



Manual for On-Site Sewage Management Systems

SECTION L | OPERATION AND MAINTENANCE

Environmental Health Section

SECTION L – OPERATION AND MAINTENANCE**1) Operation**

Benefits of proper design and installation of on-site sewage management systems can be completely overshadowed by improper operation, maintenance and/or repair activities. Inadequate maintenance is the primary reason for most on-site sewage management system malfunctions. Problems which can develop even in a properly designed and installed system include:

- A. Excessive amounts of water, grease or non-biodegradable materials entering the wastewater system and resulting in backups to homes or flooding of the drainfield;
- B. Uneven wastewater distribution;
- C. Seepage from the disposal area and surface seepage resulting in pollution of ground or surface waters.

2) Maintenance

The most common on-site maintenance procedure is pumping out septic tanks. As sludge accumulates in a septic tank, the capacity of the tank to hold and treat incoming wastewater decreases and the quantity of solids leaving the septic tank increases. These solids can clog the soil at the disposal field (drainfield) and unnecessarily pollute the groundwater or a nearby stream or lake. Pumping out septic tanks periodically helps to avoid such problems. The septage, which is pumped out from a tank, must be properly disposed of either at a treatment plant or at an approved land disposal site.

Chemical or biological additives are not a substitute for pumping. In general, these products, which claim to “clean” septic tanks, contain biological based materials (bacteria, enzymes and yeast), inorganic chemicals (acids and bases) or organic chemicals (including solvents) that may result in sludge bulking and interfere with digestion. The resulting effluent may severely damage the soil structure and cause accelerated clogging, even though some temporary relief may be experienced immediately after application of the product.

It is not necessary to add anything but domestic wastewater to the septic tank. Materials that degrade slowly or do not settle well should not be put into septic tanks. Coffee grounds, cooking fats, cigarette butts, bones, wet strength towels, disposable diapers, condoms, feminine hygiene products and similar materials must be disposed of in another manner. They will not degrade in the tank and can clog inlets, outlets and the disposal system.

The recommended minimum frequency for pumping out septic tanks depends upon the size of the tank, flow of wastewater entering the tanks and the solids content of the wastewater. By assuming a minimum wastewater residence time within a tank and assuming a certain percentage of the retained solids are decomposed, minimum pump out frequencies can be estimated. Table 15.L lists estimated pump out frequencies assuming wastewater residence time of 24 hours and assuming 50 percent of the solids are decomposed or digested.

Lack of any inspection and maintenance allows structural deficiencies to go unnoticed and possibly jeopardizes the absorption system. In septic tanks and pumping chambers, bad seals

and cracks which go uncorrected may allow significant amounts of groundwater or surface water to infiltrate and overload the system. Baffles which are no longer functional or in their proper location may be permitting significant amounts of undetected solids to pass into the absorption area.

Septic tank designs can be modified to produce an inlet and outlet device, which will be efficient and long lasting in a highly corrosive environment. Inspections made during the repair process often find baffles or concrete tees which have deteriorated and fallen off on the bottom of the tank, thereby allowing solids to flow into the soil absorption area, possibly clogging the soil. Inspection ports on septic tanks extended to the ground surface can help facilitate maintenance checks. Incorporation of ports or access openings would serve to continuously remind the users of the location of the facilities and allow ready access for maintenance.

3) Performance Evaluation of Existing On-site Sewage Management Systems

The County Board of Health is routinely asked to conduct performance evaluations of existing on-site sewage management systems. Such evaluations shall be based on available data relating to the system including:

- Inspection records of initial system installation;
- Maintenance records of the on-site sewage management system;
- Site evaluations to determine the current performance of the on-site sewage management system.

Representatives of the County Board of Health will verify the status of the system at the time of the evaluation, based on the availability of the above data using the Existing On-site Sewage Management System Performance Evaluation Report Form.

The Health Department representatives conducting the evaluation should document their findings by completing only one section of the evaluation report form when using Section A, B, or C using criteria detailed below. Section D should be completed in conjunction with either Section A, B, or C.

4) Tables, Figures and Forms

Table 15.L Est. Septic Tank Pumping Frequencies (in Yrs) for Year-Round Residences

Tank Size (gallons)	Household Size (number of people)									
	1	2	3	4	5	6	7	8	9	10
1000	12.0	5.9	3.7	2.6	2.0	1.5	1.2	1.0	0.8	0.7
1250	16.0	7.5	4.8	3.4	2.6	2.0	1.7	1.4	1.2	1.0
1500	19.0	9.1	5.9	4.2	3.3	2.6	2.1	1.8	1.5	1.3
1750	22.0	11.0	6.9	5.0	3.9	3.1	2.6	2.2	1.9	1.6
2000	25.0	12.0	8.0	5.9	4.5	3.7	3.1	2.6	2.2	2.0
2250	29.0	14.0	9.1	6.7	5.2	4.2	3.5	3.0	2.6	2.3
2500	32.0	16.0	10.0	7.5	5.9	4.8	4.0	4.0	3.0	2.6

Note: The frequencies estimated are based on a minimum 24-hour wastewater retention time and 50 percent digestion of the solids entering the tank. More frequent pumping would be needed if garbage disposals were utilized.

(Source: Mancl, Karen)

Form 12.L Existing On-site Sewage Management System Performance Evaluation Report

Existing On-site Sewage Management System Performance Evaluation Report Form

Applicant: _____ best		Reason for Existing Sewage System Evaluation:		
Property/System Address: _____				
Subdivision Name: _____	Lot: _____			Block: _____
Existing System Information: Water Supply (circle)	Number of Bedrooms/GPD: _____			Garbage Grinder: (circle)
(1) Public (2) Private Well (3) Community	0	(1) Yes (2) No		

*** One of Section A, B, or C should be Completed ***

SECTION A - System on Record

(1) Yes (2) No	Existing On-site Sewage Management System inspection records indicate that all components of the system were properly constructed and installed at the time of the original inspection.	Comments:	
(1) Yes (2) No	A copy of the original On-site Sewage Management System Inspection Report is attached.		
(1) Yes (2) No	Maintenance records indicate that the system has been pumped out or serviced within the last five (5) years or the system was installed within that time frame.		
(1) Yes (2) No	A site evaluation of the system on this date revealed no evidence of system failure or of conditions which would adversely affect the functioning of the system.		
Evaluating Environmentalist	Title: _____	Date: _____	I verify this data to be correct at the time of the evaluation. This verification shall not be construed as a guarantee of the proper functioning of this system for any given period of time. No liability is assumed for future damages that may be caused by malfunction.

SECTION B - System Not on Record

(1) Yes	No inspection records are on file showing the On-site Sewage Management System was inspected and approved at the time of the installation.	Comments:	
(1) Yes (2) No	The septic tank was uncovered at the time of the evaluation and it appears to meet the required design, construction and installation criteria.		
(1) Yes (2) No	Documentation from a Georgia Certified Installer has been provided as to the condition of the septic tank and its respective components, certifying its design, construction, and installation criteria. A copy is attached.		
(1) Yes (2) No	Maintenance records indicate that the system has been pumped out or serviced within the last five (5) years or the system was installed within that time frame.		
(1) Yes (2) No	A site evaluation of the system on this date revealed no evidence of system failure or of conditions which would adversely affect the functioning of the system; however, appropriateness of the sizing and installation cannot be verified since no initial inspection records exist.		
Evaluating Environmentalist	Title: _____	Date: _____	I verify this data to be correct at the time of the evaluation. This verification shall not be construed as a guarantee of the proper functioning of this system for any given period of time. No liability is assumed for future damages that may be caused by malfunction.

SECTION C - System Not Approved

(1) Yes (2) No	The On-site Sewage Management System was disapproved at the time of the initial and is thus not considered an approved system.	Comments:	
(1) Yes (2) No	Evaluation of the system revealed evidence of system failure or malfunction, and will therefore require corrective action in order to obtain approval of the system.		
(1) Yes (2) No	Evaluation of the system revealed conditions which would adversely affect the proper functioning of the system, and will therefore require corrective action in order to obtain approval of the system.		
Evaluating Environmentalist	Title: _____	Date: _____	I verify this data to be correct at the time of the evaluation. This verification shall not be construed as a guarantee of the proper functioning of this system for any given period of time. No liability is assumed for future damages that may be caused by malfunction.

SECTION D - Addition to Property or Relocation of Home (section completed in conjunction with A, B, or C above)

(1) Yes (2) No	An existing On-site Sewage Management System is located on the property listed above and has been evaluated in accordance with Section A or B above.	Comments:	
(1) Yes (2) No	A site evaluation on this date as well as the provided information indicate that the proposed construction to home or property or that the proposed relocation of the home should not adversely affect the proper functioning of the existing system provided that no additional sewage load is added to the system for the listed size home adjacent.		
		Number of Bedrooms/GPD: _____	Garbage Grinder: (circle)
		0	(1) Yes (2) No
Evaluating Environmentalist	Title: _____	Date: _____	I verify this data to be correct at the time of the evaluation. This verification shall not be construed as a guarantee of the proper functioning of this system for any given period of time. No liability is assumed for future damages that may be caused by malfunction.

Existing OSSMS Performance Evaluation Report Form Instructions

Title Section This section should be completed with the most accurate information available. The original property owner and/or directions may be listed. The Health Department representative should circle the purpose of the evaluation in the right-hand column. Any pertinent existing home information as described by the applicant should be listed in the appropriate box (e.g. 4 bedrooms or 600 gallons per day home with no garbage grinder on public water).

Section A

This section should be completed if all of the following criteria are met:

1. Existing inspection records on file indicated that the system was properly installed, inspected and approved at the time of installation.
2. A copy of the original inspection report is provided with the existing system form.
3. The owner produced maintenance records, which indicate that the tank has been pumped within the past five years, or was installed during that time. If the system has not been pumped within that time frame, it should be pumped, if needed, and documentation of such must be provided to the Health Department prior to completing this section.
4. An on-site evaluation of the property reveals no evidence of damage to the system, of system failure or of the existence of any conditions that would adversely affect the functioning of the system.

All items under this section must be circled yes or no by the Health Department representative. In addition, the comments section may be completed detailing any conditions which might affect the approval. (Ex: The home was unoccupied for more than thirty days prior to the evaluation; the yard was overgrown with weeds making visual inspection of the absorption field difficult, etc.)

Section B

The Health Department representative should complete this section for systems for which no record of inspection exists, provided the following criteria are met:

1. No records exist indicating the appropriateness of the construction, design or installation of the on-site sewage management system.
2. The septic tank was uncovered sufficiently to allow the Health Department representative to determine if the tank is properly sized, properly constructed and has acceptable inlet and outlet tees.
3. If allowed by the Health Authority, a Georgia Certified Installer has provided documentation indicating the septic tank and its tees are in good condition, and that it is properly sized and constructed.
4. The owner produces maintenance records that the tank has been pumped within the past five years. If the tank has not been pumped within that time frame, it should be pumped, if needed, and documentation of such must be provided to the Health Department prior to completing this section.
5. An on-site evaluation of the property reveals no evidence of damage to the system, of system failure or of the existence of any condition that would adversely affect the functioning of the system.

Either item number 2 OR 3 should be circled "yes". All other items in this section must be circled yes or no by the Health Department Representative. In addition, the comments section may be completed detailing any conditions that might affect the approval.

Section C

This section should be completed if the initial installation of the system was disapproved by the Health Department and required corrections were never made, or if the on-site evaluation reveals an unapproved septic tank, evidence of system failure, significant changes to the home such as added bedrooms or added garbage disposals or other problems which would adversely affect the proper function of the system. The comments section may be used to detail the reason the system was not approved and/or the required corrective action.

Section D

This section should be completed in conjunction with ONE of the above sections. The Health Department representative should complete this section in cases where another local, municipal, or state agency requires the department's approval prior to additions to the home, additions to the property, or a relocation of a home/mobile home provided the following are met:

1. An existing system is located on the property and has been evaluated in accordance with Section A or B.
2. An on-site evaluation of the property reveals no evidence of damage to the system, of system failure or of the existence of any condition that would adversely affect the functioning of the system; also, the provided information relating to the proposed construction (e.g. location of the construction, type of construction, etc.) or relocation of the home will adversely affect the performance of the system.

The addition or relocation should not include additional sewage loads. These increased sewage flows should be permitted by the Health Authority as an addition to the existing system. The approximate sewage flow that the existing system should be able to dispose of is to be indicated by number of bedrooms or gallons per day in its box. The septic tank size should be appropriate for a garbage grinder and indicated if so. If all required corrections are made to a previously unapproved system, a new form must be completed.

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