

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.

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 w/in 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

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 w/in 1/2" end to end; Tanks > 3000 gal level to w/in 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

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)

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