

MAINTENANCE OF STRUCTURAL BEST MANAGEMENT PRACTICES

Structural Best Management Practices (BMP's) are utilized in both the public and private sectors to meet specific storm water quality standards established by regulatory agencies. Design Engineers and owners need to have a mutual understanding of the United States Environmental Protection Agency's (USEPA) National Pollutant Discharge Elimination System (NPDES), stormwater management program. Once only applicable to larger cities and projects, now most owners of storm sewer systems must have documented procedures in place for regular/routine maintenance of BMP's as part of their storm water management programs.

"How often do I have to clean these things?"

This is the question most municipalities and owners who are dealing with storm water quality and implementation of structural BMP's often ask. Generally, maintenance should be done once a year, but it is advisable to check the unit after the first 6 months to determine the rate of sediment and oil accumulation and after the first year. The inspection frequency in subsequent years is based on observations made during the first year, as maintenance will vary from site to site.

There are several questions that the Design Engineer should consider when selecting a structural BMP to meet the storm water quality discharge standards and requirements.

- * Has the BMP been conveniently located for future and long-term accessibility by maintenance personnel?
- * Does the BMP require maintenance considered non-routine by the owner/municipality?
- * Does the BMP require special parts or an off-line bypass?
- * Does the owner/municipality have equipment and resources to effectively maintain the BMP?
- * Does the BMP have documented maintenance procedures for review by owner/municipality?
- * What are the sediment and oil capacities of the BMP and how will this effect frequency of maintenance?
- * Is there an opportunity to reduce the frequency of costly maintenance of natural BMP structures (ponds, swales etc.) by placing an easier to maintain structural BMP upstream?

The owner/municipality also have several items that should be considered when selecting or approving a BMP.

- * Who is responsible for maintenance of the BMP?
- * Will the BMP be located on public or private property?
- * Can in-house personnel and equipment effectively maintain the BMP?
- * Will regular routine inspections and cleaning be scheduled into maintenance operations?
- * Is funding established for the long-term operation and maintenance of the BMP?
- * Does the owner/municipality have an effective mechanism in place to enforce the routine cleaning and maintenance of structural BMP' s installed as part of private/public developments?
- * Has a maintenance program been included and approved during the project permitting phase?
- * What are the long-term costs of maintaining the structural BMP in comparison to other products?

Municipal site plan agreements and by-laws should be strengthened to assist in regulating maintenance of BMP's. Further, development charges may be imposed to cover the cost for a dedicated enforcement officer to monitor and follow up on maintenance of BMP's on private sites.

One thing is clear, and that is BMP's must be maintained in order to operate properly. The performance of all storm water quality measures decrease as they fill with sediment. Since the maintenance frequency will be site specific, regular inspections and maintenance play a key role in the performance of BMP's.