

SUNTREE TECHNOLOGIES

NUTRIENT SEPARATING BAFFLE BOX STORM WATER QUALITY UNIT

DESIGN SPECIFICATIONS

The NSBB is a storm water quality feature that is designed to treat the entire flow of storm water runoff from a site, capturing foliage, litter, sediment, phosphates, hydrocarbons, etc. NSBB's have three features that work in tandem to treat storm water that is collected onsite, before it discharges to the storm sewer systems or bayous.

An interior trash screen system sits above the static water line within the unit, collecting floatables and large debris often containing nutrient rich vegetation and organic matter that has a negative impact on storm water if not removed.

Three interior baffles require storm water to be contained in each of the three chambers before it outfalls to the storm sewer system. This process allows sediment and fine particles to fall out of suspension, and be stored in the baffles until they are vacuumed out.

The third feature of the NSBB is a storm boom located near the outfall of the NSBB unit. The storm boom is a polymer filled, sieve-like tube that essentially floats on top of the water. Hydrocarbons picked up by storm water flowing over paved areas and into the storm sewers are absorbed by the polymer crumb filling.



Above: An NSBB being installed. From this image you can see the large metal screen where debris, vegetation, and floatables are collected.

The storm boom is barely visible from this picture, but is the long white sieve towards the far right end of the NSBB unit, positioned just under and to the right of the screen system.

About Storm Water Quality in Your Area:

The City of Houston and Harris County each have developed guidelines and regulations to help improve the water quality of our bayous and streams.

If a property meets the requirements of these regulations, there are certain things you need to know:

- Both the City of Houston and Harris County require monthly inspection of any SWQ unit onsite.
- In addition, annual re-permitting of these units is required. This entails the following:
 - a. An inspection by a Professional Engineer (PE),
 - b. Payment of the re-permitting fee, and
 - c. An affidavit from the Owner attesting that the guidelines set forth in the property's SWQMP (Storm Water Quality Management Plan) are being followed and are effective.

Construction EcoServices is committed to the education of these regulations and can provide turnkey services to Property Owners to assist with meeting regulatory guidelines.

INSPECTION & MAINTENANCE

Visual inspections should take place monthly or more frequently during prolonged, heavy rain events. The NSBB has three hatches that can be removed to perform visual inspections of the unit, including the baffle chambers, trash screen system, and storm boom.

Frequency of service should be 1 - 4 times a year, according to the amount of sediment and debris collected in the NSBB. Service includes cleaning of the screen system, removing collected sediment from the baffle chambers, and inspecting the storm boom for replacement.

Maintenance of the NSBB is determined when any of the following conditions is met (the recommended method of servicing the NSBB is vacuuming with a Vactor type unit):

- The stainless steel cage is 75% full of debris
- The baffle closest to the inlet is 80% full
- The Type 4 Hydrocarbon Boom is fully saturated with contaminants (The boom will be black throughout)

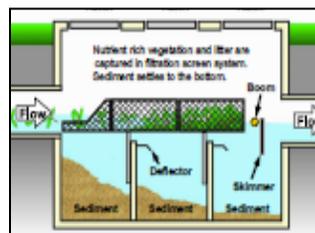
Maintenance:

1. Open the hatches or manholes on top of the Baffle Box.
2. Close off the inflow and outflow with dampers, if provided, for a "wet" box.
3. Vacuum the debris and sediment accumulated on the screen system.
4. Swing open the screen system to expose the sediment collection chambers.
5. Vacuum the sediment collected in each of the chambers.
6. Inspect the oil skimmer system Storm Boom for oil accumulation. Change Storm Boom if significantly contaminated.
7. Swing down the screen system, remove the dampers (if used), and close the hatches or replace the manhole covers.

Conceptual drawings:

The three baffles where sediment is stored (right)

The first baffle should contain the most sediment and the second and third baffles respectively less (below) before water leaves the unit.



The polymers in the storm boom (in image left) do not absorb water, and will therefore float on top of the water indefinitely, to absorb multiple quarts of oils and other hydrocarbons.