

KEYNOTE



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SITE CIVIL IMPROVEMENT ↔ EROSION CONTROL ↔ SURFACE WATER QUALITY

GeoPro® Learning Tool

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NSBB Maintenance and Repair

Nutrient Separating Baffle Boxes [NSBBs] do function as advertised ... they capture and store much of the gross particulate matter and free organic liquids [hydrocarbons] flowing within a storm drain system. Periodically, these captured contaminants require removal to enable continued performance. So, how frequently does a facility manager or service contractor need to remove the collected materials? How is maintenance performed?

FREQUENCY OF MAINTENANCE

'It depends ... ' perhaps not the budget setting response one would like to rely upon, but an honest response. In most cases, contaminant loadings are unknown and without having historical records of what and how much has been entering a storm drain system, a defined response is not possible. Given this lack of information, we suggest the following schedule to develop a site-specific record of 'need' and associated maintenance routine.

First Year

Inspect quarterly to determine need and perform maintenance as needed. Remember:

1. The screen must be vacuumed before sediment chambers can be cleaned.
2. Depending on NSBB unit size, either two or three sediment chambers are present (an entrance cover exists for each chamber). The chambers are sealed so that water will not flow from one chamber to another during periods of no storm flows.
3. The inlet chamber will fill significantly before the next chamber collects appreciable amounts of sediments.
4. Therefore, maintenance may only be required in the first chamber. Check each chamber separately to see how many chambers require cleaning.

Second and Successive Years

Adjust the frequency and amount of cleaning [number of sediment chambers] based on the maintenance requirements observed from the first year inspections. Additional adjustments may be required as a result of excessive storms or area use, e.g., drains that service parking lots used for football game tail-gaters.

Units Used During Construction

Using a **NSBB** as a forebay substitute during construction offers benefits to both well and poorly managed sites. While frequent maintenance will likely



Basket system in need of maintenance

be required for poorly planned or managed erosion control programs, the sediment, construction debris, etc. is conveniently captured and removed. Well managed sites require far less maintenance needs. In the end, property owners and facility managers experience significant maintenance cost reductions compared to detention or retention basin clean-outs and site restoration programs.



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HOW TO PERFORM MAINTENANCE

Maintenance involves the three simple steps of cleaning the nutrient separating screen [vac truck], removing sediment from one or more chambers below the screen [vac truck], and inspecting/replacing the Storm Boom. All three procedures are performed while remaining at grade level ... no confined space entry is needed.

Typical vac truck operations include:

1. Open hatches or remove covers/grates **NSBB**,
2. Close off the inlet and outlet dampers, if provided (these can be ordered from Price and Company), for 'wet' boxes [where the pipes are at least partially filled between storm events],
3. Vacuum the debris, leaf litter and sediment collected in the screen,
4. Swing open the screen doors via a long-handled hook or cabled rings (provided for deep units) to expose the sediment chamber or chambers, and
5. Vacuum the collected sediment from the chamber or chambers.

Organic liquid absorption boom inspection and replacement steps include:

1. Inspect the Storm Boom for hydrocarbon accumulation and
2. If significantly contaminated, replace the Storm Boom via the supplied rope system.



Vac truck removal of collected organic, debris & sediment

Final Steps

1. Swing the screen systems back down into their at-work positions,
2. Open both the dampers [if applicable], and
3. Close and lock [if equipped] open hatches doors or replace the covers/grates.

Storage volumes for both the screens and lower sediment chambers are provided in the accompanying table. Once after the pattern of contaminant collection is known, these numbers are helpful in determining efficient vac truck routing.

NSBB Model	Basket Capacity (cf)	Chamber Capacity (cf)	Total Capacity (cf)	Storm Boom Capacity (gal)
4-8-84	20	92	112	1.4
5-10-84	49	148	197	1.9
6-12-84	72	204	276	2.4
8-14-96	99	355	454	6.8
10-14-96	123	399	522	8.8
10-16-125	236	570	806	8.8

REPAIRS

Seldom does a **NSBB** require repair. But if needed, all NSBBs are designed and fabricated to enable each screen part, supporting frame piece or fiberglass component to be disassembled, removed and replaced via entry through a hatch or manhole opening. In short, hatches or manholes rings do not have to be removed, excavation to the concrete top is not necessary and top removal is not required for any internal part repair or replacement need. Simple and inexpensive.

Contact our *Regional Representative* for additional **Nutrient Separating Baffle Box** information.



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