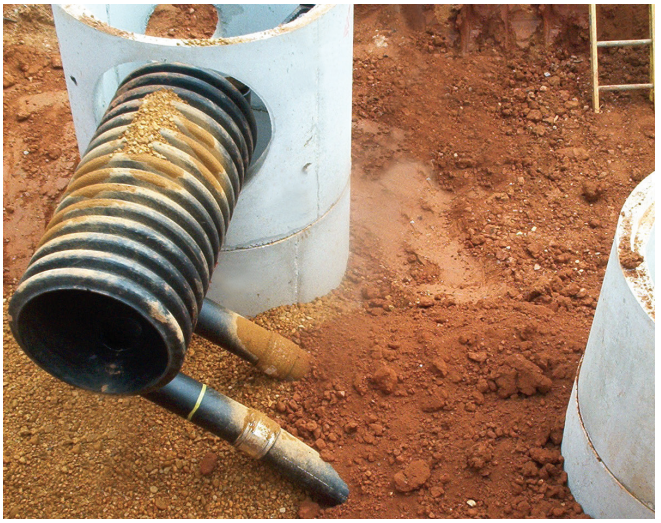
BaySeparator™ Stormwater Treatment System

Preventing Pollution in Water

Clean water is essential to quality of life. BaySaver Technologies is 100% committed to minimizing pollution in stormwater which helps protect our water resources. By collaborating with the regulatory and engineering community to develop products and processes, BaySaver continually develops state of the art stormwater filters and particle separators. Our filters and separators effectively remove pollutants such as hydrocarbons, trash, sediments, metals, total phosphorous, dissolved phosphorous and dissolved nitrogen.



The BaySeparator™ system removes greater than 80% pollution relying on density differences and gravity to remove suspended solids and floatables (hydrocarbons, floating debris, etc.) from storm-water runoff. The BaySeparator is a unique high density polyethylene device that routes the storm-water between two different manholes for optimal removal efficiency. Pollutants are trapped inside the precast structure until they are removed by routine maintenance.

Design

The BaySeparator is available in five (5) standard sizes and is also customizable for larger flows:

Model	Max. Treatment Rate cfs (cms)	Max. Hydraulic Rate cfs (cms)	Manhole Diameter in (mm)	Manhole Depth ft (m)
½ K	1.1 (0.03)	8.5 (0.24)	48 (1200)	6 (1.8)
1 K	2.4 (0.07)	10 (0.28)	48 (1200)	8 (2.4)
3 K	7.8 (0.22)	30 (0.85)	60 (1500)	8 (2.4)
5 K	11.1 (0.31)	50 (1.42)	72 (1825)	8 (2.4)
10 K	21.8 (0.62)	100 (2.83)	120 (3050)	8 (2.4)
XK	Custom	Custom	Custom	Custom

Sizing can be accomplished based on flow, annual aggregate removal, or local design regulations. The stand-alone separator is designed to remove 80% of the Total Suspended Solids (TSS) on an annual aggregate removal basis.

Installation

- Units are kept in stock and can be delivered within a week of ordering
- Unit arrives to job site ready for easy installation
- Unit is grouted into the primary manhole
- Standard boots or approved seals are used where connecting pipes join storage manhole
- Unit should be backfilled with Class I, II or III material

System Operation: Three Flow Paths

Low Flows:

- All low flow rates are treated in the offline storage manhole.
- Coarse sediments settle in the primary manhole undisturbed.
- Finer sediments and floatables are conveyed through the BaySeparator into the storage manhole
- Contaminants in the storage manhole are trapped offline.

Maximum Treatment Rate:

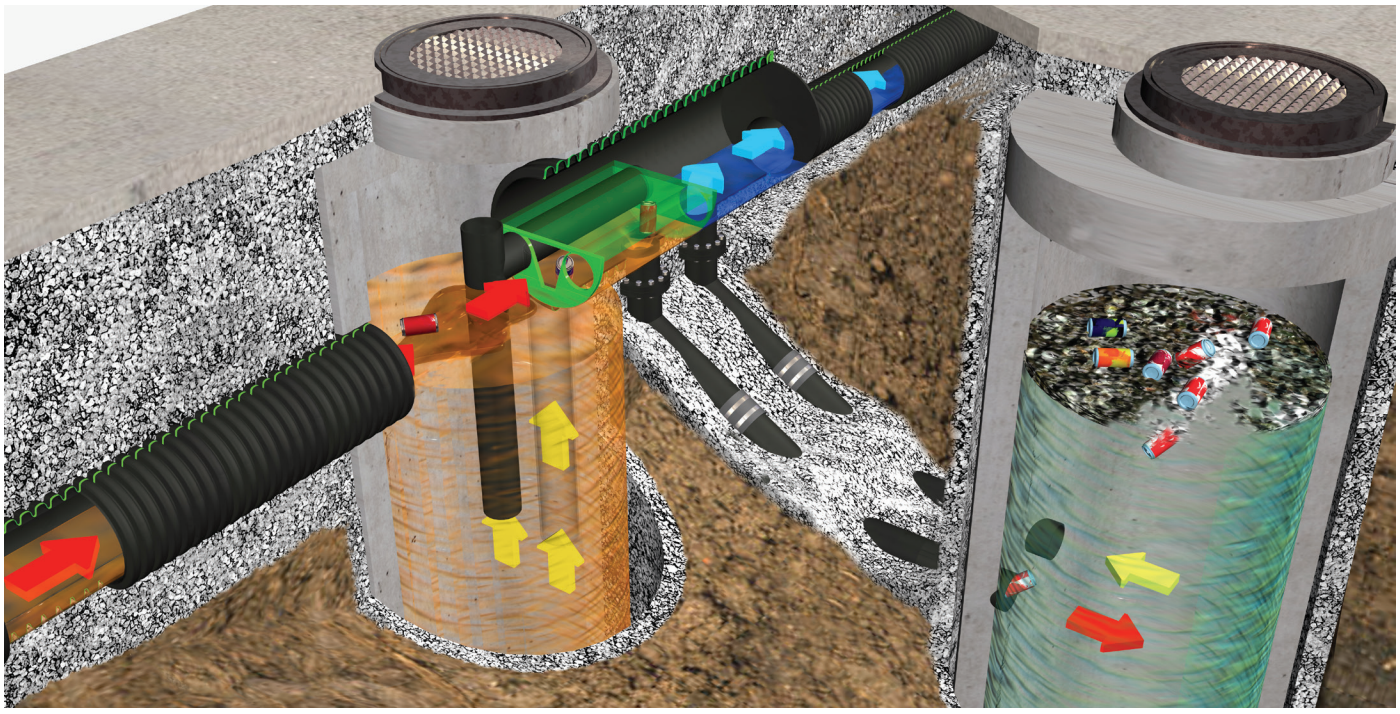
- The primary manhole separates pollutants during low-flow events and high-flow events.
- Treated flow in the primary manhole flows up through the Tee Pipes.

Maximum Hydraulic Rate:

- The BaySeparator has an internal bypass.
- Peak Design flows are directed over the bypass plate.
- The BaySeparator isolates contaminants by storing them offline.
- Risk of re-suspending contaminants is effectively eliminated.

Maintenance:

- Maintenance is a simple procedure performed using a vacuum truck or similar equipment.
- Reduced disposal costs.
- Each manhole has unobstructed access to capture pollutants.



BaySeparator Specification

Materials & Design

- Concrete structures shall be designed for H-20 traffic loading and applicable soil loads or as otherwise determined by a licensed Professional Engineer. The materials and structural design of the devices shall be per ASTM C857 and ASTM C858.
- The separator structure shall be substantially constructed of HDPE or equivalent corrosion resistant material meeting ASTM F2306, ASTM D330, ASTM F412 and ASTM C425.
- Smooth wall pipes within the unit (i.e., tee pipes, connector pipes and down pipes) shall be constructed of at least SDR 32.5 HDPE pipe of standard ASTM F412.
- Pipe and fitting material shall be high-density polyethylene meeting ASTM D330 minimum cell classification 335400C for 24-inch through 60-inch (600-1500 mm) diameters.
- The reducer/adaptor to the mainline shall be installed with an exterior joining coupler. The joint coupler shall be Mar Mac® coupler or an approved equal and shall be installed according to the manufacturer's recommendations.
- The connector pipes shall be connected with the down pipes using Fernco® flexible couplings that have been manufactured to conform to ASTM C425.

Performance

- The stormwater treatment unit shall be an online unit capable of conveying 100% of the design peak flow.
- The BaySeparator unit shall be designed to remove at least 80% of the suspended solids on an annual aggregate removal basis. Said removal shall be based on full-scale third party testing using F-110 media gradation (manufactured by US Silica™) or equivalent. Said full scale testing shall have included sediment capture based on actual total mass collected by the Stormwater Treatment Unit.
- The stormwater treatment unit shall consist of one (1) pre-fabricated separator structure, one (1) online coarse sediment capture and bypass structure and one (1) offline sediment and floatable capture structure. The separator structure shall be substantially constructed of HDPE or equivalent corrosion resistant materia. The offline sediment structure must provide for offline sediment storage of sediments and floatables that are isolated from high intensity storms.
- The stormwater treatment unit(s) head loss at the Peak Design Flow Rate shall not exceed the head loss specified by the engineer.
- The unit shall be designed to remove sediment particles as well as floating oils and debris.

Installation

Installation of the Stormwater Treatment Unit(s) shall be performed per manufacturer's installation instructions. Such instructions can be obtained by calling 800-229-7283 or online at adspipe.com.

adspipe.com