**EHS SMART-Treat™ Onsite Moving Media Treatment System**

**STATE OF MINNESOTA ♦ REGULATOR’S CHECKLIST**

**Septic Tank**

___ The Septic tank/trash tank is sized according to Minnesota requirements or otherwise approved for the SMART-Treat application.

For gravity flow systems without surge flow equalization between septic tank and aerobic reactor:

___ EHS requires a septic tank effluent filter/screen to be installed on the outlet of the septic tank. EHS recommendation is for \( \leq 1/8" \) plate spacing for the effluent filter.

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**Surge Flow Equalization (EQ)**

If timed dose surge flow EQ is provided there must be positive means to prevent back-flow siphoning of liquid from aerobic reactor to EQ tank. **Goal is to prevent carrier elements backflow into pipe, pumps or tanks.**

Plug the typical level 4” reactor tank inlet. A recommended 2’ head differential between time-dosed inlet pipe and aeration tank normal water level will retain carrier elements within reactor tank. If 2’ can not be attained, build as much head differential from time-dosed inlet pipe and aeration tank normal water level as allowable.

___ Recommended 2 feet of head differential is attained between inlet pipe to aerobic reactor and water level within aerobic reactor.

Note: If 2 foot head differential can not be met—measure actual head differential.

Record here: Actual vertical distance between aerobic reactor water level and reactor inlet level: _____ inches

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**SMART-Treat™ Moving Media Aerobic Reactor Tank**

___ Aerobic Reactor tank is sized per individual design

___ All piping, including ST effluent filter is installed from Septic Tank to Aerobic Reactor tank.

*(See comments above in Septic Tank and Surge Flow Equalization sections)*

___ Tanks < 3000 gal level to within 1/2” end to end; Tanks > 3000 gal level to within 1” end to end; (water depth should be same—end-to-end to allow even aeration throughout tank bottom)

___ Blower is installed to air distribution header

___ Electrical connection is made to blower according to blower manufacturer recommendations

___ Blower is accessible and removable

___ Biofilm carrier element retention screen is in place at the effluent/outlet end of the aerobic reactor tank

___ **“DO NOT PUMP!”** lettering has been placed on tank covers of moving media treatment reactor tank

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**Waste Biosolids Settling Zone**

___ Either airlift or electro-mechanical submersible pump is placed within the biosolids settling zone and plumbed to direct waste biosolids to inlet of septic tank

Note: 1-for airlift pumps, the water is lifted to a connection point to a 2” pipe that has sufficient grade to allow water to flow by gravity to inlet end of septic tank (easiest is via 4” x 2” tee upstream of pipe to inlet of tank). Alternatively, waste biosolids may be directed through riser and directed to INLET side of inlet baffle.

Note 2-Sometimes typical submersible pumps are used on a timer. In that case, positive pressure is attained within the entire pipe length, so gravity drainage is not an issue—except if freezing is a concern.

----- An effluent baffle is in place on the biosolids clarifier tank or compartment (an effluent baffle is recommended at that location to retain floatable solids from going downstream)

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**Electrical Control Panel, Sampling**

___ The SMART-Treat control panel is wired and the main aeration blower is functional

___ Septic tank effluent and pump tank effluent is accessible for sampling