GEORGIA DEPARTMENT OF PUBLIC HEALTH

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

Georgia Department of Public Health On-Site Sewage Management System Performance Evaluation Report Form

APPLICANT NAME:	PROPERTY/SYSTEM ADDRESS:	EVALUATION ID:
APPLICANT PHONE:		COUNTY:
APPLICANT EMAIL ADDRESS:	SUBDIVISION/LOT:	REASON FOR EVALUATION:

	Inspection Records
	1. Inspection records exist for this septic system.
	2. Inspection records indicate that all components of the septic system were properly constructed and approved at the time of original inspection. A copy of the original inspection report is attached.
	Maintenance Records (applicable copies are attached)
	3. Maintenance or installation records indicate that the tank has been pumped out or installed within the past 5 years. Note: it is recommended that septic tanks be pumped at least once every 5 years.
	4. Systems with aerobic treatment unit(s) (ATU): Records indicate the ATU has been serviced in accordance with the manufacturer's recommended maintenance schedule OR an authorized representative of the manufacturer has provided documentation that the ATU is operating sufficiently.
	5. Systems with a grease trap(s): Maintenance records indicate the grease trap(s) has been pumped out within the last 6 months OR documentation has been provided by a qualified individual confirming that the grease trap contains less than 75% of the designed grease holding capacity and is operating sufficiently.
	System Assessment and Existing Site Conditions (applicable copies are attached)
	6. The septic tank was uncovered at the time of this County Board of Health Evaluation OR maintenance records exist and the tank appears to meet the required design, construction, and installation criteria. The appropriateness of the sizing and installation criteria of the system cannot be verified since no initial inspection records exist.
	7. A Georgia certified septic tank installer has provided written documentation of the system design, location, and components.
	8. This site evaluation by the County Board of Health revealed no evidence of system failure.
	9. This site evaluation by the County Board of Health revealed no evidence of adverse conditions which would affect the functioning of the system.
	Addition to Property
	10. This site evaluation as well as the provided information indicate that the proposed construction to the home or property should not adversely affect the functioning of the existing system.
	Relocation of Home or Change of Use
	11. This site evaluation as well as the provided information indicate that the system appears to meet the required design, construction, and installation criteria to accommodate the proposed relocation of the home or change of use for the facility should not adversely affect the functioning of the existing system.

See 2nd page for evaluation notes, disclaimer, and signature.

Performance Evaluation Report Form (continued)

PROPERTY/SYSTEM ADDRESS:	EVALUATION ID:
	SUBDIVISION/LOT:

Adverse Conditions (i.e. malfunctioning or damaged system or clear evidence of a condition, or conditions, that would likely contribute to system malfunction or unacceptable risk to public health):

Additional Notes/Comments:

Inspector:	Signature:	Date:

I verify the above information to be correct at the date and time of this evaluation only. Disclaimer: 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 system malfunction.

Existing OSSMS Performance Evaluation Report Form Instructions

Existing Onsite Sewage Management System Evaluation Report Instructions
Internal Document for Training Purposes

Inspection Records

- If inspection records do not exist, choose "N/A" for # 2.
- If records indicate the system was NOT properly constructed/approved, chose "No" for # 2 and provide documentation and detailed remarks.

Maintenance Records

- If there are no records OR if the records indicate it has been more than 5 years since maintenance, choose "No" for # 3. "N/A" is not an option for #3.
- If there is not an ATU or grease trap, choose "N/A" for # 4-5.
- If any of the Items are answered "No", details and recommendations should be added in the notes and/or adverse conditions section.
- Documentation is required for any "yes" answers.
- For loan letters, etc. comment in adverse condition that there is no documentation of maintenance.

System Assessment and Existing Site Conditions

- Items 6 and 7 can be used if no inspection records exist.
  - Select NO if you request it and they refuse to do it. If it's not needed or requested, select N/A.
- Use the comments section to detail any conditions which might affect the evaluation (ex. The home was unoccupied for more than 30 days prior to the evaluation; the yard was overgrown with weeds making visual inspection of the absorption field difficult, etc.).
- If any of the Items are answered "no", details should be in the comments notes.

Addition to Property/ Relocation of Home or Change of Use

The health department representative should complete this section in cases where another local, municipal, or state agency requires the local board of health's review prior to additions to the home or property, a change of use, or a relocation of a home/mobile home.

- An evaluation of maintenance records is not necessary for building additions (ex. office, sunroom, porch, out buildings, swimming pool, etc.).
- The approximate sewage flow that the existing system should be able to dispose of is to be indicated by the number of bedrooms or gallons per day in the comments section.
- Any proposed increased sewage flows should be permitted by the health authority as an addition to the existing system.
- The septic tank size should be appropriate for a garbage grinder if indicated. If the existing tank size cannot support a garbage grinder, a new, appropriately sized tank should be permitted by the local health authority.
- Add in comments any additional sizing requirements to change to use, added bedrooms, etc.

Adverse Conditions

The term "adverse conditions" means the direct observation of a malfunctioning or damaged system or clear evidence of a condition, or conditions, that would likely contribute to system malfunction or failure. The following are examples of "adverse conditions":

1. Documentation that a system was not approved at the time of inspection.
2. Failure to provide proof that a pumping or maintenance schedule has been followed or failure to document that a an ATU is in a satisfactory operating condition.
3. Evidence of a system failure or malfunction (ex. surface discharge, insufficient treatment, sewage backup in the house).
4. Evidence of system damage that would be detrimental to the functioning of the system.
5. Driveway, building, or immobile structure placed on top of any component of the system.
6. Improperly sized septic tank or drainfield.

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