INSPECTION AND MAINTENANCE GUIDANCE FOR UNDERGROUND SANDFILTER

REGULAR INSPECTION AND MAINTENANCE IS CRITICAL TO THE EFFECTIVE OPERATION OF AN UNDERGROUND SAND FILTER. IT IS THE RESPONSIBILITY OF THE CITY OF PORTSMOUTH TO MAINTAIN THE UNDERGROUND SANDFILTER IN ACCORDANCE WITH THE MINIMUM DESIGN STANDARDS. THIS PAGE PROVIDES GUIDANCE ON MAINTENANCE ACTIVITIES THAT ARE TYPICALLY REQUIRED FOR UNDERGROUND SAND FILTERS, ALONG WITH A SUGGESTED FREQUENCY FOR EACH ACTIVITY. INDIVIDUAL FILTERS MAY HAVE MORE, OR LESS, FREQUENT MAINTENANCE NEEDS, DEPENDING UPON A VARIETY OF FACTORS INCLUDING THE OCCURRENCE OF LARGE STORM EVENTS, OVERLY WET OR DRY (I.E., DROUGHT) REGIONAL HYDROLOGIC CONDITIONS, AND ANY CHANGES OR REDEVELOPMENT IN THE UPSTREAM LAND USE.

INSPECTION ACTIVITIES

Activity	Frequency
A record should be kept of the time to drain the filter bed completely after a storm event. The filter bed should drain completely within 48 hours.	After every major storm in the first few months, then biannually
Check to insure the filter surface does not clog after storm events	
Check inlets an outlets for debris and high efficiency	Quarterly initially, Biannually
Check to see that the filter bed is draining completely within 48 hours after a rain event	
Check to see that the filter bed does not contain more than 6 inches accumulated material	
Check to see that the pre-treatment sediment chamber is not more than 50% full.	Annually
Check to see that the pre-treatment sediment chamber is not full of trash, debris, and floatables	
Inspect inlets and outlets to ensure good condition and no evidence of deterioration	
Ensure that no noticeable odors are detected outside of the facility.	
Check to see if high-flow bypass is functioning	

MAINTENANCE ACTIVITIES

Activity	Frequency
Ensure the activities in the area minimize oil/grease and sediment entry to the system.	Biannually, frequency adjusted as needed after 3 inspections
Check to see that the filter bed is clean of sediment. Remove sediment as necessary.	
If filter bed is clogged or draining poorly, remove top few inches of discolored material. Till or rake remaining material as needed.	
If 6 inches or more of filter bed has been removed, replace media with sand meeting design specifications	As needed
Repair or replace any damaged structural parts, inlets, outlets, valves	

CHECKLIST FOR INSPECTION OF UNDERGROUND SANDFILTER

Location:
Inspector:
Date: Time: Site Conditions:
Date Since Last Rain Event:

Inspection Items	Satisfactory (S) or Unsatisfactory (U)	Comments/Corrective Action
1. Complete drainage of filter within 48 hours after rain event		
2. Sediment accumulation on filter bed, 6” or less		
3. Clogging of filter surface		
4. Filter clear of debris		
5. Pre-treatment chamber less than 50% full or ≥ 6 inches		
6. Pre-treatment chamber empty of trash, debris, and floatables		
7. Clogging of inlet/outlet structures		
8. Cracking, spalling, or deterioration of concrete		
9. Leaks or seeps in filter		
10. Animal burrows		
11. Undesirable vegetation		
12. Undesirable odors		
13. Complaints from residents		
14. Public hazards noted		
15. High-flow bypass structure functioning and clear of debris		

IF ANY OF THE ABOVE INSPECTION ITEMS ARE UNSATISFACTORY, LIST CORRECTIVE ACTIONS AND THE CORRESPONDING COMPLETION DATES.

Corrective Action Needed	Due Date
1.	
2.	
3.	
4.	
5.	