

Floating Baffle System Specification

1.0 **General Description**

- 1.1 The floating baffles described in this specification shall be a custom manufactured factory prefabricated hydraulic barrier curtain delivered on site in a state of completion such that no further fabrication is required for installation. The floating baffles shall depend on a primary bottom-anchored design for maximum resistance to loads encountered in industrial or municipal lagoons. The manufacturer shall utilize virgin quality elastomeric geomembrane materials and factory dielectric and thermal seaming processes throughout. The floating baffles shall be designed for ease of installation in a new or operating lagoon without requiring de-watering.

2.0 **Scope**

- 2.1 Furnish and install Floating Baffles with appurtenances necessary to complete work as directed in the project specifications and drawings.

3.0 **Manufacturer Requirements**

- 3.1 The diversion curtains shall be equivalent in all respects to the **Deflector series baffle curtain manufactured by MPC Containment International**
- 3.2 Qualified manufacturers must have at least 20 years experience in the fabrication of geomembrane products and must have manufactured a minimum of 15,000,000 square feet of geomembrane & at least 10 years continuous company experience for lagoon applications.
- 3.3 Alternate manufacturers wishing to pre-qualify shall submit to the engineer, no later than 15 days prior to the bid date, a list of floating baffle projects with detail drawings meeting the requirements of this project specification.

4.0 **Components**

4.1 Baffle Curtain Material

The floating baffles shall be fabricated from polyester reinforced polymeric alloy membrane material Petrogard VI. Any proposed substitution must be approved by the Engineer.

- 4.1.2 Nylon reinforced materials will not be acceptable. The nylon reinforcing fabric will absorb water through the exposed scrim causing swelling and material delamination.
- 4.1.3 Baffles shall conform to the side slopes of lagoon where they meet the berm.

4.2 Upper Tension & Bottom Ballast Members

- 4.2.1 The floating baffle manufacturer shall provide an upper tension member consisting of a minimum 1/4" Ø vinyl coated stainless steel aircraft cable seamed in a hem under the flotation collar.
- 4.2.2 For membrane lined lagoons and other conditions, the floating baffle manufacturer shall provide a bottom ballast member consisting of a 5/8" Ø galvanized proof-coil chain seamed in a hem at the bottom edge of the hydraulic curtain.
- 4.2.3 Both tension members shall attach to 1/8" x 2" x12" (min.) stainless steel bolt-through end-connect plates with 3/8" Ø pullout stops.
- 4.2.4 Tension members sewn to the baffle will not be acceptable.

4.3 Flotation Collar

- 4.3.1 The flotation collar shall be constructed using a minimum 6" Ø by 8' long polystyrene foam logs sealed in a chamber of the specified baffle curtain material. The flotation material shall be closed cell polystyrene foam (1 lb. per cubic foot minimum foam density) providing a minimum buoyancy of 60 lbs. per cubic foot.
- 4.3.2 External, mechanically attached flotation that may require a spare part inventory will not be acceptable.
- 4.3.3 A maximum of 6" freeboard will be allowed to minimize exposure to wind and to prevent baffle displacement.

4.4 Baffle Sections

- 4.4.1 The floating baffles will be manufactured in single units which shall arrive on site ready to install up to 300' in length. Multiple section baffles with field assembly required will only be acceptable for baffles over 300' in length.

4.5 Flow Through Windows

- 4.5.1 Flow through window or flow around area should equal a minimum of 1 Ft.² per 30 gpm of peak flow rate.
- 4.5.2 A 2" wide reinforcement strip of the specified curtain material shall be welded around the perimeter of the flow through window.

4.6 Mid-Lagoon Anchoring

- 4.6.1 To maintain the baffle position in the lagoon, the baffle manufacturer shall provide mid-lagoon anchoring hardware consisting of two 1/8" x 2" x12" stainless steel bolt-through plates attached to the flotation collar at specified intervals. The plates shall be secured to concrete anchors with 1/4" Ø vinyl coated stainless steel aircraft cables on a 3 to 1 scope located perpendicular to the flotation collar.
- 4.6.1 Mid-lagoon anchoring hardware shall be provided as a standard accessory on all baffles that exceed 300' in length. Typical spacing, 150' on center.

5.0 Execution

5.1 Installation

- 5.1.1 The installation contractor shall install the floating baffle in the position shown on the project drawings.
- 5.1.2 The floating baffle shall be installed in accordance with the manufacturer's drawings, instructions and recommendations.
- 5.1.3 The contractor shall field verify all dimensions prior to releasing the baffle for fabrication.
- 5.1.4 The contractor shall supply all necessary bottom anchors and berm posts. The baffle manufacturer can assist in recommending suitable anchors and posts if not specified in contractual plans.
- 5.1.5 The manufacturer shall, upon request, provide the services of a qualified on-site installation supervisor to ensure proper installation of the baffle system.

5.2 Warranty

- 5.2.1 Floating baffles shall have a limited 2-year warranty from the date of shipment covering workmanship and materials. All warranties must be submitted in writing by the manufacturer and confirmed by the end user.