing and Materials (ASTM) D1117-99; Standard Guide for Evaluating Nonwoven Fabrics. The Fitted Filter Assembly shall be fabricated to provide a direct fit adjacent to the associated Main Housing.

B. Fitted Filter Assembly - Geotextile Fabric

1. The filter fabric shall have a weight on no less than 3.0 ounces per square yard.
2. The filter fabric shall have a tensile strength of no less than 80 psi with an elongation at break of no less than fifty percent (50%).
3. The filter fabric shall have puncture strength of no less than 42 psi.
4. The filter fabric shall have a minimum U.V. rating of no less than 70% at 500 hrs.

C. The filter fabric shall be capable of reducing effluent turbidity and concentration by no less than 80% under typical sediment migration conditions.

D. Fitted Filter Assembly shall be constructed with integral anti-buoyancy pockets capable of holding no less than 3.0 CF of stabilization material.

E. The Fitted Filter Assembly shall be constructed to form a two-stage design, stage one shall be adjacent to the perimeter of the Main Housing and convey normal flows at a minimum clean water flow rate of 100 gpm per sq. ft.; stage two shall provide coarse screening across the top of the Main Housing and convey high flow rates, with a minimum apparent opening of ½” per sq. in. (NO.12 std sieve opening).

F. All seaming of components associated with the Filter Fabric Assembly shall use a continuous over edge sew through seam using a 1680 den thread and meet American Society for Testing and Materials (ASTM) D6193-97; Standard Practice for Stitches and Seams.

4. REPLACEMENT MEDIA

A. The Manufacturer shall maintain a complete inventory of replacement media.

B. Replacement media including Main Housing or Fitter Filter Assembly shall be available for purchase from the Manufacturer or its Qualified Supplier.

5. WARRANTIES

A. Manufacturer states that all materials provided are warranted against material defects and workmanship. Any claims to warranty must be made directly to Manufacturer. Due to the inherent nature of jobsite conditions, no claim is made to long-term effectiveness.

- B. The User should not assume that all safety measures are indicated, or that other measures of safety may not be required.

## **D. EXECUTION**

### **1. QUALITY CONTROL**

- A. Manufacturer shall make available upon request its Quality Control guidelines for materials and manufacturing.

### **2. INSTALLATION**

- A. Rigid Inlet Protection Assembly shall be installed in accordance with the Manufacturer's written installation instructions and in compliance with all OSHA, local, state, and federal codes and regulations.
- B. Installation instructions and details shall be readily available to Purchaser, Engineer, Owner, or Owner's Representative as requested.

### **3. OPERATION AND MAINTENANCE**

- A. Manufacturer shall provide no less than one (1) copy of Operation and Maintenance Procedures for the Rigid Inlet Protection Device. The Operation and Maintenance Procedures shall include installation techniques, equipment descriptions, operating instructions, drawings, troubleshooting techniques, and a recommended maintenance schedule.
- B. Maintenance shall include regular daily inspections and after each qualifying rainfall event. Removal of sediment shall take place when sediment reaches a point of 50% of the height of the Fitted Filter Assembly or as required by Engineer and/or Local Regulating Authorities. Maintenance shall follow guidelines as described in the Operation and Maintenance Procedures or as required by Engineer.

### **4. PAYMENT**

- A. Payment for the Rigid Inlet Protection Device shall be per each and shall include one (1) Main Housing and one (1) Fitted Filter Assembly for each Rigid Inlet Protection Device.
- B. Payment for Replacement Media shall be per each piece as billed.