

ON-LOT SEPTAGE MANAGEMENT

In some areas of a Community, it could be an extended period of time before public sewerage is available. Because some of these areas could be experiencing system malfunctions and cannot currently be served by the extension of sewers, it is important that an effective on-lot management program be in place to address the potential problems.

Currently, if a problem with an on-lot system occurs, most Communities do not address it unless it is reported to the DEP or to the Sewage Enforcement Officer. The Sewage Enforcement Officer can cite the homeowner and/or recommend mitigation measures to address the problem. A typical correction procedure for a malfunctioning system is to reconstruct the system with a sand mound, a costly repair and sometimes an individual residential spray irrigation system, a much higher cost of repair.

If the homeowner takes no action, penalties as set forth in Chapter 71 of the Pennsylvania Code can be imposed. Many Communities, however, do not have a set of guidelines for the operation, maintenance and administration of on-lot systems. The only control that a Community has over the installation of individual on-lot systems is the issuance of building permits. All new homes constructed in a Community require a sewage permit before the building permit is issued. Once the permit is issued, however in many Communities, there is no ongoing, on-lot inspection program.

Most homeowners utilizing on-lot systems do not know how their system works or how to properly operate and maintain it. Likewise, most homeowners do not know the nature of the various malfunctions that can occur with an on-lot system or the visible evidence of the problem. Some Communities have begun to utilize the media to educate the public on these procedures.

The proper installation, operation and maintenance of an on-lot sewage disposal system are essential in the continued performance of the system. One or a combination of four main factors causes the failures of systems. These are as follows:

1. Faulty design of the system
2. The installation of the system in an inadequate manner
3. The improper maintenance of the system
4. Inadequate soils

The failure of a system can cause unnecessary financial burden on a household and can result in lending institutions with holding mortgage funds from potential homebuyers. This has already been reported in many Communities. Furthermore, failing systems can lead to pollution of ground and surface waters. Since a large number of residents in many Communities continue to use subsurface wells, malfunctioning on-lot systems can pose a threat to their water source.

In order to ensure continued compliance with the Clean Streams Law and Act 537, and satisfy the Community's desire to maintain and protect the health, safety and general welfare of its citizens, a viable on-lot management program should be implemented. A successful on-lot management program is a combination of educating the homeowner on their system and administration and follow-up of those systems by the Community. The program should manage the siting, design, construction and operation and maintenance of on-lot systems.

Chapter 71 of the Pennsylvania Code sets forth those items that can be made part of an on-lot management program. These items are summarized as follows:

1. The program should outline the legal method by which the Community would conduct site investigations of on-lot facilities, a schedule of inspections and the method of landowner notification.
2. Develop a list of standards for operation, maintenance and repair or replacement of on-lot facilities. These standards should include the development of a schedule of septic tank pumping contingent on the condition of the facility, prohibition of storm water runoff into on-lot facilities, utilization of water-conservation devices, types of acceptable equipment including piping, manholes, mechanical and electrical components, pumps, etc. and requirements for septic waste pumpers/haulers.
3. Discussion of management program requirements and implementation methods.
4. Development of a fee schedule that may be necessary for effectively conducting the management program.
5. Identify the authority that will enforce the requirements of the management program.
6. Identify resultant penalty provisions as a consequence of program violation.
7. Develop ordinances, regulations and/or policies necessary to implement the program.

The degree to which the Community wants to enforce these items is presented in the attached sample ordinance outline to this article. The sample ordinance outline contains a high degree of associated administrative duties, powers and costs and is stringent in its requirements. The ordinance proposes to establish regulations for the management and on-going maintenance of on-lot sewage disposal systems. It further establishes the application and permitting processes and financial and/or performance assurances for Individual Residential Spray Irrigation Systems (IRSIS), and provides for imposition of penalties for noncompliance and appeals for hardship situations.

Due to manpower constraints, the administrative program would assign much of the responsibility to the owner in assuring that the on-lot system is properly operated and maintained. The Community then can continue to utilize the assistance of those individuals appointed as Sewage Enforcement Officers and continue to regulate the installation and permitting of systems.

ELEMENTS OF AN ON-LOT MANAGEMENT PROGRAM

There are a number of items that are addressed within the On-Lot Sewage Management Program. These are outlined in more detail as follows:

1. Site Evaluation - Prior to construction of a structure containing wastewater-generating facilities, the Community requires the application for and issuance of a sewage permit. As is currently occurring in most Communities, issuance of the on-lot permit should be contingent on the approval of site testing by the Sewage Enforcement Officer. If the Community desires, the preliminary site investigation could be conducted prior to the sale or subdivision of property. This preliminary screening will determine if the site in question can support an on-lot disposal system.
2. System Design - The applicant will be required to obtain site-specific information and submit it along with design documents to the Community for review and approval. The SEO reviews the submission for compliance with DEP standards. The Community refers to standard drawings and specifications to supplement Chapter 73 that would serve as minimum requirements for design and construction of on-lot systems.

3. Construction of On-Lot Systems - Currently the applicant is given written approval by most Communities to proceed with construction of the on-lot system. During construction, the appointed SEO of the Community inspects the work. If the construction is in accordance with the design documents, the Community may issue an occupancy permit. The applicant shall be required to file as-built drawings indicating all of the key structures, their depths and their location on a plan triangulated to the house corners. The locations of all key features of the system should be located, including the building sewer, septic tank, manholes, cleanouts, distribution boxes, start and end of drainage fields and any other relevant features.
4. Operation, Maintenance and Administration - Many of the problems associated with malfunctioning on-lot systems are the result of improper operation and failure to perform maintenance. The Community may want to regulate the operation and maintenance of on-lot systems through the On-Lot sewage Management Program. The homeowner shall be required to remove septic tank sludge on a regular basis in accordance with the On-Lot Sewage Management Program.

Experience has determined that, if septic tanks are pumped every three to five years, they generally tend to avoid the discharge of solids to the leach field. If solids escape the septic tank, the field will clog and septic tank effluent will discharge to the surface. Due to a misunderstanding of the operation of on-lot systems, removal of sludge is not addressed until a problem occurs. If the homeowner waits too long to remove the solids, pumping will not remedy a clogged disposal field.

The attached sample ordinance outline requires a septic tank pumping schedule. In order to implement the pumping schedule, the Community must compile accurate information on those residents utilizing on-lot systems. The Community can then notify the residents of the commencement of the pumping schedule with the stipulation that homeowners provide evidence that their system was pumped following the allotted time period.

The Community may also conduct periodic inspections of on-lot systems to determine if obvious malfunctions are occurring. The performance standards to determine whether a system is malfunctioning would ultimately be the technical requirements of Chapter 73 and the On-Lot Sewage Management Program. The Community would issue a written order to the homeowner to correct the problem based on the recommendation of the Sewage Enforcement Officer. The order would define the corrective action and the time frame in which it must be implemented.

Water conservation reduces hydraulic loading to on-lot systems. The same is true of water softeners. Garbage grinders increase organic loading. The use of chemical and biological analysis in the evaluation can provide the Community with information on degradation of source water and groundwater as a result of development. Otherwise, it is difficult to assess whether on-lot treatment is being effective other than through the normal malfunction signals such as odor, increased vegetation, water ponding, etc. The chemical and biological monitoring would provide a database for future restrictions in development.

ON-LOT SEWAGE MANAGEMENT PROGRAM SUMMARY

As stated earlier, the On-Lot Sewage Management Program proposes to establish regulations for the management and on-going maintenance of on-lot sewage disposal systems, and further, proposes to establish application and permitting processes and financial and/or performance assurances for Individual Residential Spray Irrigation Systems (IRSIS), and to provide for imposition of penalties for noncompliance and appeals for hardship situations.

A summary of the On-Lot Sewage Management Program Ordinance is as follows:

SECTION I PURPOSE

Operation, rehabilitation, replacement and timely on-going maintenance of on-lot systems within the Community
Inspection procedures for on-lot systems
Provisions and safeguards for the Community which enable the issuance of permits for Bonded Systems and IRSIS Systems
Registration of businesses involved with the removal, hauling and disposal of septage
Periodic pumping of treatment, dosing and lift-pump tanks
Standards for initial inspection and subsequent pumping of systems and tanks

SECTION II DEFINITIONS

The definition of words and terms used in the Ordinance

SECTION III PERMITS REQUIRED

All individual or community on-lot systems are subject to issuance of a permit by the SEO
Building and zoning permits shall not be issued for any building or improvement to real property to be serviced by an on-lot system, prior to receiving a permit for the installation of the on-lot system from the SEO
All planning modules proposing individual or community sewage systems which require a DEP permit shall include a provision granting the Community and its agents the right to enter the premises to inspect the construction and/or operation of the DEP permitted system
No on-lot system shall be altered, extended, augmented, modified or repaired without the issuance of a repair permit by the SEO

SECTION IV REPLACEMENT AREAS

A replacement area shall be required for all proposed lots that are intended to be serviced by an experimental sewage disposal system

SECTION V INDIVIDUAL RESIDENTIAL SPRAY IRRIGATION SYSTEMS

All applications for on-lot systems which propose to use an IRSIS as the treatment method shall be accompanied by a maintenance agreement between the landowner and one experienced in the operation and maintenance of sewage treatment systems
Applications for IRSIS shall be accompanied by a financial guarantee of the same type and character that is required for public improvements by the Community's Subdivision and Land Development Ordinance
From the date the permit application is submitted to the SEO and continuing for a period ending 2 years after the date the System's installation is approved by the SEO, the financial assurance shall be in an amount not less than 50% of contract price for the installation of the IRSIS
Beginning 2 years after the date the system's installation is approved by the SEO and continuing for the system's design life, the financial assurance shall be reduced to an amount not less than 10% of the actual construction cost for the installation of the IRSIS

SECTION VI MAINTENANCE OF SYSTEMS

The owner of a property upon which an on-lot system is constructed shall at all times operate and maintain the on-lot system, in addition to the area around such system so as to provide access for inspection, maintenance and pumping. Surface water shall be diverted away from the absorption area and system components
Every aerobic or septic treatment tank that discharges effluent to a soil absorption area or to an IRSIS shall be pumped
When an on-lot system's treatment tank is pumped out, all dosing tanks, lift tanks and other tanks associated with the system shall also be pumped out

SECTION VII OPERATION OF SYSTEMS

Only sewage and normal domestic wastes shall be discharged into any sewage facilities
No sewage system shall discharge untreated or partially treated sewage to the surface of the ground, or into the waters of the Commonwealth of Pennsylvania, unless a permit to discharge has been obtained from DEP

SECTION VIII RIGHT OF ENTRY – EASEMENTS

All permits for the installation of on-lot systems shall be conditioned upon a Right of Entry binding the landowner in favor of the Community for the limited purpose of inspecting, maintaining, sampling, testing, evaluating or repairing the on-lot system described in the application and permit
Any property on which an on-lot system presently exists, or upon which an on-lot system is under construction, shall also be subject to a Right of Entry in favor of the Community for the above mentioned limited purposes

SECTION IX PUMPER/HAULER BUSINESS REGISTRATION

At least seven (7) days before offering pumping services to property owners all pumper/hauler businesses shall:

1. Register with Community or local Sanitary Authority
2. Operate in a manner consistent with the provisions of the Pennsylvania Solid Waste Management Act
3. Provide a current fee schedule
4. Provide documentation that all septage will be delivered to a permitted site or to the local Sanitary Authority

SECTION X FEES

Where inspections are required or a variance request is submitted by the property owner to the Community, the Community legislature, by amendment to current fee ordinances, shall establish a fee schedule and collect fees to cover the Community's actual costs of administering this Ordinance

SECTION XI PUMPING AND INSPECTION OF ON-LOT SYSTEMS

Every tank associated with any on-lot system within the Community shall be pumped at least once within three (3) years following the start of the On-Lot Sewage Management program

The Community or the local sanitary authority will develop pump-out schedules for each and every tank associated with every system

After the initial pumping all tanks in all systems shall be pumped out in accordance with the following pump-out criteria:

If the tank is found to be greater than three-quarters full to nearly full, at the time of pump-out, the next scheduled pump-out must occur in three (3) years

If the tank is found to be greater than one-half full to three-quarters full, at the time of pump-out, the next scheduled pump-out must occur in four (4) years

If the tank is found to be less than one-half full, at the time of pump-out, the next scheduled pump-out must occur in five (5) years

SECTION XII ABATING HEALTH HAZARDS – LIENS

Where an imminent health hazard exists due to failure of a property owner to properly operate, maintain, repair or replace an on-lot system, the Community shall have the authority to perform, or contract to have performed, any repairs as may be directed by the SEO to abate the health hazard

SECTION XIII SYSTEM REHABILITATION

The Community shall compel corrective action whenever a malfunction is identified or whenever a malfunction represents a public health hazard or environmental threat

The Community's SEO shall require the repair of malfunctions by any of the following methods, either individually or in combination, which are consistent with the DEP's policies regarding Best Technical Guidance (BTG)

SECTION XIV VIOLATIONS – PENALTIES – SUSPENSIONS

It shall be illegal to commence construction of a structure which will be served by an on-lot system without first obtaining a permit for the system

It shall be illegal to construct, alter or repair an on-lot system without first obtaining a permit for the installation or repair from the SEO

It shall be illegal to fail to maintain the components of an on-lot system at the intervals specified in this ordinance, or those specified by the equipment manufacturer

It shall be illegal for a hauler/pumper business to fail to file the necessary reports in a timely manner

SECTION XV SEVERABILITY

The provisions of this Ordinance shall be severable, and if any of its provisions shall be held to be unconstitutional, illegal, or invalid, such unconstitutionality, illegality, or invalidity shall not affect the validity of any of the remaining provisions of the Ordinance

SECTION XVI REPEALER

All other ordinances or parts of ordinances inconsistent herewith are hereby repealed

The first step for a successful on-lot management program is to make sure all property owners are educated in the operation and maintenance of their on-lot system. The Community must be proactive in this regard through the distribution of pamphlets and through articles in local newspapers explaining the operation and maintenance of on-lot systems to its residents.

It appears that an on-lot management program containing these elements can be implemented without imposition of a fee as the homeowner and/or contractor(s) will provide the majority of the information. It also appears that this type of program will increase the responsibilities of the Sewage Enforcement Officers, particularly in the short term in the establishment and implementation of the program.

The primary regard to on-lot management is the development of an on-lot ordinance. The Community has the existing legal authority to develop the ordinance and to see that it is enforced. Chapter 71 of the Pennsylvania Code assigns enforcement responsibility to the Community. There is, however, some legal question as to the enforcement rights of the Community under Chapter 71 to encroach on private property to determine condition of existing on-lot systems and potential malfunctions. As indicated in the on-lot management section, the Community Solicitor should evaluate this.

Note to Municipal Sanitary Authorities

It is very important that you work closely with your Community if they decide to transport the septic tank sludge to your facility for treatment rather than relying on septic tank haulers. Important factors to consider are as follows:

- 1. Make sure your plant has capacity, as studies have shown that one septic tank can equal 100 homes of loading at your plant.**
- 2. Treat the septic waste directly in your digester and not in the plant if you can.**
- 3. Number of tank trucks hauling into your plant per day.**
- 4. Administration, homeowner notification, hauling/pumping and billing.**
- 5. And, of course most importantly, odor.**

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