

Maintenance of MTD's



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Overview

- I. Importance of Routine Maintenance
- II. Operation, Inspection and Maintenance of MTD's
 - A. Hydrodynamic Separators
 - B. Filtration Systems
 - C. Biofiltration Systems
 - D. Maintenance Costs
- III. Lessons Learned
- IV. Additional Resources

WHY DOES MAINTENANCE MATTER?

- NPDES Phase II requires control of runoff from sites both during and post construction. Post control usually involves more permanent, long-term devices. Once these devices are installed, a structured long-term O&M plan is required to ensure they continue to produce approved water quality results
- Without routine maintenance, all MTD's will eventually stop working: HDS will reach storage capacity and Filters will completely clog and Biofilters will not flow
- Full remediation of any MTD will cost significantly more than routine maintenance
- Greater financial impact when beaches and inland waterways close, roads flood or public and private property are damaged.

- All stormwater management systems require routine inspection and maintenance....MTD's are no exception
- Appropriate operation and maintenance activities ensure that stormwater practices will continue to function properly and yield expected water quality results
- Inspection and Maintenance records allow you to better understand how the device is working
- Stormwater maintenance is still the 800 lb. gorilla in the room
- Enforcement is a necessary component for a healthy stormwater program



Common MTD Systems – Operation & Maintenance Review



Hydrodynamic
Separators

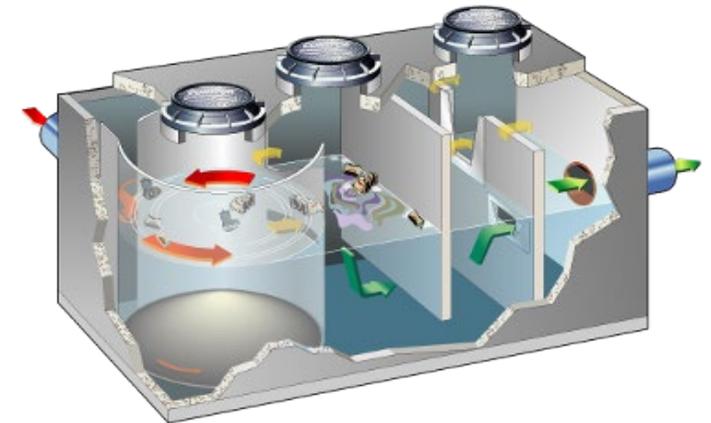
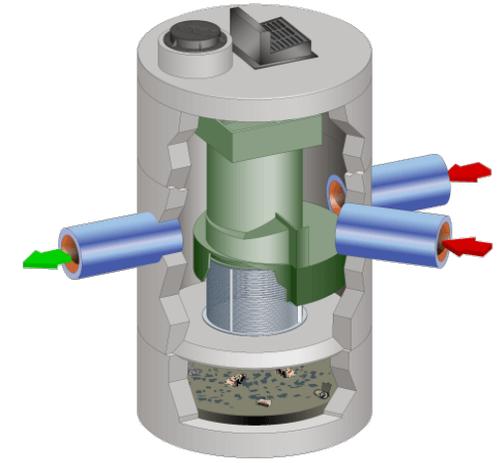
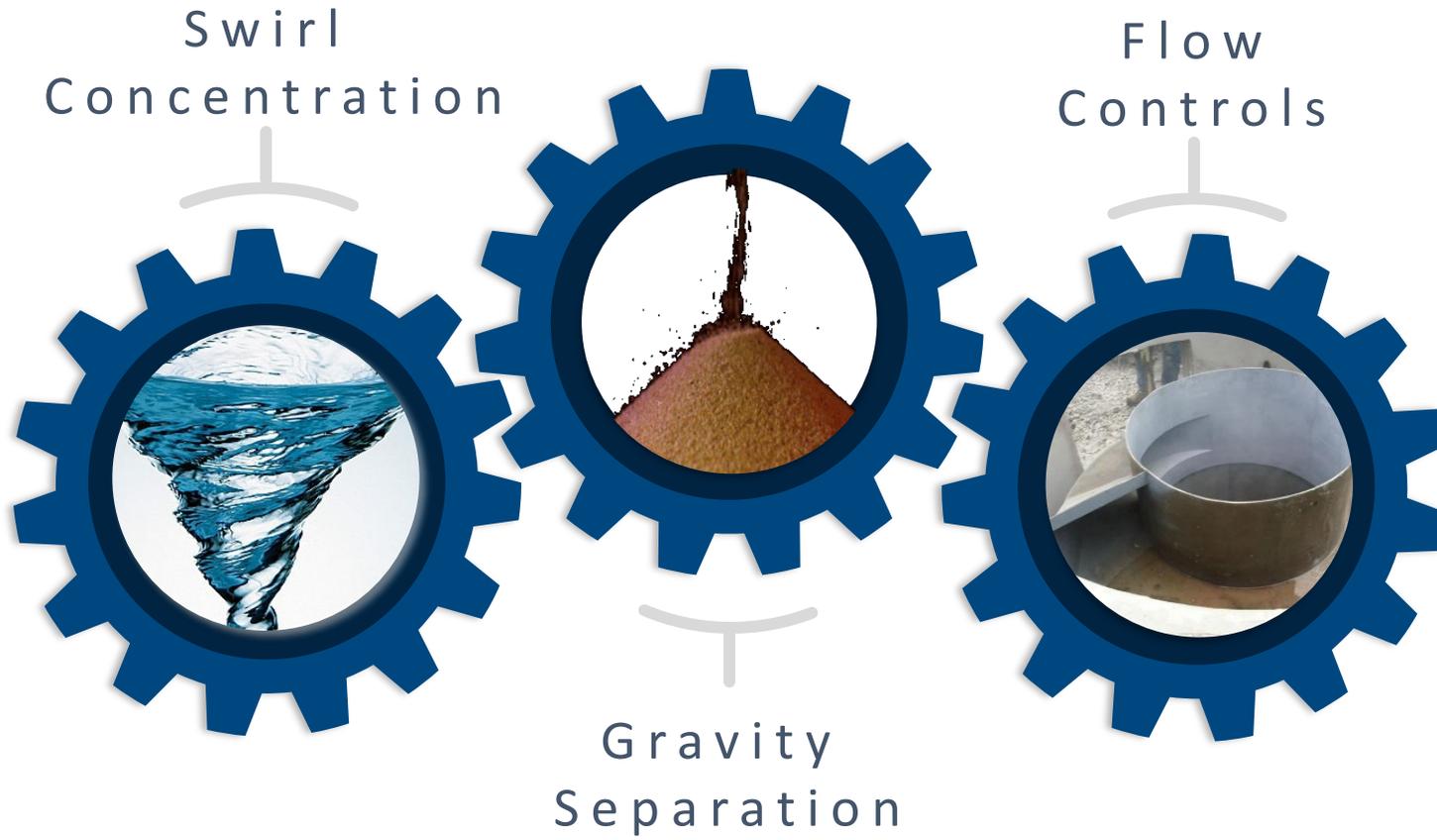


Filtration



Biofiltration

Hydrodynamic Separation (HDS)



Typical HDS Inspection Overview:

- ✓ Varies from 1- 4 x per Year
- ✓ Inspect Floatables
- ✓ Measure Sediment



Typical HDS Maintenance Overview:

- ✓ No Confined Space Entry required
- ✓ Vac Truck
- ✓ Sediment & Trash/Debris removed from unit

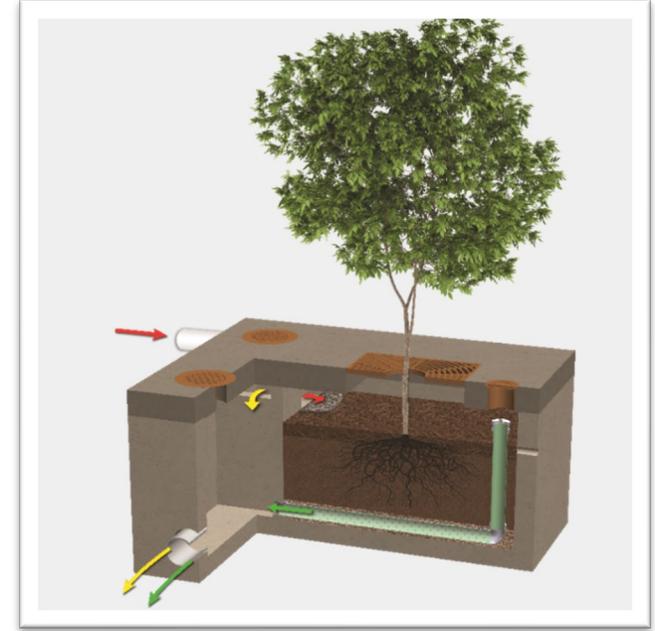




Typical Filtration Maintenance Overview:

- ✓ Remove Trash and Sediment
- ✓ Remove, Rinse and Replace Filters
- ✓ Spray Down Interior





Typical Bio filtration Maintenance Overview:

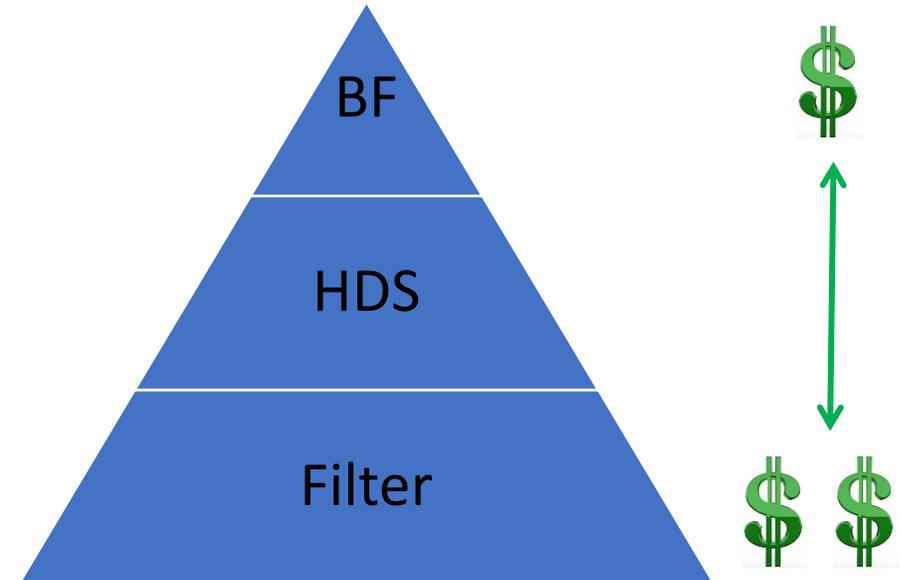
- ✓ Remove Trash, Sediment & Mulch Layer
- ✓ Add New Mulch (3" Layer)
- ✓ Tree / Shrub Care





What Does It Cost To Maintain a MTD?

- What type of MTD is being maintained?
- Where is the MTD located?
 - Location of property
 - Location of MTD on site





What Does It Cost To Maintain a MTD?

■ Calculating Cost

- Time
 - Labor & Equipment Time
 - Distance from disposal facilities, etc.
- Disposal
 - Water (\$0.32 - \$1.50 Gallon)
 - Solids (\$40 - \$60 Ton)
 - Testing?
- Consumables
 - Filters / Media / Mulch / Water
- Frequency





What Does It Cost To Maintain a MTD?

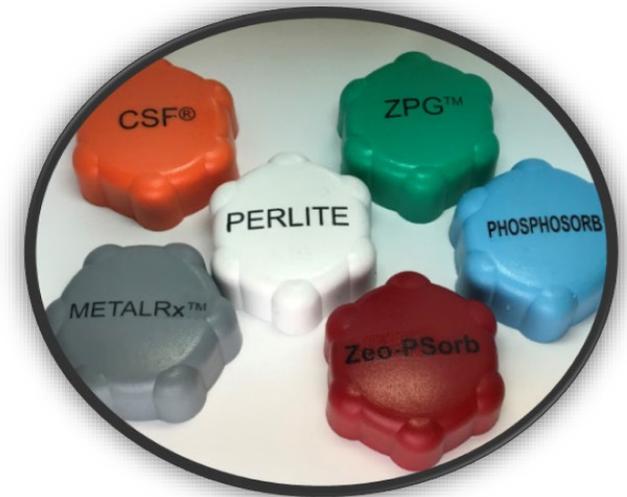
- Example Pricing
 - Wide variety of components and processes with manufactured devices
 - Highly dependent on local variables **+/- 50 - 100%**
 - Local resources are your best source
- Biofilter (6x12)
 - \$400 - \$750
 - Once or twice a year
 - No confined space entry or vac truck requirements
- 6'HDS System
 - \$1600 - \$2500
 - Frequently timing is about once every 2-3 years
- 6'Filter
 - \$2300 - \$8000
 - Typically once every 2-5 years



Four factors that can alter long term O&M costs of a MTD

1. Change in environmental conditions
2. Change in contributing drainage area
3. Change in local governing stormwater plan
4. Lack of “real data” during initial life cycle cost analysis

- Visual Indicators for inspections of Filter products at surface
- Addition of colored caps to identify media at surface
- Development of additional tools to help with maintenance
- Development of stronger and easier parts





Contech Certified Maintenance Program (CCMP)

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Stormwater Maintenance Services

Inspection and maintenance are key factors for making sure that your Contech stormwater BMP is performing as designed and achieving the required water quality standards. Contech can help ensure your stormwater BMP is functioning as intended by providing inspection, cartridge replacement and maintenance services.

WHY CONTECH START A PROJECT

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