



## Septic System Management Plan for Below Grade Systems

The goal of a septic system is to protect human health and the environment by properly treating wastewater before returning it to the environment. Your septic system is designed to kill harmful organisms and remove pollutants before the water is recycled back into our lakes, streams and groundwater.

This **management plan** will identify the operation and maintenance activities necessary to ensure long-term performance of your septic system. Some of these activities must be performed by you, the homeowner. Other tasks must be performed by a licensed septic maintainer or service provider. However, it is YOUR responsibility to make sure all tasks get accomplished in a timely manner.

The University of Minnesota's *Septic System Owner's Guide* contains additional tips and recommendations designed to extend the effective life of your system and save you money over time.

***Proper septic system design, installation, operation and maintenance means safe and clean water!***

Property Owner

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Property Address

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Property ID

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System Designer

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Phone

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System Installer

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Phone

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Service Provider/Maintainer

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Phone

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Permitting Authority

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Phone

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Permit #

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Date Inspected

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Keep this Management Plan with your Septic System Owner's Guide. The Septic System Owner's Guide includes a folder to hold maintenance records including pumping, inspection and evaluation reports. Ask your septic professional to also:

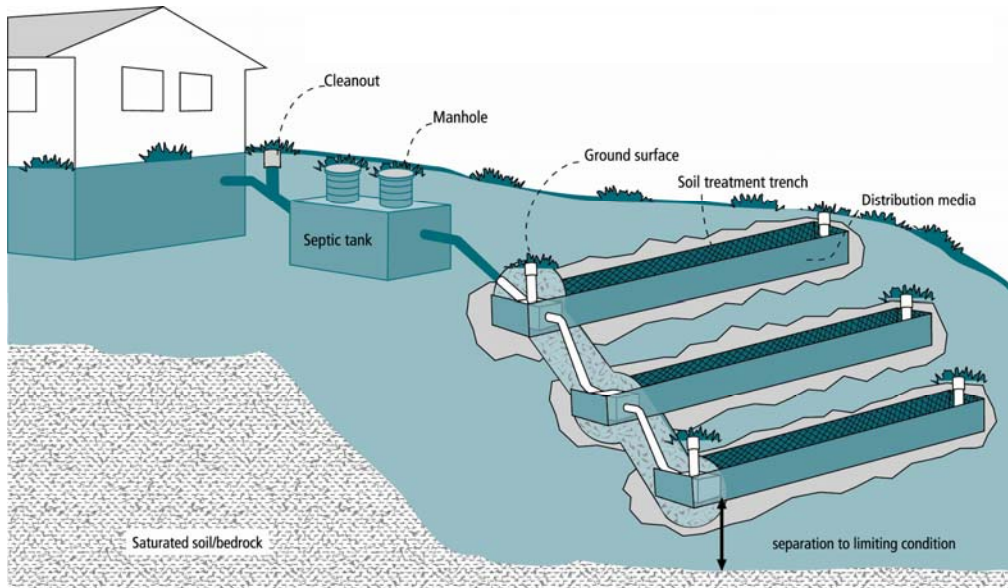
- Attach permit information, designer drawings and as-builts of your system, if they are available.
- Keep copies of all pumping records and other maintenance and repair invoices with this document.
- Review this document with your maintenance professional at each visit; discuss any changes in product use, activities, or water-use appliances.

For a copy of the *Septic System Owner's Guide*, call 1-800-876-8636 or go to <http://shop.extension.umn.edu/>

<http://septic.umn.edu>



**Your Septic System**



<b>Septic System Specifics</b>	
System Type:    I    II    III    IV*    V* <i>(Based on MN Rules Chapter 7080.2200 – 2400)</i>	<input type="checkbox"/> System is subject to operating permit* <input type="checkbox"/> System uses UV disinfection unit* Type of advanced treatment unit _____ *Additional Management Plan required

<b>Dwelling Type</b>	<b>Well Construction</b>
Number of bedrooms: _____ System capacity/ design flow (gpd): _____ Anticipated average daily flow (gpd): _____ Comments _____ Business? ___ What type? _____	Well depth (ft): _____ <input type="checkbox"/> Cased well Casing depth: _____ <input type="checkbox"/> Other (specify): _____ Distance from septic (ft): _____ Is the well on the design drawing?    Y    N

<b>Septic Tank</b>	
<input type="checkbox"/> One tank    Tank volume: _____ gallons Does tank have two compartments?    Y    N <input type="checkbox"/> Two tanks    Tank volume: _____ gallons <input type="checkbox"/> Tank is constructed of _____ <input type="checkbox"/> Effluent Screen type: _____	<input type="checkbox"/> Pump Tank (if one) _____ gallons <input type="checkbox"/> Effluent Pump make/model: _____ Pump capacity _____ GPM TDH _____ Feet of head <input type="checkbox"/> Alarm location _____

<b>Soil Treatment Area (STA)</b>	
Trenches: _____ total lineal feet Number of trenches: _____ at _____ feet each STA size (width x length): _____ ft x _____ ft Location of additional STA: _____	<input type="checkbox"/> Gravity distribution <input type="checkbox"/> Pressure distribution <input type="checkbox"/> Inspection ports <input type="checkbox"/> Cleanouts <input type="checkbox"/> Additional STA not available



## Homeowner Management Tasks

These *operation and maintenance* activities are your responsibility. Use the chart on page 6 to track your activities.

Identify the service intervals recommended by your system designer and your local government. The tank assessment for your system will be the **shortest interval of these three intervals**. Your pumper/maintainer will determine if your tank needs to be pumped.

*System Designer:* check every \_\_\_\_\_ months

*Local Government:* check every \_\_\_\_\_ months

*State Requirement:* check every 36 months

My tank needs to be checked  
every \_\_\_\_\_ months

### Seasonally or several times per year

- *Leaks.* Check (listen, look) for leaks in toilets and dripping faucets. Repair leaks promptly.
- *Surfacing sewage.* Regularly check for wet or spongy soil around your soil treatment area. If surfaced sewage or strong odors are not corrected by pumping the tank or fixing broken caps and leaks, call your service professional. *Untreated sewage may make humans and animals sick.*
- *Alarms.* Alarms signal when there is a problem; contact your maintainer any time the alarm signals.
- *Lint filter.* If you have a lint filter, check for lint buildup and clean when necessary. Consider adding one after washing machine.
- *Effluent screen.* If you do not have one, consider having one installed the next time the tank is cleaned.

### Annually

- *Water usage rate.* A water meter can be used to monitor your average daily water use. Compare your water usage rate to the design flow of your system (listed on the next page). Contact your septic professional if your average daily flow over the course of a month exceeds 70% of the design flow for your system.
- *Caps.* Make sure that all caps and lids are intact and in place. Inspect for damaged caps at least every fall. Fix or replace damaged caps before winter to help prevent freezing issues.
- *Water conditioning devices.* See Page 5 for a list of devices. When possible, program the recharge frequency based on *water demand (gallons)* rather than *time (days)*. Recharging too frequently may negatively impact your septic system.
- *Review your water usage rate.* Review the Water Use Appliance chart on Page 5. Discuss any major changes with your pumper/maintainer.

### During each visit by a pumper/maintainer

- Ask if your pumper/maintainer is licensed in Minnesota.
- Make sure that your pumper/maintainer services the tank through the manhole. (NOT through a 4" or 6" diameter inspection port.)
- Ask your pumper/maintainer to accomplish the tasks listed on the Professional Tasks on Page 4.



## Professional Management Tasks

*These are the operation and maintenance activities that a pumper/maintainer performs to help ensure long-term performance of your system. Professionals should refer to the O/M Manual for detailed checklists for tanks, pumps, alarms and other components. Call 800-322-8642 for more details.*

- Written record provided to homeowner after each visit.

### Plumbing/Source of Wastewater

- Review the Water Use Appliance Chart on Page 5 with homeowner. Discuss any changes in water use and the impact those changes may have on the septic system.
- Review water usage rates (if available) with homeowner.

### Septic Tank/Pump Tanks

- *Manhole lid.* A riser is recommended if the lid is not accessible from the ground surface. Insulate the riser cover for frost protection.
- *Liquid level.* Check to make sure the tank is not leaking. The liquid level should be level with the bottom of the outlet pipe. (If the water level is below the bottom of the outlet pipe, the tank may not be watertight. If the water level is higher than the bottom of the outlet pipe of the tank, the effluent screen may need cleaning, or there may be ponding in the drainfield.)
- *Inspection pipes.* Replace damaged caps.
- *Baffles.* Check to make sure they are in place and attached, and that inlet/outlet baffles are clear of buildup or obstructions.
- *Effluent screen.* Check to make sure it is in place; clean per manufacturer recommendation. Recommend retrofitted installation if one is not present.
- *Alarm.* Verify that the alarm works.
- *Scum and sludge.* Measure scum and sludge in each compartment of each septic and pump tank, pump if needed.

### Pump

- *Pump and controls.* Check to make sure the pump and controls are operating correctly.
- *Pump vault.* Check to make sure it is in place; clean per manufacturer recommendations.
- *Alarm.* Verify that the alarm works.
- *Drainback.* Check to make sure it is operating properly.
- *Event counter or run time.* Check to see if there is an event counter or run time log for the pump. If there is one, calculate the water usage rate and compare to the anticipated average daily flow listed on Page 2.

### Soil Treatment Area

- *Inspection pipes.* Check to make sure they are properly capped. Replace caps that are damaged.
- *Surfacing of effluent.* Check for surfaced effluent or other signs of problems.
- *Gravity trenches and beds.* Check the number of gravity trenches with ponded effluent. Identify the percentage of the system in use. Determine if action is needed.
- *Pressure trenches and beds - Lateral flushing.* Check lateral distribution; if cleanouts exist, flush and clean as needed.

**All other components – inspect as listed here:**

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### Water-Use Appliances and Equipment in the Home

Appliance	Impacts on System	Management Tips
Garbage disposal	<ul style="list-style-type: none"> <li>• Uses additional water.</li> <li>• Adds solids to the tank.</li> <li>• Finely-ground solids may not settle. Unsettled solids can exit the tank and enter the soil treatment area.</li> </ul>	<ul style="list-style-type: none"> <li>• Use of a garbage disposal is not recommended.</li> <li>• Minimize garbage disposal use. Compost instead.</li> <li>• To prevent solids from exiting the tank, have your tank pumped more frequently.</li> <li>• Add an effluent screen to your tank.</li> </ul>
Washing machine	<ul style="list-style-type: none"> <li>• Washing several loads on one day uses a lot of water and may overload your system.</li> <li>• Overloading your system may prevent solids from settling out in the tank. Unsettled solids can exit the tank and enter the soil treatment area.</li> </ul>	<ul style="list-style-type: none"> <li>• Choose a front-loader or water-saving top-loader, these units use less water than older models.</li> <li>• Limit the addition of extra solids to your tank by using liquid or easily biodegradable detergents.</li> <li>• Install a lint filter after the washer and an effluent screen to your tank</li> <li>• Wash only full loads.</li> <li>• Limit use of bleach-based detergents.</li> <li>• Think even – spread your laundry loads throughout the week.</li> </ul>
2 <sup>nd</sup> floor laundry	<ul style="list-style-type: none"> <li>• The rapid speed of water entering the tank may reduce performance.</li> </ul>	<ul style="list-style-type: none"> <li>• Install an effluent screen in the septic tank to prevent the release of excessive solids to the soil treatment area.</li> <li>• Be sure that you have adequate tank capacity.</li> </ul>
Dishwasher	<ul style="list-style-type: none"> <li>• Powdered and/or high-phosphorus detergents can negatively impact the performance of your tank and soil treatment area.</li> <li>• New models promote “no scraping”. They have a garbage disposal inside.</li> </ul>	<ul style="list-style-type: none"> <li>• Use gel detergents. Powdered detergents may add solids to the tank.</li> <li>• Use detergents that are low or no-phosphorus.</li> <li>• Wash only full loads.</li> <li>• Scrape your dishes anyways to keep undigested solids out of your septic system.</li> </ul>
Grinder pump (in home)	<ul style="list-style-type: none"> <li>• Finely-ground solids may not settle. Unsettled solids can exit the tank and enter the soil treatment area.</li> </ul>	<ul style="list-style-type: none"> <li>• Expand septic tank capacity by a factor of 1.5.</li> <li>• Include pump monitoring in your maintenance schedule to ensure that it is working properly.</li> <li>• Add an effluent screen.</li> </ul>
Large bathtub (whirlpool)	<ul style="list-style-type: none"> <li>• Large volume of water may overload your system.</li> <li>• Heavy use of bath oils and soaps can impact biological activity in your tank and soil treatment area.</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid using other water-use appliances at the same time. For example, don’t wash clothes and take a bath at the same time.</li> <li>• Use oils, soaps, and cleaners in the bath or shower sparingly.</li> </ul>
<b>Clean Water Uses</b>	<b>Impacts on System</b>	<b>Management Tips</b>
High-efficiency furnace	<ul style="list-style-type: none"> <li>• Drip may result in frozen pipes during cold weather.</li> </ul>	<ul style="list-style-type: none"> <li>• Re-route water into a sump pump or directly out of the house. Do not route furnace recharge to your septic system.</li> </ul>
Water softener Iron filter Reverse osmosis	<ul style="list-style-type: none"> <li>• Salt in recharge water may affect system performance.</li> <li>• Recharge water may hydraulically overload the system.</li> </ul>	<ul style="list-style-type: none"> <li>• These sources produce water that is not sewage and should not go into your septic system.</li> <li>• Reroute water from these sources to another outlet, such as a dry well, draintile or old drainfield.</li> </ul>
Surface drainage Footing drains	<ul style="list-style-type: none"> <li>• Water from these sources will likely overload the system.</li> </ul>	<ul style="list-style-type: none"> <li>• When replacing, consider using a demand-based recharge vs. a time-based recharge.</li> <li>• Check valves to ensure proper operation; have unit serviced per manufacturer directions</li> </ul>



**Maintenance Log**

Track maintenance activities here for easy reference. See list of management tasks on pages 3 and 4.

Activity	Date accomplished									
<b>Check frequently:</b>										
Leaks: check for plumbing leaks										
Soil treatment area check for surfacing										
Lint filter: check, clean if needed										
Effluent screen: if owner-maintained										
<b>Check annually:</b>										
Water usage rate (monitor frequency____)										
Caps: inspect, replace if needed										
Water use appliances – review use										
Other:										

Notes: \_\_\_\_\_

Mitigation/corrective action plan: \_\_\_\_\_

*"As the owner of this SSTS, I understand it is my responsibility to properly operate and maintain the sewage treatment system on this property, utilizing the Management Plan. If requirements in this Management Plan are not met, I will promptly notify the permitting authority and take necessary corrective actions. If I have a new system, I agree to adequately protect the reserve area for future use as a soil treatment system."*

Property Owner Signature: \_\_\_\_\_ Date \_\_\_\_\_

Management Plan Prepared By: \_\_\_\_\_ Certification # \_\_\_\_\_

Permitting Authority: \_\_\_\_\_