

VortSentry™ Hydrodynamic Separator (VS40)



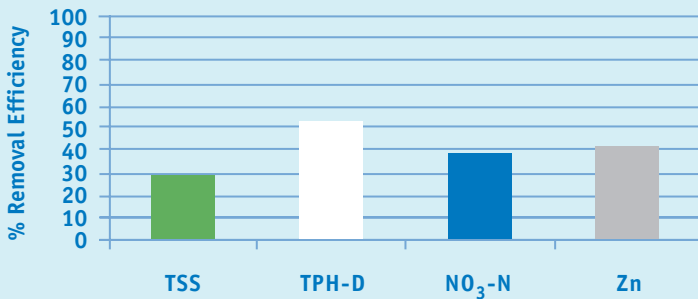
The VortSentry is a hydrodynamic separator that uses vortex settling to remove sediment, trap debris and trash, and separate floatable oil and grease. Its compact design is well suited for space constrained and urban sites, where the installation of a larger stormwater treatment is impractical. Depending on state regulations, these devices are either used by themselves, or as a pretreatment system in conjunction with other stormwater treatments.

This prefabricated system is on-line with an internal bypass. It is composed of a weir and a baffle mounted internally in a four-foot diameter concrete storm drain.

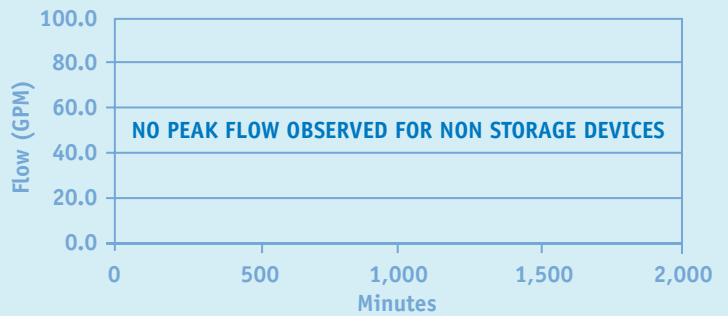
This treatment's unobstructed access and lack of moving parts enables easy maintenance. Maintenance requirements are similar to other hydrodynamic separators, and include the periodic removal of solids by a vacuum truck.

The VortSentry hydrodynamic separator is composed of a weir and baffle [above] encased in a concrete storm drain [insert]. It primarily addresses sediment, but also exhibits comparable reduction of zinc and total petroleum hydrocarbons-diesel.

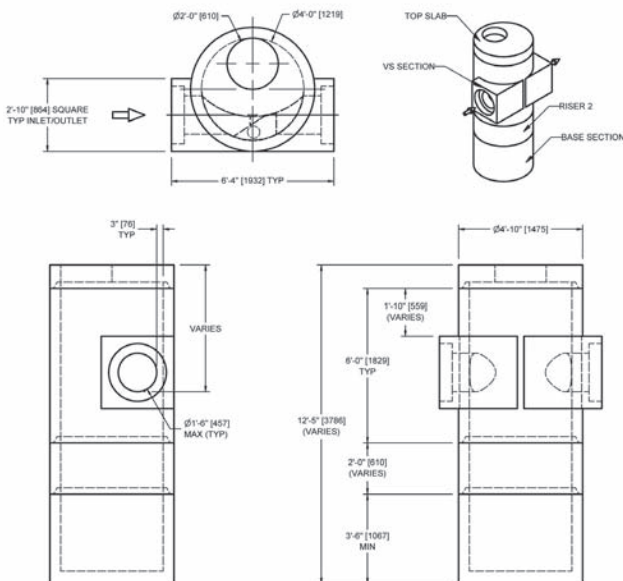
WATER QUALITY PERFORMANCE



PEAK FLOW REDUCTION



Water Quality Treatment Process



VortSentry treats water quality through the hydrodynamic separation of solids from liquids. It is configured for tangential flow, which creates a hydraulic vortex that settles out particles. It contains a flow partition, designed to minimize sediment resuspension for flow rates that exceed the targeted design.

The primary contaminant addressed by hydrodynamic separators is sediment. However, comparable reductions are observed for zinc and total petroleum hydrocarbons-diesel, presumably as a result of binding to trapped sediments. This treatment does not have a storage volume and therefore has no peak flow or volume reduction. Influent and effluent hydrographs are the same. These devices must receive frequent inspection and cleaning to maintain effectiveness.

Category Type

Manhole Retrofit

BMP Type

Manufactured Device

Design Source

Vortech, Inc.

Basic Dimensions

Diameter: 4 ft
Depth Below Invert: 6.5 ft

Specifications

Catchment Area: 1/3 acre
Peak Flow: 1/3 cfs
Volume: 327 cf

Treatment Function

Physical, Hydrodynamic Separation

Cost Per Acre

\$18,000

Maintenance Data

Maintenance Sensitivity: High
Inspections: High
Sediment Removal: High