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**INTER-OFFICE COMMUNICATION**
Water & Wastewater Engineering

DATE: July 9, 1999

TO: Kurt Lannon

FROM: Kim Zoltek, Sr. Environmental Engineer KZ

SUBJECT: Ordinance No. 980894

Enclosed is a copy of the State of Florida Chapter 64E-6, F.A.C., Standards for Onsite Sewage Treatment and Disposal Systems. This is referenced in Section 27-182 of Ordinance No. 980894, which was passed and adopted by the City Commission on June 14, 1999. The ordinance states that a copy of this rule will be retained in the office of the clerk of the commission.

If you have any questions, please call me at 334-3400, extension 1637.

xc: Raymond 0. Manasco
Fred Williams

Shannon,
Please file under Legislative
KC

STATE OF FLORIDA
DEPARTMENT OF HEALTH
CHAPTER 64E-6, FLORIDA ADMINISTRATIVE CODE
STANDARDS FOR ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

PART I

## 64E-6.001 GENERAL

(1) The provisions of Part I of this rule shall apply to all areas of the state except where specific provisions found in Part II which specifically addresses the Florida Keys, or specific provisions found in Part IV which specifically address performance-based treatment systems, exempt or modify compliance with Part I or Part II requirements. Performance-based treatment systems are intended as an alternative to the systems conforming to the prescriptive standards detailed in Parts I and II of this rule and shall be used only for a single family residence. Designs for performance-based treatment systems allow for the use of alternative and innovative methods, materials, processes, and techniques that reduce the total biological, chemical, hydraulic, organic, nutrient, bacterial and viral discharge to the environment. Where used, the performance-based treatment systems shall be designed, operated, constructed, maintained and used in conformance with s. 381.0065(4)(i), F.S. Part III addresses the registration of septic tank contractors and certification of partnerships and corporations. Part V addresses fees for Parts I, II, III, and IV of this rule.

(2) Except for places of employment meeting the provisions of rule 64E-10, F.A.C., buildings used or intended for human occupancy, employment or service to the public and locations where people congregate shall connect toilets and other wastewater generating fixtures to an approved wastewater treatment and disposal system. Also, property or locations where people congregate, are employed, or where property is used by the public for temporary and short periods, such as construction sites, fairs, carnivals, revivals, field locations for agricultural workers, encampments or other use shall be provided with an approved wastewater treatment and disposal system. Establishments with permanent structures shall not rely upon systems designed for temporary use as the primary means of wastewater treatment and disposal.

(3) The department shall approve, on a temporary basis, portable toilets, privies, or holding tanks for fairs, carnivals, revivals, field locations, encampments and other locations which lack permanent structures where people congregate for short periods of time, provided the construction, maintenance, and utilization of such systems conform to the general provisions of this Chapter. Portable toilets, holding tanks or other toilet facilities shall be provided at construction sites for the duration of construction any time workers are present, and shall not be bound by the definition of temporary. The department shall waive or reduce any of the setback requirements of rule 64E-6.005(1)-(3), where it is determined no health hazard will result.

(4) Except as provided for in s. 381.00655, FS, any existing and prior approved system which has been placed into use and which remains in satisfactory operating condition shall remain valid for use under the terms of the rule and permit under which it was approved. Alterations that change the sewage characteristics or increase sewage flow will require that the owner, or their authorized representative, apply for and receive reapproval of the system by the DOH county health department, prior to any alteration of the structure. If an applicant requests that the department consider the previous structure's or establishment's most recent approved occupancy, the applicant must provide written documentation that the onsite sewage treatment and disposal system was approved by the department for that previous occupancy. An applicant will be required to complete form DH 4015 and provide a site plan in accordance with rule 64E-6.004(3)(a), to provide information of the site conditions under which the system is currently in use and conditions under which it will be used. The applicant shall have the septic tank pumped by a permitted septage disposal service to determine tank volume and structural integrity, and shall submit the results to the DOH county health department as part of the application. If a prior approved existing system has been inspected by the DOH county health department within the preceding three years, and the system was determined to be in satisfactory operating condition at that time, a new inspection is not required unless there is a record of failure of the system. If it is determined that a new inspection is not required, there will be no charge for this application, but reapproval shall be required. A commercial system out of service for more than one year shall be inspected by the department and brought into full compliance with current requirements of this Chapter. If the use of a building is changed or if additions or alterations to a building are made which will increase domestic sewage flow, change sewage characteristics, or compromise the integrity or function of the system, the onsite sewage treatment and disposal system serving such building shall be brought into full compliance with the provisions and requirements of these rules. Proper well setbacks shall be maintained.

(a) For residences, where only one bedroom or no more than 750 square feet of building area is added and where the structure will not partially cover the system, the system shall be required to be altered to meet the following criteria:

1. The septic tank need not be replaced if it is structurally sound and is within two tank sizes of the required size for the proposed structure.

2. Where the septic tank has not been replaced and where the tank size is smaller than what is currently required, and the existing elevation of the bottom surface of the drainfield is maintained at a minimum of six inches above the wet season high water table, the county health department shall require the existing drainfield to be increased to a maximum of 100% of current rule drainfield size requirements for the proposed number of bedrooms.

3. Any existing system where the elevation of the bottom surface of the drainfield is below the wet season water table shall be required to be brought into full compliance with current repair specifications.

4. Any system where the tank needs to be replaced or is replaced as part of a system upgrade shall be brought into full compliance with new system specifications.

(b) For commercial establishments, the system shall not be required to be altered if domestic sewage flow is not expected to increase by more than 20% of original design flow or require more than one tank size adjustment. Any commercial system where the tank needs to be replaced shall be brought into full compliance with new system specifications.

(c) These requirements do not authorize a residence or establishment to exceed the lot flow allowances authorized under rule 64E-6.005(7)(c). Any system which is used to treat and dispose of commercial wastewater shall be brought into full compliance with the provisions and requirements of current rules when any change in sewage flow or characteristics is made.

(5) Citations issued by the department shall be on form DH 3146, 10/97, hereby incorporated by reference.

Specific Authority: 381.0011(13), 381.006, 381.0065(3)(a), 489.553(3) and 489.557(1) FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0067, Part I 386, 489.553, FS. History - New 12-22-82, Amended 2-5-85, Formerly 10-6.41, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.041, Amended 11-19-97, 2-3-98.

**64E-6.002 DEFINITIONS**

For the purposes of this Chapter, the following words and phrases shall have the meanings indicated:

(1) Absorption surface - the total surface area of soil at the bottom of the drainfield.

(2) Aerobic treatment unit - a sewage treatment unit which introduces air into sewage to provide aerobic biochemical stabilization within a treatment receptacle.

(3) Alternative system - any approved onsite sewage treatment and disposal system used in lieu of, including modifications to, a standard subsurface system.

(4) American National Standards Institute, hereafter referred to as ANSI - an organization comprised of trade associations, technical societies, professional groups, consumer organizations, and individual companies with headquarters located at 1430 Broadway, New York, New York 10018. This organization acts as a clearinghouse and coordinating body for voluntary standards activities in the United States, and approves as American National Standards those standards that have been
developed according to its principles of openness, due process and consensus. Among its activities is accreditation of third-party certification programs.

(5) American Society for Testing and Materials hereafter referred to as ASTM - a technical society with headquarters located at 1916 Race Street, Philadelphia, Pennsylvania, 19103, which develops and publishes national standards for the testing and quality assurance of construction materials.

(6) Approved - an onsite sewage treatment and disposal system constructed and installed in compliance with the standards and requirements of this Chapter and which has received final installation approval. "Approved" installation does not imply that a system will perform satisfactorily for a specific period of time.

(7) Approved maintenance entity - any person or business entity which has been issued a written permit by the DOH county health department to provide maintenance services associated with approved onsite aerobic treatment units.

(8) Aquifer - a geologic formation, group of formations, or part of a formation that is capable of yielding potentially usable quantities of potable water from wells or springs.

(9) Available publicly owned or investor-owned sewerage system - as defined by s. 381.0065(2)(a), F.S.

(10) Base flood - the flood having a one percent chance of being equaled or exceeded in any given year.

(11) Bedroom - a room designed primarily for sleeping or a room which is expected to routinely provide sleeping accommodations for occupants.

(12) Building Area - that enclosed habitable area of a dwelling unit, excluding the garage, carport, exterior storage shed, or open or screened patios or decks. Calculations of building area shall be made by measurements of the outside building dimensions. Building area of each additional story of the structure shall be added to determine the total building area.

(13) Commercial Sewage Waste - Non-toxic, non-hazardous wastewater from commercial facilities. Examples of establishments included in this definition are commercial and institutional food operations, commercial laundry facilities with no more than 4 machines, and animal holding facilities.

(14) Department - the Department of Health including authorized agents of the individual DOH county health departments.

(15) Domestic sewage waste - as defined by s. 381.0065(2)(c), F.S. Domestic sewage is further categorized as:
(a) Blackwater - as defined by s. 381.0065(2)(b), F.S.
(b) Graywater - as defined by s. 381.0065(2)(d), F.S.
(c) Domestic septic tank effluent ranges:
1. CBOD5, maximum 300 mg/l
2. TSS, maximum 200 mg/l
3. pH, 6 - 8; or within 1 pH unit of the water supply pH
4. Nitrogen (TKN) maximum 100 mg/l

(16) Drainage Ditch - a trench dug for the purpose of draining water from the land or for transporting water for use on the land. Swales are excluded from this definition.

(17) Drainfield - a system of open-jointed or perforated piping, approved alternative distribution units, or other treatment facilities designed to distribute effluent for filtration, oxidation and absorption by the soil within the zone of aeration.

(18) Dwelling unit - a residence for the housing of a single family whether such residence is a detached structure or a unit of a multiple family building.

(19) Effective capacity - the liquid volume of a tank contained below the liquid level line.

(20) Effective soil depth - the depth of slightly or moderately limited soil material at an onsite sewage treatment and disposal system drainfield site.

(21) Establishment - a multi-family housing, apartment, condominium or townhouse complex, a mobile home park or recreational vehicle park, a non-residential commercial or institutional development or places of business or assembly. An establishment includes all buildings or structures, and the land appertaining thereto and shall have an owners association or other legal entity which is responsible for maintenance and operation of the development's sewage treatment and disposal facilities.

(22) Failure - a condition existing within an onsite sewage treatment and disposal system which prohibits the system from functioning in a sanitary manner and which results in the discharge of untreated or partially treated wastewater onto ground surface, into surface water, into ground water, or which results in the failure of building plumbing to discharge properly.

(23) Filled System - a drainfield system where a portion, but not all, of the drainfield sidewalls are located at an elevation above the elevations of undisturbed native soil on the site (see Figure 1).

**FILLED TRENCH DRAINFIELD SYSTEM**

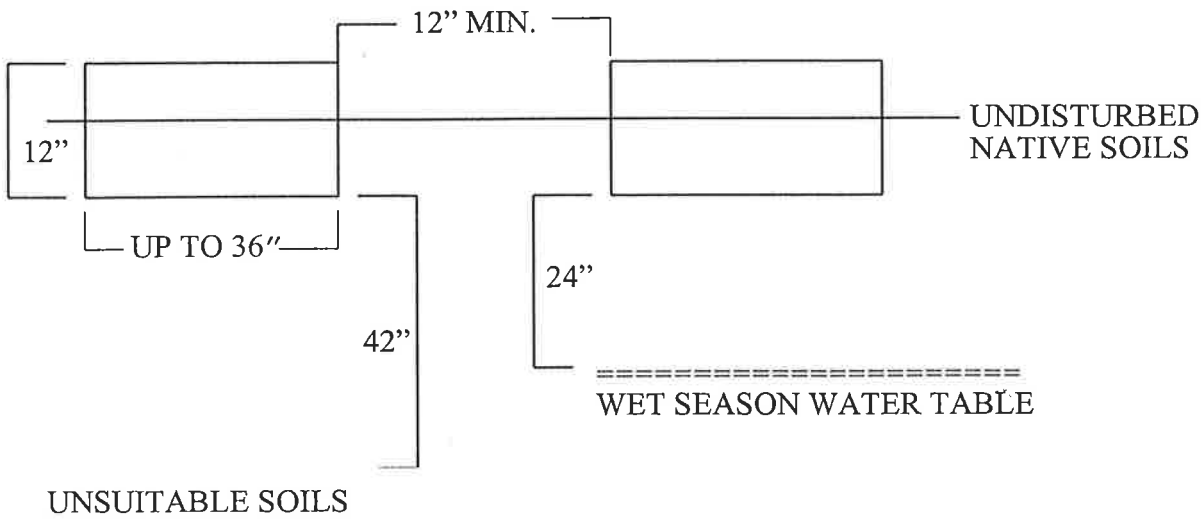


**FIGURE 1**

(24) Flooding - a covering of soil surface by water from any source, such as streams overflowing their banks, runoff from adjacent or surrounding slopes, elevation of the ground water table exceeding that of the soil surface, or combinations of these. Terms also associated with flooding and used elsewhere in this Chapter are:

(a) Frequent - flooding which occurs more than once every two years on the average;

(b) Ten year flood elevation - that flood elevation which has a 10 in 100 probability of being equaled or exceeded in any calendar year.

(25) Florida Keys - as defined by s. 381.0065(2)(e), F.S.

(26) Food Establishment Sludge - oils, fats, greases, food scraps and other grease interceptor contents generated by a food operation or institutional food preparation facility using an onsite sewage treatment and disposal system.

(27) Industrial, hazardous or toxic sewage waste - wastewater not otherwise defined as domestic sewage waste or commercial sewage waste. Wastewater carried off by floor drains, utility sinks and equipment drains located in buildings in industrial or manufacturing areas, estimated volumes of commercial sewage wastes exceeding 5000 gallons per day, wastewater from commercial laundry facilities with more than 4 self-service machines, and wastewater from car and truck washes are included in this definition.

(28) Innovative system - as defined by s. 381.0065(2)(g), F.S.

(29) Limitation ratings - Soil classification ratings which describe the relative suitability of soils to properly assimilate sewage effluent. The three rating categories for the purpose of this rule are:

(a) Slightly limited - soil materials with favorable properties for the use of a drainfield.

(b) Moderately limited - soil materials that have properties moderately favorable for the use of a drainfield.

(c) Severely limited - soil materials which have one or more properties unsuitable for the use of a drainfield.

(30) Lot - as defined by s. 381.0065(2)(h), F.S.

(31) Mean high water - the average height of tidal high waters over a 19-year period.

(32) Mean high water line - the intersection of the tidal plane of mean high water with the shore.

(33) Mound system - a drainfield constructed at a prescribed elevation in a prepared area of fill material. All drainfields where any part of the bottom surface of the drainfield is located at or above the elevation of undisturbed native soil in the drainfield area is a mound system (see Figure 2).

**MOUND TRENCH DRAINFIELD SYSTEM**

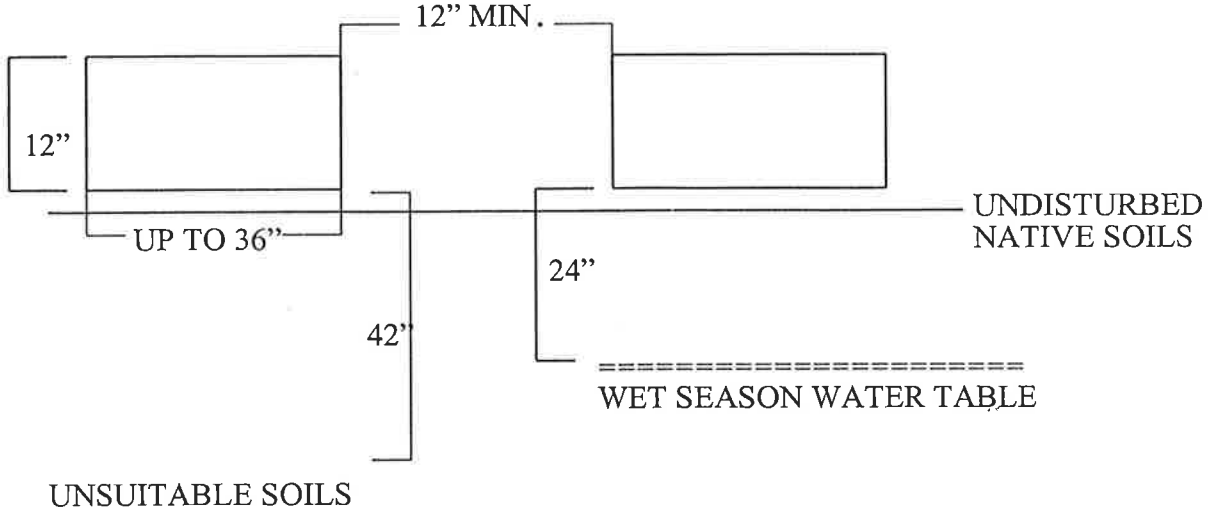


**FIGURE 2**

(34) National Sanitation Foundation International, hereafter referred to as NSF - a not for profit research, education and service organization located at 3475 Plymouth Road, Ann Arbor, Michigan, 48106, that develops standards and criteria for equipment, products and services that bear upon health.

(35) Non-potable water well - a well intended exclusively for irrigation purposes, or for supplying water to a heat pump system or a well for receiving discharge water from a heat pump system.

(36) "O" Horizon - the layer of organic matter on the surface of a mineral soil. This soil layer consists of decaying plant residues.

(37) Obstructed land - those areas on a lot or property used for such purposes as pools, concrete slabs, buildings, driveways, parking and similar areas which prohibit, hinder, or affect the installation, operation or maintenance of an onsite sewage treatment and disposal system.

(38) Onsite sewage treatment and disposal system, also referred to as system - as defined by s. 381.0065(2)(i), F.S. Appurtenances installed within the building sewer prior to a treatment receptacle shall not be included in this definition. Systems covered by chapter 403 Florida Statutes are not included in this definition.

(39) Ordinary high water line, non-tidal - a line determined by examining the bed and banks of a water body and ascertaining where the presence and action of the water has marked upon the bed a character distinct from that of the banks with respect to vegetation or the nature of the soil itself.

(40) Potable water line - as defined by s. 381.0065(2)(j), F.S.

(41) Potable water well - a source of water used for drinking, culinary or domestic purposes. The following classifications of potable wells are used in this Chapter.

(a) Private potable well - a well used only by four or less non-rental residences. A single rental residence is included in this category so that a maximum of three non-rental residences and one rental residence can be supplied by a single private potable well.

(b) Public drinking water well - a well serving any drinking water system other than a private water system. Public systems are classified in the following manner:

1. Community public water system - as defined in subsection 403.852(3), FS, such water system serves a year-round residential population of at least 25 people per day or has a minimum of 15 year-round residential service connections.

2. Non-community public water system - as defined in subsection 403.852(4), FS, such water system serves a transient population of at least 25 people per day at least 60 days per year or has a minimum of 15 non-residential service connections.

3. Non-transient non-community public water system - as defined in subsection 403.852(17), FS, such water system is not a community water system, but is a system that regularly serves at least 25 of the same people for over 6 months of the year.

4. Limited Use public water system - a public water system not regulated by the Florida Safe Drinking Water Act or rule 62-550, 62-555, or 62-560 of the Florida Administrative Code and further specified as limited use commercial public water system which provides piped potable water to one or more non-residential establishments and limited use community public water system which provides piped potable water to five or more private residences or two or more rental residences.

(42) Regulatory floodway - means the channel of a river or other water course and adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

(43) Repair - replacement of or modifications or additions to a failing system which are necessary to allow the system to function or must be made to eliminate a public health or pollution hazard. Servicing or replacing with like kind mechanical or electrical parts of an approved onsite sewage treatment and disposal system; pumping of septage from a system; or making minor structural corrections to a tank, or distribution box, does not constitute a repair. The installation of a laundry system, a gray water system, a grease interceptor, or additional drainfield, as a precautionary measure to prolong system functioning, is considered a repair provided that system modification is not associated with an increase in estimated sewage flow or change in sewage characteristics, in which case it will be considered a new system.

(44) Septage - as defined by s. 381.0065(2)(k), F.S. Excluded from this definition are the contents of portable toilets, holding tanks, and grease interceptors.

(45) Septic tank - a watertight receptacle constructed to promote separation of solid and liquid components of wastewater, to provide limited digestion of organic matter, to store solids, and to allow clarified liquid to discharge for further treatment and disposal into a drainfield.

(46) Standard subsurface drainfield system - an onsite sewage treatment and disposal system drainfield consisting of a distribution box or header pipe and a drain trench or absorption bed with all portions of the drainfield sidewalls installed below the elevation of undisturbed native soil (see Figure 3).

**STANDARD TRENCH DRAINFIELD SYSTEM**

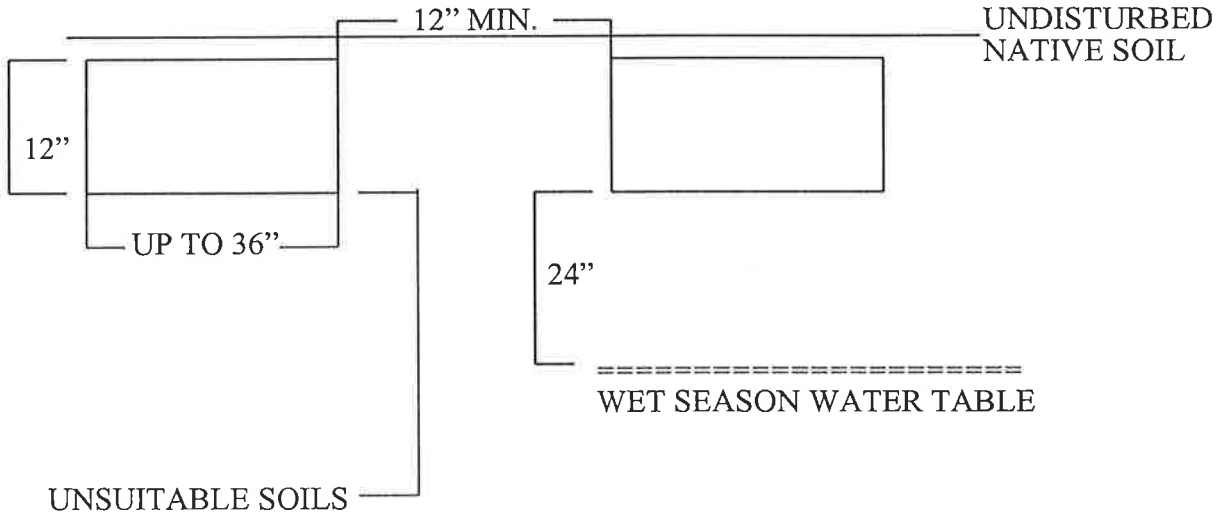


**FIGURE 3**

(47) Subdivision - as defined by s. 381.0065(2)(l), F.S.

(48) Surface water - as defined by s. 381.0065(2)(m), F.S.

(49) Swale - a manmade, vegetatively-stabilized trench which contains contiguous areas of standing or flowing water for less than 72 hours following a rainfall event. A swale has a top width-to-depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than 3 feet horizontal to 1 foot vertical.

(50) Temporary - a single period or an accumulation of periods not exceeding 120 total days in any 365-day period.

(51) Toxic or hazardous chemical - as defined by s. 381.0065(2)(n), F.S.

(52) Undisturbed native soil - soil which has been deposited onto a site by the actions of nature and which has not been disturbed or altered by the activities of man.

(53) Water table elevation - the upper surface of the groundwater or that level below which the soil or underlying rock material is wholly saturated with water. Water table elevation is measured from the soil surface downward to the upper level of saturated soil or up to the free water level.

(54) Wettest season - that period of time each year in which the ground water table elevation can normally be expected to be at its highest elevation.

Specific Authority: 381.0011(4),(13), 381.006, 381.0065(3)(a), FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.006(7), 381.0061, 381.0065, 381.00655, FS. History - New 12-22-82, Amended 2-5-85, Formerly 10D-6.42, Amended 3-17-92, 1-3-95, Formerly 10D-6.042, Amended 11-19-97.

**64E-6.003 PERMITS**

(1) System Construction Permit - No portion of an onsite sewage treatment and disposal system shall be installed, repaired, altered, modified, abandoned or replaced until an "Onsite Sewage Treatment and Disposal System Construction Permit" has been issued on form DH 4016. If building construction has commenced, the system construction permit shall be valid for an additional 90 days beyond the eighteen month expiration date. A fee shall not be charged for a repair permit issued within 12 months from the date of final authorization of the onsite sewage treatment and disposal system. If a construction or repair permit for an onsite sewage treatment and disposal system is transferred to another person the date of the construction or repair permit shall not be amended, but shall run from the date of original issuance prior to the transfer. Servicing or replacing with like kind mechanical or electrical parts of an approved onsite sewage treatment and disposal system; pumping of septage from a system; or making minor structural corrections to a tank, or distribution box, does not constitute a repair. The installation of a laundry system, a gray water system, a grease interceptor, or additional drainfield, as a precautionary measure to prolong system functioning, is considered a repair provided that system modification is not associated with an increase in estimated sewage flow or change in sewage characteristics, in which case it will be considered a new system.

(2) System Inspection - Before covering with earth and before placing a system into service, a person installing or constructing any portion of an onsite sewage treatment and disposal system shall notify the county health department of the completion of the construction activities and shall have the system inspected by the department for compliance with the requirements of this Chapter, except as noted in s. 64E-6.003(3) for repair installations.

(a) If the system construction is approved after an inspection by the DOH county health department, the department shall issue a "Construction Approval" notice to the installer.

(b) If the system installation does not pass the construction inspection on any type of system installation, the installer shall make all required corrections and notify the DOH county health department of the completion of the work prior to reinspection of the system. A reinspection fee shall be charged to the installer for each additional inspection leading up to construction approval.

(c) Final installation approval shall not be granted until the DOH county health department has confirmed that all requirements of this Chapter, including building construction and lot grading are in compliance with plans and specifications submitted with the permit application.

1. In addition, if the system was designed by an engineer, who shall be registered in the State of Florida, the DOH county health department shall require the design engineer or the design engineer's designee, who shall be a registered engineer, to certify that the installed system complies with the approved design and installation requirements. Single family residences are excluded from this requirement, however, all changes to the engineering specifications shall be approved by the design engineer.

2. If additional site visits after the construction approval inspection are necessary to establish the compliance of the building construction and lot grading, or to establish the compliance with any provision of this Chapter, a reinspection fee shall be charged to the permit applicant for each inspection of the building and site leading to the final installation approval.

(d) A building or structure shall not be occupied, nor shall any county, municipal, state, or federal agency authorize occupancy until an onsite sewage treatment and disposal system has been installed and approved for use by the DOH county health department and a final installation approval notification has been issued. "Approved" installation does not imply that a system will perform satisfactorily for a specific period of time.

(e) Systems which are required to have an annual operating permit and the structures which they serve shall be inspected by the department at least once during the term of the permit to determine compliance with the terms of the operating permit.

(3) Repair Inspections - A system repair shall be inspected by the department or a master septic tank contractor to determine compliance with construction permit standards prior to final covering of the system. Inspections shall comply with rule 64E-6.003(2) and the following:

(a) A master septic tank contractor may, at their option, cover a system repair when the following conditions are met:

1. The master septic tank contractor has requested an inspection from the department during the normal duty day before the date and time the repair will be ready for inspection. Inspections must be scheduled during normal inspection hours and in conjunction with the inspection schedule of the county health department having jurisdiction.

2. At the date and time specified for inspection, the department is not on site to conduct an inspection within 30 minutes of the scheduled time. If the department is on site to conduct the inspection and the system is not ready for inspection within 30 minutes after the scheduled time, a reinspection shall be requested. A reinspection fee shall be charged. Contractors shall cancel or reschedule inspections not later than two hours prior to the scheduled time. In such cases, no reinspection fee shall be charged.

3. The master septic tank contractor is physically on site and conducts the inspection.

(b) The master septic tank contractor shall document the inspection on form DH 4016, 10/96, System Repair Certification, and fax or hand deliver the form to the department by the next normal duty day following the inspection.

(c) A master septic tank contractor shall not cover a system repair when the department has performed an inspection and has notified the contractor of violations. Any system that has been inspected by the department and found to be in violation of construction standards of this rule, must receive a reinspection from the department before the system may be covered. A reinspection fee shall be charged for each reinspection leading to final approval.

(d) The department shall issue a "final approval" of the system repair based on the master septic tank contractor's inspection.

(e) Nothing herein prevents the department from inspecting a system inspected by a master septic tank contractor. No inspection is final until approved by the department.

(4) Voiding a permit - After an onsite sewage treatment and disposal system has received final installation approval from the department, if the building is modified in such a way that a larger system would be required, if any portion of the required drainfield unobstructed area is covered by impervious material, if the property is subdivided into a smaller lot or lots whereby the permitted system would not have been originally approved, if a well is installed on the property which violates the setbacks to the approved system, or if the system is improperly modified or damaged, the department shall undertake administrative action to revoke the permit. The department shall prohibit the further or continued use of a system when the permit has become void by injunction or other procedure authorized by law.

(5) Operating permits - No business shall occupy a building served by an onsite sewage treatment and disposal system if the building is located in an area zoned or used for industrial or manufacturing purposes or its equivalent; where a business will generate commercial sewage waste; or where an aerobic treatment unit is used, until an "Application for Onsite Sewage Treatment and Disposal System Operating Permit" has been received and approved by the department. Form DH 4081, "Application for Onsite Sewage Treatment and Disposal System Operating Permit," is hereby incorporated by reference.

(a) Property owners or their authorized agents are required to obtain an annual operating permit. The permit shall designate the person or entity responsible for the operation and maintenance of the system; the type of activity proposed on the site; persons or businesses which will use the system; equipment and types and quantities of chemical compounds which will be used by the building occupants which are likely to be discharged into the onsite sewage treatment and disposal system. At a minimum, the owner or person responsible for maintenance of the system shall test, or cause to be tested, the onsite sewage treatment and disposal system effluent in a qualitative and quantitative manner for any chemical compounds associated with the particular industrial or manufacturing operations conducted in that establishment, as directed by the county health department. The frequency of testing shall be specified on the annual operating permit.

(b) Operating permits are not transferable. If the owner of the system remains the same but the tenancy of the building changes, a survey form which is an attachment to form DH 4081 must be completed and submitted to the DOH county health department in order to amend the operating permit. No new building occupant shall be approved by a county,

municipal or state governmental entity until the DOH county health department has reviewed the survey form, approved the change of tenancy, and amended the operating permit.

(c) Persons using aerobic treatment systems meeting the standards set forth in rule 64E-6.012 installed on or after July 1, 1991, shall obtain an annual operating permit from the DOH county health department for the aerobic treatment unit. The fee collected for this permit as set forth in rule 64E-6.024(1)(m) shall be used by the department to perform periodic monitoring and effluent sampling of the unit. Persons operating an aerobic treatment unit shall permit department personnel right of entry to the property during normal working hours to allow for effluent sampling or evaluating the general state of repair or function of the system. Persons required to obtain an annual operating permit for an onsite sewage treatment and disposal system in an industrial or manufacturing zone or its equivalent, shall not also be required to obtain an annual operating permit for an aerobic treatment unit at that site.

Specific Authority: 154.06, 381.0011, 381.006, 381.0065, 489.553 and 489.557 FS. Law Implemented: 154.01, 381.001, 381.0011, 381.0012, 381.0025, 381.006, 381.0061, 381.0065, 381.00655, 381.0066, 381.0067, Part I 386, FS. History - New 12-22-82, Amended 2-5-85, Formerly 10D-6.43, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.043.

## 64E-6.004 APPLICATION FOR SYSTEM CONSTRUCTION PERMIT

(1) No person shall cause or allow construction of a system without first applying for and obtaining a construction permit. Form DH 4015 shall be used for recording permit application information.

(2) An application shall be completed in full, signed by the owner or the owner's authorized representative, or a contractor licensed in accordance with Chapter 489, Florida Statutes, and shall be accompanied by all required exhibits and fees. If the owner of a property uses an authorized representative to obtain a new system construction permit, a signed statement from the owner of the property assigning authority for the representative to act on the owner's behalf shall accompany the application. This statement shall include specific information allowing the representative to act on the owner's behalf in all aspects of an application for an onsite sewage treatment and disposal system.

(3) The suitability of a lot, property, subdivision or building for the use of an onsite sewage treatment and disposal system shall be determined from an evaluation of lot size, anticipated sewage flow into the proposed system, the anticipated sewage waste strength, soil and water table conditions, soil drainage and site topography and other related criteria. Necessary site investigations and tests shall be performed at the expense of the owner by either an engineer with soils training who is registered in the State of Florida pursuant to Chapter 471, Florida Statutes, by department personnel, registered septic tank contractors, master septic tank contractors, and persons certified under s. 381.0101, F.S. Registered septic tank contractors shall perform site evaluations for system repairs only. When determining that the necessary site investigations and tests be performed by, or under the responsible supervision, direction and control of an engineer registered in the State of Florida, the county health department must consider the criteria listed in rule 64E-6.004(4). Results of site investigations shall be entered on, or attached to, the construction permit application form for consideration by the county health department. The application shall also include the following data:

(a) A plan or plat of the lot or total site ownership drawn to scale showing boundaries with dimensions, locations of any existing or proposed residences or buildings, swimming pools, recorded easements, the onsite sewage treatment and disposal system components and their location on the property, the slope of the property and any existing or proposed wells, potable and non-potable water lines, including valves, drainage features, filled areas, obstructed areas, and surface waters such as lakes, ponds, streams or canals. The site plan shall be for the property where the system is to be installed. If the county health department is responsible for performing the site evaluation, the applicant or applicant's authorized representative shall indicate the approximate location of wells, onsite sewage treatment and disposal systems, surface waters and other pertinent facilities or features on contiguous or adjacent property. If the features are within 75 feet of the applicant lot, the estimated distance to the feature must be shown but need not be drawn to scale. If the county health department will not be performing the site evaluation, the applicant or authorized agent shall be responsible for the measurements to all features, including the pertinent features within 75 feet of the applicant lot. The location of any public drinking water well, as defined in rule 64E-6.002(41)(b), within 200 feet of the applicant's lot shall also be shown, with the distance indicated from the system to the well. If an individual lot is five acres or greater, the applicant may draw a minimum one acre parcel to scale showing all required features, or the minimum size drawing necessary to properly exhibit all required features, whichever is larger. The applicant must also show the location of that one acre or larger parcel inside the total site ownership. All information that is necessary to determine the total sewage flow and proper setbacks on the site ownership shall be submitted with the application. The applicant lot shall be clearly identified. A copy of the legal description or survey must accompany the application for confirmation of property dimensions only.

(b) For residences, a floor plan drawn to scale or showing the total building area of the structure, at the applicants' option, and showing the number of bedrooms and the building area of each dwelling unit. Non-residential establishments shall submit a floor plan drawn to scale showing the square footage of the establishment, all plumbing drains and fixture

types, and any other features necessary to determine the composition and quantity of wastewater to be generated. Plumbing fixtures located at a non-residential establishment shall be included on the floor plan, but need not be drawn to scale.

(c) At least two soil profile descriptions within the proposed system soil absorption area to a minimum depth of six feet or to refusal, for which the minimum information provided is the upper and lower horizon boundaries, Munsell color of the horizon and its components and USDA soil texture; using USDA Soil Classification methodology as described in chapter 3 of the Soil Survey Manual, United States Department of Agriculture, Handbook No. 18, October 1993, herein incorporated by reference. At a minimum, a soil profile shall be provided at the beginning and end of the proposed drainfield site. Where the replacement of severely limited soil is proposed, soil profiles shall be performed to a minimum depth of 6 feet or to the depth of the slightly or moderately limited soil layer lying below the replaced layer, whichever is greater.

(d) Water table elevations which exist at the time of the site evaluation and estimated water table elevation during the wettest season of the year. Water table elevations shall be established from a benchmark or other fixed point of reference located on the property or within reasonable proximity to it. The existing property elevation at the site of each soil profile must also be recorded relative to the benchmark or fixed point of reference.

(e) Subdivisions platted and recorded or unrecorded prior to January 1, 1972, will be considered on the basis of an evaluation of soil characteristics, water table elevations, history of flooding and records of service of existing installations in the same general area.

(f) An applicant for a holding tank installation permit shall provide to the DOH county health department a copy of a contract with a permitted disposal company which states the scheduled tank pumping frequency.

(4) The DOH county health department may require for review and approval, the submission of detailed system construction plans prepared by an engineer who is registered in the State of Florida. In determining whether the detailed system construction plans may be required, the department will consider the size of the system, the amount and type of sewage generated by the establishment, the degree of deviation from a standard subsurface drainfield system, any alternative system treatment requirements, and any unusual or varying soil conditions. For establishments with proposed domestic sewage flow rates more than 2500 gallons per day, or commercial sewage flow rates more than 1000 gallons per day, the DOH county health department shall require for review and approval, the submission of detailed system construction plans prepared by an engineer who is registered in the State of Florida. All plans and forms submitted by a registered engineer shall be dated, signed and sealed. Except as provided for in rule 64E-6.003(2), the DOH county health department shall require the design engineer to certify that the installed system complies with the approved design and installation requirements.

(5) The applicant shall be the permit holder and shall be held responsible for all information supplied to the department. The signed application, site evaluation, and system design plans when required, serve as the basis by which the department determines the issuance of a construction permit. In the event of a change in any information given in the application which served as basis for issuing a construction permit, the permit holder will immediately file an amended application detailing such changed conditions. If the new conditions are determined to be in compliance with the standards in this Chapter, the construction permit shall be amended. If the new conditions are determined to be in non-compliance with the standards of this Chapter, the permit shall be revoked subject to the provisions of Chapter 120, FS. A system construction permit application shall be valid for one year. If a permit has not been issued to the applicant within one year from the date of application, then the department shall review the construction permit application for accuracy at no charge prior to issuance of a permit. The applicant shall supply a statement that the information contained in the application has not changed, or shall amend the application. If a site visit is necessary as part of the review, then a re-evaluation fee shall be charged. If the rules under which the application was accepted have changed, and an onsite sewage treatment and disposal system construction permit has not been issued, a new permit application shall be required.

(6) Requests for variance shall be made on form DH 4057.

(7) Where a property owner proposes to build or has built multiple residences or multiple businesses on a single lot, and the entire area of the lot is required to accommodate the designed sewage flow from the multiple residences or multiple businesses to the onsite sewage treatment and disposal system, the property owner must submit, prior to issuance of a construction permit, a written utility easement which has been executed and recorded in the public property records at the county courthouse. The utility easement must bind the property together so that the original lot size is retained for purposes of compliance with all the requirements of rule 64E-6, and must include provisions for maintaining the onsite sewage treatment and disposal system. For example, a duplex built on a single lot with a single onsite sewage treatment and disposal system serving both halves of the duplex must have a written utility easement executed and recorded in the public property records before an onsite sewage treatment and disposal system construction permit is issued. In order to obtain a repair permit, the property owner must submit a copy of the recorded utility easement demonstrating the retention of the original lot size for purposes of the onsite sewage treatment and disposal system and a method for maintaining the system. For example, each half of a duplex built on a single lot with a single onsite sewage treatment and disposal system serving both halves of the duplex is sold to separate persons. If, when the onsite sewage treatment disposal system fails, and a

written utility easement was not executed and recorded in the public property records before the sales, it must be done before an onsite sewage treatment and disposal system repair permit is issued.

(a) Where a property owner proposes to build or has built a single residence or a single business or multiple residences or businesses on multiple lots, and the residence's or business's authorized sewage flow requires the use of multiple lots, or parts thereof, for the onsite sewage treatment and disposal system, the property owner must submit, prior to issuance of a permit, a written utility easement executed and recorded in the public property records at the county courthouse. The utility easement must bind the required property together so that the original lots and their collective size, or part thereof, is retained for purposes of the onsite sewage treatment and disposal system, and must include provisions for maintaining the onsite sewage treatment and disposal system. For example, a residence or business built on three lots with a sewage flow which is large enough to require the land from all three lots must have a written utility easement executed and recorded in the public property records before an onsite sewage treatment and disposal system construction permit may be issued. In order to obtain a repair permit, the property owner must submit a copy of the recorded utility easement demonstrating the retention of the original lots and their collective size for purposes of the onsite sewage treatment and disposal system and a method for maintaining the system.

(b) Where a property owner, through inadvertent error or mistake, has built multiple residences or multiple businesses on a series of lots and each residence or business has its own onsite sewage treatment and disposal system or the sewage flow from the residence or business exceeds the allowable limits established for the area of land upon which the residence or business is located, the property owner must execute and record in the public property records, a written utility easement, for the remaining undeveloped lots in the subdivision, which informs the public of the amount of sewage flow which will be generated or the number of onsite sewage treatment and disposal systems which will be installed in that subdivision. It must also state that when the maximum amount of sewage flow or maximum number of onsite sewage treatment and disposal systems has been reached for the subdivision, no further development can occur until sewer is available.

(8) Innovative Systems or new product approval for onsite sewage treatment and disposal systems shall be initiated by submittal of an application for permit using form DH 3143, Jan 94, hereby incorporated by reference. DOH county health departments are authorized to issue installation permits upon receipt of the temporary permit. Form DH 3144, Jan 94, and form DH 3145, Jan 94, hereby incorporated by reference, shall be used to record information that describes notification requirements between the temporary permit applicant, the DOH county health department, and the State Health Office. These forms are to be processed by the DOH county health departments.

Specific Authority: 381.0011(4),(13), 381.006, 381.0065(3)(a), 489.553 FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.00655, 381.0067, Part I 386, 489.553, FS. History: New 12-22-82, Amended 2-5-85, Formerly 10D-6.44, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.044, Amended 11-19-97.

**64E-6.005 LOCATION AND INSTALLATION**

All systems shall be located and installed so that with proper maintenance the systems function in a sanitary manner, do not create sanitary nuisances or health hazards and do not endanger the safety of any domestic water supply, groundwater or surface water. Sewage waste and effluent from onsite sewage treatment and disposal systems shall not be discharged onto the ground surface or directly or indirectly discharged into ditches, drainage structures, groundwaters, surface waters, or aquifers. To prevent such discharge or health hazards:

(1) Systems and septage stabilization facilities established after the effective date of the rule shall be placed no closer than the minimum distances indicated for the following:

(a) Seventy-five feet from a private potable well as defined in rule 64E-6.002(41)(a).

(b) One-hundred feet from a public drinking water well as defined in rule 64E-6.002(41)(b) if such a well serves a facility with an estimated sewage flow of 2000 gallons or less per day.

(c) Two-hundred feet from a public drinking water well as defined in rule 64E-6.002(41)(b) if such a well serves a facility with an estimated sewage flow of more than 2000 gallons per day.

(d) Fifty feet from a non-potable water well as defined in rule 64E-6.002(35).

(e) Ten feet from any storm sewer pipe, to the maximum extent possible, but in no instance shall the setback be less than 5 feet.

(f) Fifteen feet from the design high-water line of retention areas, detention areas, or swales designed to contain standing or flowing water for less than 72 hours after a rainfall or the design high-water level of normally dry drainage ditches or normally dry individual-lot stormwater retention areas.

(2) Systems shall not be located under buildings or within 5 feet of building foundations, including pilings for elevated structures, or within 5 feet of mobile home walls, swimming pool walls, or within 5 feet of property lines except

where property lines abut utility easements which do not contain underground utilities, or where recorded easements are specifically provided for the installation of systems for service to more than one lot or property owner.

(a) Sidewalks, decks and patios shall not be subject to the 5 foot setback, however, drainfields shall not be installed beneath such structures. Any tank located beneath a driveway shall have traffic lids as specified in rule 64E-6.013(1)(c). Concrete structures which are intended to be placed over a septic tank shall have a barrier of soil or plastic material placed between the structure and the tank so as to preclude adhesion of the structure to the tank.

(b) Systems shall not be located within 10 feet of potable water lines unless such lines are sealed with a water proof sealant within a sleeve of similar material pipe to a distance of at least 10 feet from the nearest portion of the drainfield. In no case shall the sleeved water line be located within 24 inches of the onsite sewage treatment and disposal system. The sleeved water line shall not be located at an elevation lower than the drainfield absorption surface. Non-potable water lines shall not be located within 24 inches of the system without backflow preventers or check valves being installed on the water line so as to preclude contamination of the water system.

(c) Systems shall be setback a minimum of 15 feet from groundwater interceptor drains.

(3) Except for the provisions of s. 381.0065(4)(f)1. and 2., F.S., systems and septage stabilization facilities shall not be located laterally within 75 feet of the mean high water line of tidal water bodies or within 75 feet of the ordinary high water line of lakes, streams, canals, normally wet drainage ditches, retention areas designed to contain standing or flowing water for 72 hours or more following a rainfall, marshes, or other non-tidal surface waters. This requirement does not apply to swales which are designed to not contain water 72 hours after a rainfall event. Systems and septage stabilization facilities shall be located a minimum of 15 feet from the design high water line of a retention or detention area designed to contain standing or flowing water for less than 72 hours after a rainfall, or the design high water level of normally dry drainage ditches or normally dry individual lot storm water retention areas.

(4) Suitable, unobstructed land shall be available for the installation and proper functioning of the system. At least 75 percent of the unobstructed area must meet minimum setback requirements of subsections (1) and (3) above to allow for drainfield repair or system expansion. The minimum unobstructed area shall:

(a) Be at least 2 times as large as the drainfield absorption area required by rule 64E-6.008(5). For example, if a 200 square feet drainfield is required, the total unobstructed area required, inclusive of the 200 square feet drainfield area, would be 400 square feet. Unobstructed soil area between drain trenches shall be included in the unobstructed area calculation.

(b) Be contiguous to the drainfield.

(c) Be in addition to the setbacks required in subsection (2) above.

(5) Onsite sewage treatment and disposal systems if installed in fill material, the fill shall be required to settle for a period of at least 6 months, or has been compacted to a density comparable to the surrounding natural soil. The fill material shall be of a suitable, slightly limited soil material.

(6) To prevent soil smear and excessive soil compaction, drainfields shall not be installed in soils with textures finer than sand, loamy sand, or sandy loam when the soil moisture content is above the point at which the soil changes from semi-solid to plastic.

(7) Onsite sewage treatment and disposal systems shall be installed where a sewerage system is not available and when conditions in ss. 381.0065(4)(a)-(f), F.S., are met. Onsite graywater tank and drainfield systems may, at the homeowners' discretion, be utilized provided blackwater is disposed into a sanitary sewerage system when such sewerage system is available. Graywater systems may, at the homeowners' discretion, be utilized in conjunction with an onsite blackwater system where a sewerage system is not available for blackwater disposal.

(a) The minimum area of each lot under s. 381.0065(4)(a), F.S., shall consist of at least 1/2 acre (21,780 square feet) exclusive of all paved areas and prepared road beds within public rights-of-way or easements and exclusive of streams, lakes, normally wet drainage ditches, marshes or other such bodies of surface water.

(b) The determination of lot densities under s. 381.0065(4)(b), F.S., shall be made on the basis of the net acreage of the subdivision which shall exclude from the gross acreage all paved areas and prepared road beds within public or private rights-of-way or easements and shall also exclude streams, lakes, normally wet drainage ditches, marshes or other such bodies of surface water.

(c) Maximum daily sewage flow allowances specified in s. 381.0065(4)(a),(b), and (f), F.S., shall be calculated on an individual lot by lot basis. The acreage or fraction of an acre of each lot or parcel of land shall be determined and this value shall be multiplied by 2500 gallons per acre per day if a public drinking water well serving a public system as defined in 64E-6.002(41)(b)1., 2., or 3. is utilized, or be multiplied by 1500 gallons per acre per day if a public drinking water well serving a public water system as defined in rule 64E-6.002(41)(b)4., or a private potable well is utilized. Contiguous unpaved and noncompacted road rights-of-way, and easements with no subsurface obstructions that would affect the operation of drainfield systems, shall be included in total lot size calculations. Where an unobstructed easement is contiguous to two or more lots, each lot shall receive its pro rata share of the area contained in the easement. Streams,

lakes, normally wet drainage ditches, marshes and other such bodies of surface water shall not be included in total lot size calculations. Rule 64E-6.008(1), Table I, shall be used for determining estimated average daily sewage flows.

(d) Platted residential lots shall be subject to the requirements set forth in subsections 381.0065(4)(f)1. and 2., F.S.

(8) Notwithstanding the requirements of this section, where an effluent transmission line consists of schedule 40 PVC or consists of schedule 20 PVC enclosed in a sleeve of schedule 40 PVC, the transmission line shall be set back from private potable wells, irrigation wells, or surface water by the maximum distance attainable but not less than 25 feet when installed.

(9) Onsite sewage treatment and disposal systems for estimated establishment domestic sewage flows exceeding 5000 gallons per day but not exceeding 10,000 gallons per day shall be located and installed under the following conditions.

(a) The average estimated daily sewage flow from the establishment shall be divided by the net land area associated with the establishment. The resulting number shall not exceed 2500 gallons per acre per day for establishments which use a water supply as defined in 64E-6.002(40)(b) 1, 2 and 3.

(b) No more than 5000 gallons of wastewater shall be discharged into any single onsite sewage treatment and disposal system serving the establishment.

Specific Authority: 381.0011(13), 381.006, 381.0065(3)(a), 489.553, 489.557(1) FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0067, Part I 386, 489.553 FS. History - New 12-22-82, Amended 2-5-85, Formerly 10D-6.46, Amended 3-17-92, 1-3-95, Formerly 10D-6.046, Amended 11-19-97, 2-3-98.

**64E-6.006 SITE EVALUATION CRITERIA**

Onsite sewage treatment and disposal systems may be utilized where lot sizes are in compliance with requirements of rule 64E-6.005(7) and all of the following criteria are met:

(1) The effective soil depth throughout the drainfield installation site extends 42 inches or more below the bottom surface of the drainfield. Paragraphs (a), (b) and (c) list soil texture classes with their respective limitation ratings.

(a) Coarse sand not associated with an estimated wet season high water table within 48 inches below the absorption surface, sand, fine sand, loamy coarse sand, coarse sandy loam, loamy sand, and sandy loam are considered to be slightly limited soil materials.

(b) Very fine sand, loamy fine sand, loamy very fine sand, silt loam, silt, loam, fine sandy loam, very fine sandy loam, sandy clay loam, clay loam, silty clay loam, sandy clay and silty clay soil are considered to be moderately limited soil materials and are subject to evaluation with other influencing factors and local conditions.

(c) Clay, bedrock, oolitic limestone, fractured rock, hardpan, organic soil, gravel and coarse sand, when coarse sand is associated with an estimated wet season high water table within 48 inches of the absorption surface are severely limited soil materials. If severely limited soil material can be replaced with slightly limited soil material, see Footnotes 3 and 4 of Table III for minimum requirements.

(2) The water table elevation at the wettest season of the year is at least 24 inches below the bottom surface of the drainfield. In addition, systems shall not be located where the undrained, naturally occurring wet season water table elevation in the area of the proposed system installation is determined to be at or above the elevation of the existing ground surface. However, when sufficient slightly limited fill material is permitted to be placed on the property to construct a properly designed onsite sewage treatment and disposal system, the department shall authorize construction based on the final lot elevation. This provision does not authorize a property owner to fill or modify the site without first obtaining necessary permits for site preparation work from other agencies of government having jurisdiction. The following information shall be used in determining the wet season water table elevation:

(a) U.S. Department of Agriculture Soil Conservation Service soils maps and soil interpretation records.

(b) Evaluation of soil color and the presence or absence of mottling.

(c) Evaluation of impermeable or semi-permeable soil layers.

(d) Evaluation of onsite vegetation.

(e) An onsite evaluation of the property which has used the above referenced sources of information and which has considered the season of the year when the evaluation was performed, historic weather patterns, and recent rainfall events.

(3) Setbacks in rule 64E-6.005(1), (2), (3) and (4) are met.

(4) The site of the installation and the additional required unobstructed land referred to in rule 64E-6.005(4) shall not be covered with asphalt or concrete, or be subject to vehicular traffic or other activity as defined in 64E-6.002(37) which would adversely affect the soil, or the operation of the system.

(5) The site of the installation and the additional required unobstructed land referred to in rule 64E-6.005(4) is not subject to saturation from sources such as artificial drainage of ground surfaces, driveways, roads or roof drains.

(6) The existing lot elevation at the site of the proposed system installation and any contiguous land referred to in rule 64E-6.005(4), shall not be subject to frequent flooding. Except for areas affected by rule 64E-6.0061(2), fill material, if permitted, shall be placed in the area for the system and contiguous unobstructed area to raise the lot elevation above the 2 year flood.

Specific Authority: 154.06, 381.0011, 381.006, 381.0065, 489.553 and 489.557 FS. Law Implemented: 154.01, 381.001, 381.0011, 381.0012, 381.0025, 381.006, 381.0061, 381.0065, 381.00655, 381.0066, 381.0067, Part I 386, FS. History - New 12-22-82, Amended 2-5-85, Formerly 10D-6.47, Amended 3-17-92, 4-16-92, 1-3-95, Formerly 10D-6.047.

**64E-6.007 LOCATION OF SYSTEMS IN FLOODWAYS**

(1) The absorption surface of the drainfield shall not be subject to flooding based on 10-year flood elevations. Provided however, for lots or parcels created by the subdivision of land in accordance with applicable local government regulations prior to January 17, 1990, if an applicant cannot construct a drainfield system with the absorption surface of the drainfield at an elevation equal to or above the 10-year flood elevation, the department shall issue a permit for an onsite sewage treatment and disposal system within the 10-year floodplain of rivers, streams, and other bodies of flowing water if all of the following criteria are met:

(a) the lot is at least one-half acre in size;

(b) the bottom of the drainfield is at least 36 inches above the two year flood elevation; and

(c) the applicant installs either:

1. a waterless, incinerating or organic waste composting toilet in compliance with 64E-6.009(1) and a graywater system and drainfield in compliance with rule 64E-6.008(3);

2. an aerobic treatment unit and drainfield in compliance with rule 64E-6.012;

3. a system approved by the State Health Office which is capable of reducing effluent nitrate by at least 50 percent; or

4. a system approved by the DOH county health department pursuant to rule 64E-6.009(5) other than alternating drainfields. USDA Soil Conservation Service soil maps, State of Florida Water Management District data, and Federal Emergency Management Agency Flood Insurance maps are resources that shall be used to identify flood prone areas.

(2) The use of fill or mounding to elevate a drainfield system out of the 10-year floodplain of rivers, streams, or other bodies of flowing water shall not be permitted if such a system lies within a regulatory floodway. In cases where the 10-year flood elevation does not coincide with the boundaries of the regulatory floodway, the regulatory floodway will be considered for the purposes of this rule to extend at a minimum to the 10-year flood elevation.

Specific Authority: 154.06, 381.0011, 381.006, 381.0065, 489.553 and 489.557 FS. Law Implemented: 154.01, 381.001, 381.0011, 381.0012, 381.0025, 381.006, 381.0061, 381.0065, 381.00655, 381.0066, 381.0067, Part I 386, FS. History - New 4-16-92, Amended 1-3-95. Formerly 10D-6.0471.

**64E-6.008 SYSTEM SIZE DETERMINATIONS**

(1) Minimum design flows for systems serving any structure, building or group of buildings shall be based on the estimated daily sewage flow as determined from Table I or the following:

(a) The DOH county health department shall accept, for other than residences and food operations, metered water use data in lieu of the estimated sewage flows set forth in Table I. For metered flow consideration, the applicant shall provide authenticated monthly water use data documenting water consumption for the most recent 12 month period for at least six similar establishments. Similar establishments are those like size operations engaged in the same type of business or service, which are located in the same type of geographic environment, and which have approximately the same operating hours. Metered flow values will not be considered to be a reliable indicator of typical water use where one or more of the establishments utilized in the sample has exceeded the monthly flow average for all six establishments by more than 25 percent or where the different establishments demonstrate wide variations in monthly flow totals. When metered flow data is accepted in lieu of estimated flows found in Table I, the highest flow which occurred in any month for any of the six similar establishments shall be used for system sizing purposes. Except for food operations which exceed domestic sewage waste quality parameters as defined in s. 64E-6.002(15), where an existing establishment which has been in continuous operation for the previous 24 months seeks to utilize its own metered flows, the applicant shall provide

authenticated monthly water use data documenting water consumption for the most recent 24 month period. The highest monthly metered flow value for an existing establishment shall be used for system sizing purposes.

(b) When onsite systems use multiple strategies to reduce the total estimated sewage flow or the drainfield size, only one reduction method shall be credited.

**TABLE I**
**For System Design**
**ESTIMATED SEWAGE FLOWS**

| TYPE OF ESTABLISHMENT | GALLONS PER DAY |
|---|---|
| COMMERCIAL: | |
| Airports, bus terminals, train stations, port & dock facilities, | |
| Bathroom waste only | |
| (a) per passenger | 4 |
| (b) add per employee per 8 hour shift | 15 |
| Barber & beauty shops per service chair | 75 |
| Bowling alley bathroom waste | |
| only per lane | 50 |
| Country club | |
| (a) per resident | 100 |
| (b) add per member or patron | 25 |
| (c) add per employee per 8 hour shift | 15 |
| Doctor and Dentist offices | |
| (a) per practitioner | 250 |
| (b) add per employee per 8 hour shift | 15 |
| Factories, exclusive of industrial wastes | |
| gallons per employee per 8 hour shift | |
| (a) No showers provided | 15 |
| (b) Showers provided | 25 |
| Flea Market open 3 or less days per week | |
| (a) per non-food service vendor space | 15 |
| (b) add per food service establishment using single service articles only per 100 square feet of floor space | 50 |
| (c) per limited food service establishment | 25 |
| (d) for flea markets open more than 3 days per week, estimated flows shall be doubled | |
| Food operations | |
| (a) Restaurant operating 16 hours or less per day per seat | 40 |
| (b) Restaurant operating more than 16 hours per day per seat | 60 |
| (c) Restaurant using single service articles only and operating 16 hours or less per day per seat | 20 |
| (d) Restaurant using single service articles only and operating more than 16 hours per day per seat | 35 |
| (e) Bar and cocktail lounge per seat | 20 |
| add per pool table or video game | 15 |
| (f) Drive-in restaurant per car space | 50 |
| (g) Carry out only, including caterers | |
| 1. per 100 square feet of floor space | 50 |
| 2. add per employee per 8 hour shift | 15 |
| (h) Institutions per meal | 5 |
| (i) Food Outlets excluding deli's, bakery, or meat department | |

per 100 square feet of floor space ..... 10
1. add for deli per 100 square feet of deli floor space ..... 40
2. add for bakery per 100 square feet of bakery floor space ..... 40
3. add for meat department per 100 square feet of meat department floor space ..... 75
4. add per water closet ..... 200

Hotels & Motels
(a) Regular per room ..... 100
(b) Resort hotels, camps, cottages per room ..... 200
(c) Add for establishments with self service laundry facilities per machine ..... 750

Mobile Home Park
(a) per single wide mobile home space, less than 4 single wide spaces connected to a shared onsite system ..... 250
(b) per single wide mobile home space, 4 or more single wide spaces are connected to a shared onsite system ..... 225
(c) per double wide mobile home space, less than 4 double wide mobile home spaces connected to a shared onsite system ..... 300
(d) per double wide mobile home space, 4 or more double wide mobile home spaces connected to a shared onsite system ..... 275

Office building
per employee per 8 hour shift or ..... 15
per 100 square feet of floor space, whichever is greater ..... 15

Transient Recreational Vehicle Park
(a) Recreational vehicle space for overnight stay, without water and sewer hookup per vehicle space ..... 50
(b) Recreational vehicle space for overnight stay, with water and sewer hookup per vehicle space ..... 75

Service stations per water closet
(a) Open 16 hours per day or less ..... 250
(b) Open more than 16 hours per day ..... 325

Shopping centers without food or laundry
per square foot of floor space ..... 0.1

Stadiums, race tracks, ball parks per seat ..... 4

Stores per bath room ..... 200

Swimming and bathing facilities, public
per person ..... 10

Theaters and Auditoriums, per seat ..... 4

Veterinary Clinic
(a) per practitioner ..... 250
(b) add per employee per 8 hour shift ..... 15
(c) add per kennel, stall or cage ..... 20
Warehouse
(a) add per employee per 8 hour shift ..... 15
(b) add per loading bay ..... 100
(c) self-storage, per unit (up to 200 units) ..... 1
add 1 gallon for each 2 units or fraction thereof, for over 200 units
and shall be in addition to employees, offices or living quarters flow rates.
INSTITUTIONAL:
Churches per seat which includes kitchen
wastewater flows unless meals prepared
on a routine basis ..... 3
If meals served on a regular basis add
per meal prepared ..... 5
Hospitals per bed which does not include
kitchen wastewater flows ..... 200
add per meal prepared ..... 5
Nursing, rest homes, adult congregate living
facilities per bed which does not
include kitchen wastewater flows ..... 100
add per meal prepared ..... 5
Parks, public picnic
(a) with toilets only per person ..... 4
(b) with bathhouse, showers & toilets
per person ..... 10
Public institutions other than schools and
hospitals per person which does not
include kitchen wastewater flows ..... 100
add per meal prepared ..... 5
Schools per student
(a) Day-type ..... 10
(b) Add for showers ..... 4
(c) Add for cafeteria ..... 4
(d) Add for day school workers ..... 15
(e) Boarding-type ..... 75
Work/construction camps, semi-permanent
per worker ..... 50
RESIDENTIAL:
Residences
(a) Single or multiple family per dwelling
unit
1 bedroom with 750 sq. ft. or less
of building area ..... 100
2 bedrooms with 751-1200 sq. ft.
of building area ..... 200
3 bedrooms with 1201-2250 sq. ft.
of building area ..... 300
4 bedrooms with 2251-3300 sq. ft.
of building area ..... 400
for each additional bedroom or each additional 750 square feet of building area or fraction
thereof in a dwelling unit, system sizing shall be increased by 100 gallons per dwelling unit.
(b) Other per occupant ..... 50

Footnotes to Table I:

1. For food operations, kitchen wastewater flows shall normally be calculated as 66 percent of the total establishment wastewater flow.

2. Systems serving high volume establishments, such as restaurants, convenience stores and service stations located near interstate type highways and similar high-traffic areas, require special sizing consideration due to expected above average sewage volume. Minimum estimated flows for these facilities shall be 3.0 times the volumes determined from the Table I figures.

3. For residences, the volume of wastewater shall be calculated as 50 percent blackwater and 50 percent graywater.

4. Where the number of bedrooms indicated on the floor plan and the corresponding building area of a dwelling unit in Table I do not coincide, the criteria which will result in the greatest estimated sewage flow shall apply.

5. Convenience store estimated sewage flows shall be determined by adding flows for food outlets and service stations as appropriate to the products and services offered.

6. Estimated flows for residential systems assumes a maximum occupancy of two persons per bedroom. Where residential care facilities will house more than two persons in any bedroom, estimated flows shall be increased by 50 gallons per each additional occupant.

(2) Minimum effective septic tank capacity shall be determined from Table II. However, where multiple family dwelling units are jointly connected to a septic tank system, minimum effective septic tank capacities specified in the table shall be increased 75 gallons for each dwelling unit connected to the system. With the exception noted in rule 64E-6.013(3)(a), all septic tanks shall be multiple chambered or shall be placed in series to achieve the required effective capacity. The use of an approved outlet filter device shall be required. For tanks placed in series, the outlet device shall be placed in the last tank. The outlet filter requirement includes graywater tanks and blackwater tanks, but does not include grease interceptors or laundry tanks. Outlet filters shall be placed to allow accessibility for routine maintenance. Utilization and sizing of outlet filters shall be in accordance with the manufacturers' recommendations. The Bureau of Onsite Sewage Programs shall approve outlet filter devices per the department's Policy on Approval Standards For Onsite Sewage Treatment And Disposal Systems Outlet Filter Devices, February 1995, which is herein incorporated by reference.

**TABLE II**
**SEPTIC TANK CAPACITY**

| AVERAGE SEWAGE FLOW in Gallons/Day | MINIMUM EFFECTIVE CAPACITY in Gallons |
|---|---|
| 0-300 | 900 |
| 301-400 | 1050 |
| 401-500 | 1200 |
| 501-600 | 1350 |
| 601-700 | 1500 |
| 701-800 | 1650 |
| 801-1000 | 1900 |
| 1001-1250 | 2200 |
| 1251-1750 | 2700 |
| 1751-2500 | 3200 |
| 2501-3000 | 3700 |
| 3001-3500 | 4300 |
| 3501-4000 | 4800 |
| 4001-4500 | 5300 |
| 4501-5000 | 5800 |

(3) Where a separate graywater tank and drainfield system is used, the minimum effective capacity of the graywater retention tank shall be 250 gallons with such system receiving not more than 75 gallons of flow per day. For graywater systems receiving flows greater than 75 gallons per day, minimum effective tank capacity shall be based on the average daily sewage flow plus 200 gallons for sludge storage. Design requirements for graywater retention tanks are described in rule 64E-6.013(4). Where separate graywater and blackwater systems are utilized, the size of the blackwater system can be reduced, but in no case shall the blackwater system be reduced by more than 25 percent. However, the minimum capacity for septic tanks disposing of blackwater shall be 900 gallons.

(4) A separate laundry waste tank and drainfield system may be utilized for residences and may be required by the DOH county health department where building codes allow separation of discharge pipes of the residence to separate stubouts and where lot sizes and setbacks allow system construction. Where an aerobic treatment unit is used, all

blackwater, graywater and laundry waste flows shall be consolidated and treated by the aerobic treatment unit. Where a residential laundry waste tank and drainfield system is used:

(a) The minimum laundry waste trench drainfield absorption area for slightly limited soil shall be 75 square feet for a one or two bedroom residence with an additional 25 square feet for each additional bedroom. If an absorption bed drainfield is used the minimum drainfield area shall be 100 square feet with an additional 50 square feet for each additional bedroom over two bedrooms. The DOH county health department shall require additional drainfield area based on moderately limited soils and other site specific conditions, which shall not exceed twice the required amount of drainfield for a slightly limited soil.

(b) The laundry waste interceptor shall meet requirements of rule 64E-6.013(6).

(c) The drainfield absorption area serving the remaining wastewater fixtures in the residence shall be reduced by 25 percent.

(5) The minimum absorption area for standard subsurface drainfield systems, graywater drainfield systems, and filled systems shall be based on estimated sewage flows and Table III so long as estimated sewage flows are 200 gallons per day or higher. When estimated sewage flows are less than 200 gallons per day, system size shall be based on a minimum of 200 gallons per day.

**TABLE III**
**For Sizing of Drainfields Other Than Mounds**

| U.S. DEPARTMENT OF AGRICULTURE SOIL TEXTURAL CLASSIFICATION | SOIL TEXTURE LIMITATION (PERCOLATION RATE) | MAXIMUM SEWAGE LOADING RATE TO TRENCH & BED ABSORPTION SURFACE IN GALLONS PER SQUARE FOOT PER DAY | |
|---|---|---|---|
| | | TRENCH | BED |
| Sand; Coarse Sand not associated with a seasonal water table of less than 48 inches; and Loamy Coarse Sand | Slightly limited (Less than 2 min/inch) | 1.20 | 0.80 |
| Loamy Sand; Sandy Loam; Coarse Sandy Loam; Fine Sand | Slightly limited (2-4 min/inch) | 0.90 | 0.70 |
| Loam; Fine Sandy Loam; Silt Loam; Very Fine Sand; Very Fine Sandy Loam; Loamy Fine Sand; Loamy Very Fine Sand; Sandy clay loam | Moderately limited (5-10 min/inch) | 0.65 | 0.35 |
| Clay Loam; Silty Clay Loam; Sandy Clay; Silty Clay, Silt | Moderately limited (Greater than 15 min/inch but not exceeding 30 min/inch) | 0.35 | 0.20 |
| Clay; Organic Soils; Hardpan; Bedrock | Severely limited (Greater than 30 min/inch) | Unsatisfactory for standard subsurface system | |
| Coarse Sand with an estimated wet season high water table within 48 inches of the bottom of the proposed drainfield; Gravel or | Severely limited (Less than 1 min/inch and a water table less than 4 feet below the drainfield) | Unsatisfactory for standard subsurface system | |

Fractured Rock or
Oolitic Limestone

Footnotes to Table III:

1. U.S. Department of Agriculture major soil textural classification groupings and methods of field identification are explained in rule 64E-6.016. Laboratory sieve analysis of soil samples may be necessary to confirm field evaluation of specific soil textural classifications. The USDA Soil Conservation Service "Soil Textural Triangle" shall be used to classify soil groupings based on the proportion of sand, silt and clay size particles.

2. The permeability or percolation rate of a soil within a specific textural classification may be affected by such factors as soil structure, cementation and mineralogy. Where a percolation rate is determined using the falling head percolation test procedure described in the United States Environmental Protection Agency Design Manual for Onsite Wastewater Treatment and Disposal Systems, October, 1980, incorporated by reference into this rule, the calculated percolation test rate shall be used with Table III and evaluated by the DOH county health department with other factors such as history of performance of systems in the area in determining the minimum sizing for the drainfield area.

3. When all other site conditions are favorable, horizons or strata of moderately or severely limited soil may be replaced with slightly limited soil or soil of the same texture as the satisfactory slightly limited permeable layer lying below the replaced layer. The slightly limited permeable layer below the replaced layer shall be identified within the soil profile which was submitted as part of the permit application. The resulting soil profile must show complete removal of the moderately or severely limited soil layer being replaced and must be satisfactory to a minimum depth of 54 inches beneath the bottom surface of the proposed drainfield. The width of the replacement area shall be at least 2 feet wider and longer than the drain trench and for absorption beds shall include an area at least 2 feet wider and longer than the proposed bed. Drainfields shall be centered in the replaced area. Where at least 33 percent of the moderately limited soils at depths greater than 54 inches below the bottom of the drainfield have been removed to the depth of slightly limited soil, drainfield sizing shall be based on the following sewage loading rates. Where severely limited soils are being removed at depths greater than 54 inches below the bottom of the drainfield, 100 percent of the severely limited soils at depths greater than 54 inches shall be removed down to the depth of an underlying slightly limited soil. Maximum sewage loading rates for standard subsurface systems installed in replacement areas shall be 0.90 gallons per square foot per day for trench systems and 0.70 gallon per square foot per day for absorption beds in slightly limited soil textures. Where moderately limited soil materials are found beneath the proposed drainfield, and where system sizing is based on that moderately limited soil, soil replacements of less than 33% may be permitted.

4. Where coarse sand, gravel, or oolitic limestone directly underlies the drainfield area, the site shall be approved provided a minimum depth of 42 inches of the rapidly percolating soil beneath the bottom absorption surface of the drainfield and a minimum 12 inches of rapidly percolating soil contiguous to the drainfield sidewall absorption surfaces, is replaced with slightly limited soil material. Where such replacement method is utilized, the drainfield size shall be determined using a maximum sewage application rate of 0.80 gallons per square foot per day of drainfield in trenches and 0.70 gallon per square foot per day for drainfield absorption beds.

5. Where more than one soil texture classification is encountered within a soil profile and it is not removed as part of a replacement, drainfield sizing for standard subsurface drainfield systems and fill drainfield systems shall be based on the most restrictive soil texture encountered within 24 inches of the bottom of the drainfield absorption surface.

Specific Authority: 381.0011(4),(13), 381.006, 381.0065(3)(a), 489.553 FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.0061, 381.0065, 381.0067, Part I 386, 489.553, FS. History: New 12-22-82, Amended 2-5-85, Formerly 10D-6.48, Amended 3-17-92, 1-3-95, Formerly 10D-6.048, Amended 11-19-97.

## 64E-6.009 ALTERNATIVE SYSTEMS

When approved by the DOH county health department, alternative systems may, at the discretion of the applicant, be utilized in circumstances where standard subsurface systems are not suitable or where alternative systems are more feasible. Unless otherwise noted, all rules pertaining to siting, construction, and maintenance of standard subsurface systems shall apply to alternative systems. In addition, the DOH county health department may, using the criteria in section 64E-6.004(4), require the submission of plans prepared by an engineer registered in the State of Florida, prior to considering the use of any alternative system. The DOH county health department shall require an engineer registered in the state of Florida to design a system having a total absorption area greater than 1000 square feet and shall require the design engineer to certify that the installed system complies with the approved design and installation requirements.

(1) Waterless, incinerating or organic waste composting toilets - may be approved for use if found in compliance with standards for Wastewater Recycle/Reuse and Water Conservation Systems as defined by ANSI/NSF International Standard Number 41, revised May 1983, hereby incorporated by reference, and provided that graywater and any other liquid and solid waste is properly collected and disposed of in accordance with standards established in this Chapter.

(2) Sanitary pit privy - shall not be permitted except at remote locations where electrical service is unavailable. In no case shall such installations be permitted for permanent residences.

(3) Mound systems - are used to overcome certain limiting site conditions such as an elevated seasonal high water table, shallow permeable soil overlying slowly permeable soil and shallow permeable soil located over creviced or porous bedrock. Special installation instructions or design techniques to suit a particular site may, using the criteria in section 64E-6.004(4), be specified on the construction permit in addition to the following general requirements.

(a) Site preparation must render the site in compliance with requirements of rule 64E-6.006(1)-(6).

(b) Prior to the construction of a mound system, all or a portion of a lot may be filled utilizing slightly limited soil.

(c) The "O" horizon of original topsoil, any black or very dark gray organic topsoil, and vegetation must be removed from the fill site and the exposed underlying soil plowed or roughened to prevent formation of an impervious barrier between the fill and natural soil. Moderately limited soil required to be removed from the fill site may be used in the construction of mound systems, but shall only be used in the construction of mound slopes. If moderately or severely limited soil is to be replaced beneath the mound, rule 64E-6.008, Table III, footnote 3. shall be followed.

(d) Where the soil material underlying a mound system is of a similar slightly limited textural material as that used in system construction, the mound drainfield size shall be based on estimated sewage flows as specified in 64E-6.008, Table I and upon the quality of fill material utilized in the mound system. When estimated sewage flows are calculated to be less than 200 gallons per day, specifications for system design shall be based on a minimum flow of 200 gallons per day. Maximum sewage loading rates for soils used in mound construction shall be in compliance with the following:

| Fill Material | Maximum Sewage Loading Rate to Mound Drain Trench Bottom Surface in gallons per square foot per day | Maximum Sewage Loading Rate to Mound Absorption Bed Bottom Surface in gallons per square foot per day |
|---|---|---|
| Sand; Coarse Sand; Loamy Coarse Sand | 1.00 | 0.75 |
| Fine Sand | 0.80 | 0.65 |
| Sandy Loam; Coarse Sandy Loam; Loamy Sand | 0.65 | 0.40 |

(e) Where moderately limited soils underlie the mound within 36 inches of the bottom of the drainfield, drainfield sizing shall be based on the most restrictive soil texture existing in the profile to a depth of 36 inches below the bottom of the drainfield.

(f) There shall be a minimum 5 feet separation between the shoulder of the fill and the nearest trench or absorption bed sidewall. Where a portion of the mound slope will be placed adjacent to a building foundation, including pilings for elevated structures, or within 5 feet of mobile home walls, swimming pool walls, or similar obstructions impeding lateral water movement, there shall be a minimum 7 foot separation between the sidewall of the absorption area and the obstructed or compacted area. Where mounds are placed on slopes exceeding 2 percent, the shoulder fill on the downslope side of the mound shall, at a minimum, extend an additional 1 foot for each additional 1 percent of slope. To taper the maximum elevation of the mound down to the toe of the slope, additional moderately or slightly limited fill shall be placed at a minimum 2 foot horizontal to 1 foot vertical grade where mound height does not exceed 36 inches. Mound heights which exceed 36 inches shall have a slope not to exceed 3:1. The slopes of a mound system shall be stabilized with sod. When the mound slopes are not stabilized with sod, the mound slopes shall be a minimum of a 5:1 grade. The entire mound shall be stabilized by seeding with grass and a layer of hay or similar cover shall be placed to prevent mound erosion. Stabilization of a mound shall be the responsibility of the septic tank contractor who constructed the mound system unless the written agreement for system construction clearly states the system owner is responsible. Mound slopes which do not conform to permit requirements shall at a minimum be restored to permit specifications prior to stabilizing. Other vegetative covers providing protection from mound erosion equal to or better than sod shall be approved by the State Health Office. Final installation approval shall not be granted until sodding or seeding and haying of the mound has occurred. Landscaping features such as boulders or trees which obstruct drainfield or fill shoulder area shall not be used. Retaining walls shall not be allowed that reduce the minimum required shoulder or slope of a mounded system.

(g) There shall be a 9 to 12 inch soil cap spread evenly over the drainfield gravel exclusive of the thickness of sod.

(h) The site shall be landscaped according to permit specifications and shall be protected from automotive traffic or other activity that could damage the system. Swales or other surface drainage structures shall be utilized to prevent surface water shed from mounds draining onto neighboring property.

(i) All fill material used in the construction of systems shall be free of extraneous non-soil material such as grass, roots and any other debris. Severely limited soil material shall not be used in system construction. Carbonate fill material shall not be used in system construction.

(4) Filled systems - filled systems shall be constructed in accordance with the minimum requirements for mounds as specified in (3) above, except as provided for in footnote 5., Table III, and that sewage loading rates to trench or absorption bed bottom areas shall be based on values found in Table III.

(5)Alternative drainfield materials and design approval - Requests for approval of drainfield materials and designs which are not specifically addressed in section 64E-6.014, FAC, shall be submitted to the department's Bureau of Onsite Sewage Programs. Requests for alternative drainfield approval shall be accompanied by detailed system design and construction plans by an engineer registered in the State of Florida, certification of the performance capabilities of the product submitted by an engineer registered in the State of Florida, research supporting the proposed system materials, design and sizing, and empirical data showing results of system use in other states with similar soil conditions. The detailed plans and information submitted with the approval request shall be reviewed by the department onsite sewage program to determine whether or not there is a reasonable certainty that the information submitted provides evidence of the effectiveness and reliability of the proposed alternative drainfield. Until performance based system standards are developed as mandated by section 381.0065(4)(i), Florida Statutes, no proposed alternative drainfield shall be approved which would result in a reduction in drainfield size using the mineral aggregate drainfield system as described in section 64E-6.014, FAC, and the total surface area of soil at the bottom of the drainfield as the criteria for drainfield sizing comparisons. If the department is not satisfied that the information provided provides reasonable evidence of the effectiveness and reliability of the alternative drainfield, the department shall deny the approval. Department approval of any alternative drainfield system does not guarantee or imply that any individual system installation will perform satisfactorily for a specific period of time. The individual system design engineer or the registered septic tank contractor if an engineer did not design the system is primarily responsible for determining the best system design to meet the specific wastewater treatment and disposal needs and to address specific installation area site conditions and limitations.

(6) Other alternative systems - systems such as low pressure distribution networks, small diameter gravity sewers, low pressure sewer systems, alternating absorption fields, and sand filters designed and submitted by an engineer who is registered in the State of Florida, meeting the general requirements of this Chapter, shall be approved by the DOH county health department where evidence exists that use of such systems will not create sanitary nuisance conditions, health hazards or pollute receiving waters. Use of an alternative system may require the establishment of procedures for routine maintenance, operational surveillance, and environmental monitoring to assure the system continues to function properly.

(7) Use of a system to serve more than one residence or commercial building under separate ownership and when located on separate lots shall require the establishment of a local sewer district, maintenance franchise, or other legally binding arrangement for the operation and maintenance of such system.

Specific Authority: 381.0011(4),(13), 381.006, 381.0065(3)(a), 489.553(3) and 489.557(1) FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0067, Part I 386, 489.553, FS. History: New 12-22-82, Amended 2-5-85, Formerly 10D-6.49, Amended 3-17-92, 1-3-95, Formerly 10D-6.049, Amended 11-19-97, 2-3-98.

**64E-6.010 DISPOSAL OF SEPTAGE**

(1) No septic tank, grease interceptor, privy, portable toilet, holding tank or other receptacle associated with an onsite sewage treatment and disposal system shall be cleaned or have its contents removed until the service person has obtained an annual written permit (form DH 4013) from the DOH county health department in the county in which the service company is located. Permits issued under this section authorize the disposal service to handle liquid waste associated with food operations, portable toilets, holding tanks containing domestic waste, or domestic septage. Such authorization applies to all septage produced in the State of Florida, all holding tanks containing domestic waste, all portable toilet waste and food establishment sludge which is collected for disposal from onsite sewage treatment and disposal systems.

(2) Application for a service permit shall be made to the DOH county health department on form DH 4012. The following must be provided for the evaluation prior to issuance of a service permit:

(a) Evidence that the applicant possesses adequate equipment such as a tank truck with a liquid capacity of at least 1500 gallons, except portable toilet servicing vehicles, pumps, off truck stabilization tanks and pH testing equipment where lime stabilization and land application are proposed, as well as other appurtenances and tools necessary to perform the work intended. Equipment may be placed into service only after it has been inspected and approved by the DOH county health department. Lime stabilization tanks shall be constructed and installed to meet the standards set forth in rule 64E-6.013(8).

(b) Vehicles used for servicing portable toilets, privies and holding tanks shall be provided with a dual compartment tank. One tank shall be used for receiving and removing wastes and shall be equipped with a suction hose

having a cut-off valve not more than 36 inches from the intake end. The second tank shall be used for clean water storage and shall have adequate capacity to allow proper cleaning of each serviced unit.

(c) Standby portable toilet service equipment shall be available for use during breakdowns or emergencies. If equipment from another approved service is to be used for stand-by purposes, a written agreement between the services must be provided to the DOH county health department.

(d) The permanent location and address of the business where operations will originate and where equipment is to be stored when it is not in use.

(e) The proposed disposal method and the site to be used for disposing of onsite sewage treatment and disposal system septage.

(f) The contractor registration number and certificate of authorization number, if applicable.

(3) When a permit is issued, the number of said permit along with the name of the company, its phone number, and the gallon capacity of the truck shall be prominently and permanently displayed on the service truck in contrasting colors with 3 inch or larger letters. Use of removable magnetic signs shall not be considered permanent display of vehicle identification information. A septage disposal service permit shall be suspended, revoked or denied by the department in accordance with Chapter 120, FS, for failure to comply with requirements of this Chapter.

(4) After septage is removed from an onsite waste disposal system, the original lid of the tank shall be put back in place, or be replaced with a new lid if the original lid is broken. The tank lid shall be completely sealed and secured as per rule 64E-6.013(3)(b) and the ground backfilled and compacted so that the site is left in a nuisance free condition.

(5) Untreated food establishment sludges, portable toilet waste, holding tank waste, and septage shall be transported to an approved treatment facility in such a manner as to preclude leakage, spillage or the creation of a sanitary nuisance.

(6) Treated septage and sludges shall be transported to the disposal site in such a manner so as to preclude leakage, spillage or the creation of a sanitary nuisance.

(7) The food establishment sludge and contents from onsite waste disposal systems shall be disposed of at a site approved by the DOH county health department and by an approved disposal method. Untreated domestic septage or food establishment sludges shall not be applied to the land. Portable toilet wastes and the contents from holding tanks are not considered to be septage. Disposal of these liquid wastes shall be in compliance with provisions found in (a) through (v). Criteria for approved stabilization methods and the subsequent land application of domestic septage or other domestic onsite wastewater sludges shall be in accordance with the following criteria for land application and disposal of domestic septage.

(a) Land application of domestic septage and sludges shall be permitted provided such septage and sludges have been properly treated by an approved septage-stabilization process, including lime stabilization, and an application using form DH 4012 has been completed as part of the permitting process. Prior to discharge of septage or food establishment sludge into a stabilization tank, the septage or sludge shall be screened in a pretreatment tank or chamber which contains a final screening method using bar screens having a maximum gap of 1/2 inch or rock screens or other similar mesh material having a maximum 3/4 inch opening. Material retained in the screening process shall be limed, containerized, and disposed of at an approved solid waste disposal facility. Septage or sludge shall pass from the pretreatment tank or chamber to the stabilization tank. Lime stabilization of septage shall be in accordance with processes and designs described in Chapter 6, EPA 625/1-79-011, Process Design Manual for Sludge Treatment and Disposal, hereby incorporated by reference. Facilities approved for septage treatment under this rule shall not receive and treat more than 20,000 gallons of septage or combined septage, grease interceptor, portable toilet or other receptacle waste associated with an onsite sewage treatment and disposal system on any one day and shall not exceed a monthly average of 10,000 gallons of septage or septage and combined domestic waste per day. Stabilization by lime shall raise the pH of the septage to a level of 12 for a minimum of two hours or to a level of at least 12.5 for a minimum of 30 minutes to be deemed sufficient. The pH of the stabilized septage shall be maintained at a level of at least 11 until actual land application, but shall not be landspread until the pH of the stabilized septage has fallen below 12.5. To check the pH of the stabilized septage, a sampling port having an internal diameter of no less than 1/2 inch and no more than 3/4 inch and located no more than 60 inches above the ground surface shall be used to allow sampling of waste tank contents. Lime purchase receipts shall be kept at the place of business for a minimum of 6 months.

1. Use on playgrounds, parks, golf courses, lawns, hospital grounds, or other unrestricted public access areas where frequent human contact is likely to occur is prohibited.

2. Application is limited to sod farms, pasture lands, forests, highway shoulders and medians, plant nursery use, land reclamation projects and soils used for growing human food chain crops. Application methods shall be conducted in a manner which will disperse the treated septage uniformly over the land application site.

a. Pasture vegetation on which stabilized septage or sludge has been applied shall not be cut for hay or silage nor grazed for a period of 30 days from the last application.

b. No human food chain crops except hay, silage, or orchard crops shall be harvested from a land application area for a period of 60 days following the last application of septage or sludges.

c. Domestic septage or sludge shall not be used for the growing or cultivation of tobacco, root crops, leafy vegetables, or vegetables to be eaten raw. Vegetables and fruits which come in contact with the ground surface shall not be grown on land used for septage application for a period of 18 months after the last application of septage or sludge.

d. When applied to unvegetated soils, stabilized domestic septage or sludge shall be incorporated into the soil within 48 hours of application.

(b) No land application of stabilized septage or food service sludge may occur until:

1. The site has been inspected and approved by department personnel.

2. The site evaluation fee has been submitted.

3. An agricultural use plan has been completed for the proposed application site.

a. Agricultural use plans shall describe the manner in which treated domestic septage and sludges are to be used as part of a planned agricultural operation. Methods of application, proposed crops and their fertilizer needs, vegetative types proposed, erosion management, access control for humans and animals, and anticipated harvesting periods shall be included.

b. Agricultural use plans shall include information on the soil and geologic conditions at the disposal site which could limit the areas available for land application.

4. The plan has been submitted for review and approval to the DOH county health department having jurisdiction.

5. The DOH county health department has granted approval to use the site.

(c) No person shall dispose of domestic septage or sludge by land application unless they have complied with approved treatment and disposal methods described in rule 64E-6.010. Lime stabilization in the tank of a septage hauling vehicle or in the tank of an onsite sewage treatment and disposal system is not an approved septage treatment method.

(d) Land application of septage shall occur only in accordance with rule 64E-6.010(7)(a) unless prohibited by the DOH county health department due to a brief condition which creates a potential for a sanitary nuisance as exemplified in rule 64E-6.010(7)(k).

(e) All septage and septage-related haulers regulated by Chapter 64E-6, F.A.C. are to maintain a collection and hauling log at the treatment site or at the main business location which provides the following information:

1. date of septage collection

2. address of collection

3. indicate whether the point of collection is a residence or business and if a business, the type of business

4. estimated volume, in gallons, of septage treated

5. receipts for lime or other materials used for treatment

(f) A summary of the total volume of septage applied to each site shall be submitted to the DOH county health department quarterly.

(g) Domestic wastewater systems residuals shall not be mixed with septage for treatment and disposal at department approved sites.

(h) Septage which contains toxic or hazardous waste must be disposed of in accordance with the rules of the Department of Environmental Protection.

(i) The land application area shall not be located closer than 3000 feet to any Class I water body or Outstanding Florida Water as defined in Chapter 62-302, F.A.C. or 200 feet to any surface water except canals or bodies of water used for irrigation purposes which are located completely within and not discharging from the site. The land application area shall not be located closer than 500 feet to any shallow public water supply wells, nor closer than 300 feet to any private drinking water supply well. The application area shall be no closer than 300 feet to any habitable building and a minimum of 75 feet from property lines and drainage ditches.

(j) The land application site shall have a minimum 24 inches of unsaturated soil above the ground water table at the time of septage or sludge application. The seasonal high ground water table for the site may be indicated in the Agricultural Use Plan by soil survey maps. If the wet season high ground water table is within 2 feet of the surface or is not determined in the Agricultural Use Plan, the water table encountered at the time of septage or sludge application shall be determined by use of a monitoring well.

(k) Septage or sludge shall not be applied during rain events of sufficient magnitude to cause runoff, or during periods in which surface soils of the land application area are saturated. The land application area shall have sufficient buffer areas or stormwater management structures to retain the runoff from a ten-year one-hour storm on the site. Sufficient septage storage capacity shall be provided for periods of inclement weather and equipment failure. Facilities shall be designed, located, and operated to prevent sanitary nuisance conditions and avoid site run-off.

(l) Land application area topographic grades shall not exceed 8 percent.

(m) The land application area and an area 200 feet wide adjacent to, and exterior of, the land application area boundary shall contain no subsurface fractures, solution cavities, sink holes, excavation core holes, abandoned holes, or any other natural or manmade conduits which allow contamination of ground water. Determinations of site conditions shall be made as part of a geophysical examination of the property by qualified persons.

(n) Florida water quality criteria for groundwater and surface water shall not be violated as a result of land application of septage or sludge. Water quality testing of application areas may be required if the department determines

that septage application not conforming to this rule is evident. If water quality violations are indicated, the site owner shall suspend land application activities.

(o) A layer of permeable soil at least 2 feet thick shall cover the surface of the land application area.

(p) Application rates of septage and food establishment sludges are limited by the nitrogen content of the waste. The maximum annual surface application rate of total nitrogen is 500 pounds per acre during any 12-month period. Application of septage shall be applied as evenly as possible during the 12 month period to ensure maximum uptake of nitrogen by the crops used. This equates to 6 dry tons or 40,000 gallons of typical septage per acre per year. However, if the following formula, based on the annual uptake of nitrogen for a given crop is used, the 40,000 gallons of septage applied per acre per year shall be increased if the nitrogen content of the septage will not exceed the nitrogen uptake of the crop.

$$AAR = N \div 0.0026$$

AAR is the annual application rate in gallons per acre per 365 day period; and N equals the amount of nitrogen in pounds per acre per 365 day period needed by the crop or vegetation grown on the land. Application methods shall be conducted in a manner which will disperse the treated septage uniformly over the land application site.

(q) Permanent records of actual application areas and application rates shall be kept. These records shall be maintained by the site owner, lessee, or the land applicator for a period of five years, and shall be available for inspection upon request by the department or by DEP. An annual summary of the total septage or sludge applied shall be provided with the annual update to the Agricultural Use Plan. Records shall be kept and shall include:

1. Dates of septage or sludge land application
2. Weather conditions when applied
3. Location of septage or sludge application site
4. Amounts of septage or sludge applied
5. Specific area of the site where septage or sludge was applied
6. pH of stabilized septage or sludge being applied
7. Soil groundwater table when septage was applied
8. Vegetational status of application area

(r) Food establishment sludges may be discharged into permitted domestic wastewater treatment facilities pursuant to the requirements of Chapter 62-600, F.A.C.

(s) Application of food establishment sludge to the land shall be permitted if such food establishment sludge has been properly treated by lime stabilization, or by any other process which produces similar kills of microorganisms and has been approved by the State Health Office.

(t) Mixing of unstabilized food establishment sludge with stabilized septage prior to land application is not permitted.

(u) Food establishment sludge shall be blended with septage and treated prior to land application. The ratio of food establishment sludge to septage shall be no greater than 1:1.

(v) Holding tank and portable toilet wastes shall be disposed of into a septage treatment and disposal facility approved by the department or into a treatment facility approved or permitted for such disposal by the Department of Environmental Protection. These wastes shall be land applied under provisions of 64E-6.010(7) provided an approved DEP treatment facility is not available and the wastes have been blended with domestic septage at a rate of 3 parts septage to 1 part holding tank or portable toilet waste prior to lime stabilization. Companies which service holding tanks or portable toilets which use quaternary ammonium sanitizing and deodorizing compounds are prohibited from having the wastes treated or disposed of at lime stabilization facilities.

(8) Stabilization tanks and septage storage tanks may be located at regional stabilization facilities, at sites owned by the disposal service or at sites owned by the owner or lessee of the septage land application site.

(9) Potable water supplies located at the stabilization tank and septage storage tank site shall be provided with back flow prevention devices to prevent potential contamination of water supplies.

(10) Portable toilets shall be self-contained, have self closing doors, have screened vents and shall be designed and maintained so that insects are excluded from the waste container. Additional requirements are:

(a) Local plumbing codes shall be used to determine the required number of facilities. Where a local plumbing code does not address facility requirements, Chapter 64E-10, F.A.C. places of public assembly, shall be utilized.

(b) Waste receptacles shall be watertight and made of non-absorbent, acid resistant, non-corrosive and easily cleanable material.

(c) The floors and interior walls shall have a nonabsorbent finish and be easily cleanable.

(d) The inside of the structure housing the storage compartment shall be cleaned and disinfected on each service visit.

(e) Each portable or temporary toilet shall have listed in a conspicuous place the name and telephone number of the servicing company.

(f) Portable toilets shall be serviced weekly or at a more frequent interval to prevent the creation of insanitary conditions.

Specific Authority: 154.06, 381.0011, 381.006, 381.0065, 489.553 and 489.557 FS. Law Implemented: 154.01, 381.001, 381.0011, 381.0012, 381.0025, 381.006, 381.0061, 381.0065, 381.00655, 381.0066, 381.0067, Part I 386, FS. History: New 12-22-82, Amended 2-5-85, Formerly 10D-6.52, Amended 3-17-92, 1-3-95, 5-14-96, Formerly 10D-6.052.

**64E-6.011 ABANDONMENT OF SYSTEMS**

(1) Whenever the use of an onsite sewage treatment and disposal system is discontinued following connection to a sanitary sewer, following condemnation or demolition or removal or destruction, of a building or property, or discontinuing the use of a septic tank and replacement with another septic tank, the system shall be abandoned within 90 days and any further use of the system for any purpose shall be prohibited. However, if the Department of Environmental Protection or its designee approves the use of the retention tank where the tank is to become an integral part of a sanitary sewer system or stormwater management system, the septic tank need not be abandoned.

(2) The following actions shall be taken, in the order listed, to abandon an onsite sewage treatment and disposal system:

(a) Property owner or agent shall apply for a permit from the department to abandon the existing onsite sewage system and submit the require fee. Upon receiving a permit:

(b) The tank shall be pumped out.

(c) The bottom of the tank shall be opened or ruptured, or the entire tank collapsed so as to prevent the tank from retaining water, and

(d) The tank shall be filled with clean sand or other suitable material, and completely covered with soil.

(3) The permitting provisions of rule 64E-6.011(2)(a) are not required if a local utility or local plumbing authority performs a system abandonment program which requires the completion of those steps listed in rule 64E-6.011(2)(b), (c), and (d).

Specific Authority: 154.06, 381.0011, 381.006, 381.0065, 489.553 and 489.557 FS Law Implemented: 154.01, 381.001, 381.0011, 381.0012, 381.0025, 381.006, 381.0061, 381.0065, 381.00655, 381.0066, 381.0067, Part I 386, FS History: New 12-22-82, Amended 2-5-85, Formerly 10D-6.53, Amended 3-17-92, 1-3-95, Formerly 10D-6.053.

**64E-6.012 STANDARDS FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF AEROBIC TREATMENT UNITS**

When aerobic treatment units are used for treating domestic and commercial sewage waste, each unit shall be installed, operated and maintained in conformance with the following provisions:

(1) Aerobic systems designed to treat up to 1500 gallons of sewage waste per day shall be listed by a third party certifying program approved by the State Health Office. Aerobic treatment units shall be in compliance with standards for Class I systems as defined by ANSI/NSF International Standard Number 40, revised July 1990, hereby incorporated by reference. An approved third party certifying program shall comply with the following provisions in order for units which it has certified to be approved for use in Florida:

(a) be accredited by the American National Standards Institute.

(b) have established procedures which send representatives to distributors in Florida on a recurring basis to conduct evaluations to assure that distributors of certified aerobic units are providing proper maintenance, have sufficient replacement parts available, and are maintaining service records.

(c) notify the department State Health Office of the results of monitoring visits to manufacturers and distributors within 60 days of the conclusion of the monitoring. Approved distributors must be reported by the manufacturer to the certifying agency.

(d) submit completion reports on testing for review by the State Health Office.

(e) provide a registered certification mark or seal which must be affixed in a conspicuous location on the units it has certified. This mark or seal will alert persons evaluating or maintaining the unit that the unit is in compliance with ANSI/NSF Standard 40.

(2) The following additional requirements shall also apply to the construction, design, and operation of aerobic treatment units treating 1500 gallons per day or less:

(a) An appropriate mechanism shall be provided to make access ports vandal, tamper, and child resistant. Acceptable protection of openings shall consist of one or more of the following methods as specified by the tank manufacturer:

1. A padlock.
2. An "O" ring with twist lock cover requiring special tools for removal.
3. Covers weighing 65 pounds or more, net weight.
4. A hinge and hasp mechanism which uses stainless steel or other corrosion resistant fasteners to fasten the hinge and hasp to the lid and tank for fiberglass, metal, or plastic lids.

(b) A minimum of a 4 inch diameter sampling access port located between the tank outlet and the drainfield.

(c) A visual and audio warning device shall be installed in a conspicuous location so that activation of such warning device will alert property occupants of aerobic unit malfunction or failure. All warning devices shall be wired separately from the aerobic unit so that disconnecting the aerobic unit from electricity will activate the warning device. If installed outside, the alarm shall be waterproof.

(d) Each unit shall be designed or equipped so that regardless of unusual patterns or frequencies of sewage flow into the system effluent discharged to the drainfield will be in compliance with Class I effluent quality standards as defined by ANSI/NSF Standard 40.

(e) Minimum required treatment capacities for systems serving any structure, building or group of buildings shall be based on estimated daily sewage flows as determined from Table IV.

**TABLE IV**
**AEROBIC SYSTEMS**
**PLANT SIZING**

RESIDENTIAL:

| Number of Bedrooms | Building Area in square feet gallons per day | Minimum Required Treatment Capacity |
|---|---|---|
| 1 or 2 | Up to 1200 | 400 |
| 3 | 1201-2250 | 500 |
| 4 | 2251-3300 | 600 |

For each additional bedroom or each additional 750 square feet of building area, or fraction thereof, treatment capacity shall be increased by 100 gallons.

COMMERCIAL:

| Estimated Sewage Flow in gallons per day | Minimum Required Treatment Capacity in gallons per day |
|---|---|
| 0-400 | 400 |
| 401-500 | 500 |
| 501-600 | 600 |
| 601-700 | 700 |
| 701-750 | 750 |
| 751-800 | 800 |
| 801-1000 | 1000 |
| 1001-1200 | 1200 |
| 1201-1500 | 1500 |

Footnotes to Table IV

1. Where the number of bedrooms and the corresponding building area in Table IV do not coincide, the criteria which results in the greatest required treatment capacity shall apply.

2. These figures assume that the aerobic system will be treating domestic strength sewage with $CBOD_5$ and suspended solids values typically not exceeding 300 and 200 milligrams per liter, respectively. For wastewaters with higher $CBOD_5$, higher suspended solids values, or for facilities that exhibit short-term hydraulic surge conditions, additional treatment or pre-treatment facilities shall be required when specified by design engineers, plant manufacturers, or by the DOH county health department.

(f) There shall be no bypass capability designed into the system which will allow waste to be discharged to the drainfield without undergoing all the treatment processes necessary to achieve the desired effluent quality. Bypassing, removing, or excluding any component or components of a system after the system has received final installation approval is prohibited.

(g) Effluent from an aerobic treatment unit shall be disposed of on the owner's property in conformance with other requirements of this Chapter except as provided for in rule 64E-6.012(2)(f). Effluent quality which is found to not meet Class I standards as specified by ANSI/NSF Standard 40 shall be reported to the maintenance entity for correction within 10 working days.

(h) Units meeting Class I Standards as specified by ANSI/NSF Standard 40 shall receive consideration, via the variance review process, for use where daily domestic sewage flow limitations of rule 64E-6.005 are exceeded or where a high level of sewage treatment is warranted. Also, for Class I units where slightly limited soil textures exist on a site, the required drainfield size may be reduced by 25 percent from the requirements in rule 64E-6.008(5) or 64E-6.009(3)(d).

(i) A manufacturer, distributor or seller of aerobic treatment units shall furnish, to the State Health Office, 90 copies of completion reports and engineering drawings showing the design and construction details of all models of approved Class I units to be constructed or installed under the provisions of this rule. The State Health Office will forward these drawings to each DOH county health department. No aerobic unit shall receive final installation approval until the unit is found to be in compliance with all provisions of this rule, including compliance with design and construction details shown on the engineering plans filed with DOH county health departments and the State Health Office.

(j) A distributor of a specific manufacturer's brand or model of an approved aerobic treatment unit shall provide to the DOH county health department and State Health Office written assurance that spare mechanical and structural parts are available, upon request, for purchase, to all other approved maintenance entities.

(k) Where local building occupancy codes require that the DOH county health department approve the means of sewage disposal prior to building occupancy or change of occupancy, and where an aerobic treatment unit is utilized, a current, unexpired aerobic treatment unit maintenance contract between the property owner or lessee and an approved maintenance entity shall be one of the required conditions of system approval.

(l) A copy of the signed maintenance agreement between the property owner or property lessee and an approved maintenance entity shall be provided to the DOH county health department by the maintenance entity. The maintenance agreement shall:

1. Initially be for a period of at least 2 years and subsequent maintenance agreement renewals shall be for at least 1 year periods for the life of the system.

2. Provide that a maintenance entity which desires to discontinue the provision of maintenance services, notify in writing, the property owners and lessees and the DOH county health department at least 30 days prior to discontinuance of service.

3. Provide that, if a private maintenance entity discontinues business, property owners who have previously contracted with the discontinued maintenance service shall, within 30 days of the service termination date, contract with an approved maintenance service and provide the DOH county health department a copy of the newly signed maintenance agreement.

4. Provide that each aerobic unit is inspected by an approved maintenance entity at least two times each year. Aerobic treatment units serving commercial establishments shall be inspected four times per year. The maintenance entity shall furnish to the DOH county health department a listing of all aerobic units inspected or serviced during the respective reporting period. As a minimum, reports shall indicate the system owner or building lessee, the street address of the system, the date of system inspection or service and a statement as to the maintenance or service performed. The maintenance entity shall also include a list of the owners who have refused to renew their maintenance agreement.

(m) The DOH county health department shall, at least annually, monitor the maintenance and performance of aerobic treatment units by selecting a representative sample of in-use systems for evaluation. The DOH county health department shall also inspect each authorized maintenance entity, including review of their service records and maintenance agreements. A report summarizing results of field evaluations, aerobic treatment unit effluent sample analysis, and a summary of maintenance agreement and servicing records compliance, shall be provided annually to the State Health Office for a determination of the effectiveness of the provisions of this section in assuring proper operation, maintenance, performance and utilization of aerobic treatment unit systems. At a minimum, aerobic treatment unit effluent sample analysis shall be conducted to determine that Class I standards as specified by ANSI/NSF Standard 40 are maintained.

(3) An aerobic treatment unit used for treating domestic sewage flows in excess of 1500 gallons per day but not exceeding 10,000 gallons per day shall be designed and certified by an engineer registered in the State of Florida. The certification shall state that the unit is capable of consistently meeting, at minimum, secondary treatment standards established by DEP in rule 62-600.420, F.A.C. In addition, the following requirements shall also be met:

(a) The drainfield system shall meet minimum setback and elevation requirements specified by this rule.

(b) The owner or lessee of a system shall comply with the applicable safety, maintenance and operational requirements of rule 64E-6.012(2). Unless the system owner or lessee is a state licensed wastewater treatment plant operator, the owner or lessee shall be required to have a system maintenance agreement with a permitted aerobic unit maintenance entity which has at least a Class D state certified operator who has been certified under the provisions of Chapter 61E12-41, F.A.C.

(c) A permitted aerobic unit maintenance entity with a minimum Class D certified operator, or a system owner or lessee holding at minimum a Class D certification under the provisions of Chapter 61E12-41, F.A.C., shall collect effluent quality samples and submit the sample analysis reports to the DOH county health department. Effluent quality samples for

$CBOD_5$, suspended solids and fecal coliform shall be collected at least semi-annually and such samples shall be analyzed by a department-approved laboratory.

(d) Written sample analysis reports shall be submitted to the DOH county health department by no later than the 15th of the next month following the semi-annual sampling period. However, if the sample analysis for $CBOD_5$ or suspended solids exceed secondary treatment standards by more than 100 percent, the maintenance entity or certified operator shall notify the DOH county health department by telephone or in person within 24 hours after receipt of sample analysis results.

(e) The DOH county health department shall monitor the maintenance and performance of aerobic treatments units as required by rule 64E-6.012(2)(m).

(4) No aerobic treatment unit shall be serviced or repaired by a person or entity engaged in an aerobic treatment unit maintenance service until the service entity has obtained an annual written permit issued on form DH 4013 from the DOH county health department in the county where the service company is located. Application for an Aerobic Treatment Unit Maintenance Service Permit, form DH 4066, shall be made to the DOH county health department and shall contain the following information:

(a) Evidence that the maintenance entity possesses a manufacturer's maintenance and operations manual and has received training from the manufacturer in proper installation and service of the unit and has received written approval from the manufacturer to perform service on their units. The manual shall contain detailed instructions on proper operation and maintenance procedures, a replacement parts list for all models being installed and maintained, a statement giving the capabilities of each unit, instructions on how to detect a malfunctioning unit and what to expect from a properly functioning unit.

(b) A signed statement from the applicant attesting that the applicant has adequate staff, possesses proper equipment and has sufficient spare structural and mechanical parts and components to perform routine system monitoring and servicing and is able to make a service response within 36 hours after notification of the need for emergency repairs. The statement shall include confirmation that the location or locations of service personnel and replacement parts will be no more than 200 miles from any aerobic treatment unit under contract for servicing.

(c) Payment of $25.00 to the DOH county health department per annum for the aerobic treatment unit maintenance service permit.

(5) Emergency service necessary to prevent or eliminate an imminent sanitary nuisance condition caused by failure of a mechanical component of any aerobic treatment unit shall be reported by the approved aerobic unit maintenance entity, in writing, to the DOH county health department no later than 5 working days after the date of the emergency service.

Specific Authority: 381.0011(13), 381.006, 381.0065(3)(a), 489.553(3) and 489.557(1) FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0067, Part I 386 FS. History: New 3-17-92, Amended 1-3-95, Formerly 10D-6.0541, Amended 11-19-97.

## 64E-6.013 CONSTRUCTION MATERIALS AND STANDARDS FOR TREATMENT RECEPTACLES

(1) Concrete septic tanks - onsite wastewater treatment receptacles shall be watertight and may be built of precast or poured in place concrete which has a design mix for unit compressive strength of at least 3000 pounds per square inch after 28 days curing.

(a) Precast concrete septic tanks with a capacity of 1200 gallons or less shall have a minimum wall and bottom thickness of 2 inches. Precast tanks with a capacity exceeding 1200 gallons shall have a minimum wall and bottom thickness of 3 inches. Precast concrete septic tanks shall contain reinforcing to facilitate handling. Septic tanks made of concrete poured in place shall have a minimum wall and bottom thickness of 4 inches. The bottoms of concrete septic tanks shall be monolithic and an integral part of the walls and shall not contain openings for any purpose, such as to facilitate the removal of rainwater.

(b) Septic tanks with capacities of 1200 gallons or less shall have tops or covers of concrete with a minimum thickness of 3 inches when precast and 4 inches when poured in place. When capacities exceed 1200 gallons, the tops shall be precast with a minimum thickness of 4 inches.

(c) Tops shall be reinforced with 3/8 inch steel reinforcing rods on 6 inch centers in each direction. Whenever vehicular traffic is anticipated to cross over the septic tank or other onsite waste receptacle, traffic lids shall be installed with manhole covers to finished grade. Traffic lids shall be designed to support a minimum load of 10 tons.

(2) Fiberglass reinforced plastic septic tanks - the following structural requirements are applicable to fiberglass septic tanks and tanks made of a comparable class of materials.

(a) Resins and sealants used in the tank manufacturing process shall be capable of effectively resisting the corrosive influences of the liquid components of sewage, sewage gases and soil burial. Materials used shall be formulated to

withstand shock, vibration, normal household chemicals, deterioration from sunlight and other environmental factors, earth and hydrostatic pressure when either full or empty.

(b) Not less than 30 percent of the total weight of the tank shall be fiberglass reinforcement. Fiberglass tanks with an effective liquid capacity of not over 1500 gallons shall have a minimum wall and lid thickness of 1/4 inch. However, a wall thickness of not less than 3/16 inch will be allowed in small isolated areas of a tank. Fiberglass tank lids of less than 1/2 inch thickness shall have reinforcing and be of ribbed construction. All fiberglass tank lids shall be supplied with directions on how to secure the lid to the body of the tank.

(c) Internal surfaces shall be coated with an appropriate gel coating to provide a smooth, pore-free, watertight surface.

(d) Tanks shall be constructed so that all parts of the tank meet the following mechanical requirements.

1. Ultimate tensile strength - minimum 12,000 PSI when tested in accordance with ASTM D 638-89, Standard Method of Test for Tensile Properties of Plastics.

2. Flexural strength - minimum 19,000 PSI when tested in accordance with ASTM D 790-86, Standard Method of Test for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

3. Flexural modulus of elasticity - minimum 800,000 PSI when tested in accordance with ASTM D 790-86, Standard Method of Test for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

(e) A test report from an independent testing laboratory is required to substantiate that individual tank designs and material formulations meet the requirements of (d) 1., 2., and 3. above.

(f) Physical properties for tanks over 1500 gallons effective liquid capacity must be approved by the department.

(g) Tank lids shall be securely fastened or sealed to prevent unwarranted access to the contents of the tanks and to make tanks vandal, tamper, and child resistant. Acceptable protection of openings may include one or more of the following methods as specified by the tank manufacturer:

1. A padlock.

2. An "O" ring, with twist lock cover requiring special tools for removal.

3. Covers or tank lids weighing 65 pounds or more, net weight.

4. A hinge and hasp mechanism which uses stainless steel or other corrosion resistant fasteners to fasten the hinge and hasp to the lid and tank for fiberglass, metal or plastic lids.

(3) Septic Tank Design - the following requirements shall apply to all septic tanks manufactured for use in Florida unless specifically exempted by other provisions of these rules.

(a) Septic tanks shall be watertight and shall have multiple compartments, or single compartment tanks shall be placed in series to achieve required effective capacity. Except for grease interceptors and laundry tanks, single compartment septic tanks shall not be approved unless used in series. Except as noted in this paragraph, the first chamber of a multi-compartment tank or the first tank of two or more tanks placed in series shall have a minimum effective capacity of at least two-thirds of the total required effective capacity. Additional chambers shall have a minimum effective capacity equal to or greater than one-half of the required effective capacity of the first chamber. Systems with daily flows in excess of 3500 gallons per day may utilize two tanks to achieve the total required effective capacity, provided that the first tank shall provide no less than 50% of the total required effective capacity.

(b) Each compartment shall have access using manholes, with each manhole having a minimum area of 225 square inches. As of June 1, 1995, septic tanks and dosing tanks with an effective capacity of 1200 gallons or less shall have a lid of one piece construction. Septic tanks and dosing tanks with an effective capacity of greater than 1200 gallons shall have a one piece lid or a lid with a maximum of three sections with each being equal in size. Manholes shall be located so as to allow access to the inlet and outlet devices. A minimum 6 inch diameter opening shall be placed at the inlet and outlet ends of the tank lid if a minimum 18 inch by 18 inch access port is placed in the middle of the tank lid. The access manhole over the inlet and outlet shall extend to within 8 inches of finished grade, however the entire septic tank shall be covered with a minimum of four inches of soil cover. If a riser is used, and if the riser access lid opens directly to the tank interior, joints around the riser and tank shall be sealed and made waterproof to prohibit intrusion of ground water into the tank. For multi-compartment tanks or tanks in series, manholes shall extend to within 8 inches of finished grade over the first compartment inlet and the last compartment outlet. An appropriate mechanism shall be provided to make access manholes vandal, tamper, and child resistant. Acceptable protection of openings shall consist of one or more of the following methods as specified by the tank manufacturer:

1. A padlock.

2. An "O" ring with twist lock cover requiring special tools for removal.

3. Covers weighing 65 pounds or more, net weight.

4. A hinge and hasp mechanism which uses stainless steel or other corrosion resistant fasteners to fasten the hinge and hasp to the lid and tank for fiberglass, metal or plastic lids.

(c) The liquid depth of compartments shall be at least 42 inches. Liquid depths greater than 84 inches shall not be considered in determining the effective capacity.

(d) A minimum free board or airspace of 15 percent of the effective capacity of the tank shall be provided.

(e) Tanks shall be installed level. The inlet invert shall enter the tank 1 to 3 inches above the liquid level of the tank. A vented inlet tee, vented sweep or a baffle may be provided at the discretion of the manufacturer to divert the incoming sewage. The inlet device, if utilized, shall have a minimum diameter of 4 inches and shall not extend below the liquid surface more than 33 percent of the liquid depth.

(f) A minimum 4 inch diameter vented outlet tee, sweep or baffle shall extend below the liquid level of the tank so that the invert level of the outlet device is a distance not less than 30 percent nor greater than 40 percent of the liquid depth. The outlet device shall extend at least 4 inches above the liquid level. The submerged intake orifice of the outlet fixture shall be provided with an approved solids deflection device to reduce, by a minimum of 90 percent, the intake area of the outlet fixture exposed to the vertical rise and fall of solid particles within the tank. Turning the intake orifice of an outlet tee or sweep 90 degrees from the vertical will satisfy the solids deflection device requirement.

(g) The inlet and outlet devices shall be located at opposite ends of the tank so as to be separated by the maximum distance possible and shall be attached in a watertight manner. The building sewer can enter the side of the tank no more than 12 inches from the inlet end of the tank if a boss stop is provided and if this construction will allow for better plumbing routing of the building sewer to the septic tank.

(h) Sewage flow between the first and second chamber of a multi-chamber tank shall interconnect utilizing either a minimum 4 inch diameter hole or equivalent size slot in the wall or with a minimum 4 inch diameter vented and inverted U-fitting or a tee. Tanks in series shall interconnect utilizing a minimum 4 inch diameter vented, inverted U-fitting or a tee. The intake of the outlet device or hole invert shall extend below the liquid surface approximately 33 percent of the tank liquid depth.

(i) Joints and openings of tanks shall be sealed using a bonding compound that will adhere to the construction materials of the tank and inlet and outlet devices.

(j) The State Health Office's designated approval number for the tank, and the effective capacity of the tank in gallons shall be cast or stamped into the wall or permanently stenciled or decaled onto the wall at the inlet end, to begin within 6 inches of the top of the wall. All identifying marks shall be inscribed or affixed at the point of manufacture only. All information supplied in the legend shall be provided with a minimum of two inch high lettering.

(k) All septic tanks, laundry tanks, graywater tanks, dosing tanks and grease interceptors distributed in the state shall be approved for use by the department prior to being installed. Such approval shall be obtained only after the manufacturer of a specific tank model has submitted engineered designs of the tank showing dimensions; production materials; effective capacity; freeboard or air space; wall, bottom, and lid thickness; reinforcing materials used; and evidence that the tank model has undergone flow testing to confirm its effective capacity and its water tightness. Such designs shall be submitted to the DOH county health department in whose jurisdiction the manufacturing facility is located and to the State Health Office. The State Health Office will issue an approval number to the manufacturer only after confirmation from the DOH county health department that the tank model being constructed meets specifications as set forth by the manufacturer. Form DH 4012 shall be used to apply for septic tank manufacturing approval.

(l) If a pumping device has been placed in the building sewer, an inlet device shall be used.

(4) Graywater retention tanks - when a separate system is installed to dispose of graywater, the retention tank for such system shall meet the following minimum design standards.

(a) The minimum effective capacity shall be as specified in rule 64E-6.008(3). Liquid depth shall be at least 30 inches.

(b) Retention tanks shall be baffled and vented as specified in the septic tank construction standards found elsewhere in this section provided that an inlet tee, ell, or baffle shall be provided for graywater tanks.

(5) Grease interceptors - are not required for a residence. However, one or more grease interceptors are required where grease waste is produced in quantities that could otherwise cause line stoppage or hinder sewage disposal. The design of grease interceptors shall be based on standards found in (a) below. In addition, the following general requirements found in (b),(c), and (d), apply when determining the proper use and installation of a grease interceptor used as a component of an onsite sewage treatment and disposal system.

(a) Grease interceptors shall comply with structural requirements applicable to septic tanks as described in this Chapter except that the inlet invert shall discharge a minimum 2 1/2 inches above the liquid level line and the outlet pipe shall have a tee with a minimum diameter of 4 inches that extends to within 8 inches of the bottom of the tank, and may be a single compartment.

(b) Interceptors must be located so as to provide easy access for routine inspection, cleaning and maintenance. Manholes shall be provided over the inlet and outlet of each interceptor and be brought to finished grade.

(c) Where a grease interceptor is required or used, only kitchen wastewater shall first pass through the interceptor and then be discharged into the first compartment of a septic tank or other approved system.

(d) Sizing of grease interceptors shall be based on the equations below. The minimum volume of any grease interceptor shall be 750 gallons and the maximum volume of a single grease interceptor shall be 1250 gallons. When the required effective capacity of the grease interceptor is greater than 1250 gallons, installation of grease interceptors in series is required.

1. Restaurants: (S) X (GS) X (HR/12) X (LF) = effective capacity of grease interceptor in gallons.
S = number of seats in the dining area.
GS = gallons of wastewater per seat: Use 25 gallons for ordinary restaurant, use 10 gallons for single service article restaurants.
HR = number of hours establishment is open.
LF = loading factor: use 2.0 interstate highways, 1.5 other freeways, 1.25 recreational areas, 1.0 main highways, and 0.75 other roads.

2. Other type establishments with commercial kitchens: (M) X (GM) X (LF) = effective capacity of grease interceptor in gallons.
M = meals prepared per day.
GM = gallons of wastewater per meal: use 5 gallons.
LF = loading factor: use 1.00 with dishwashing and 0.75 without dishwashing.

(6) Laundry waste interceptor - when a separate system is installed to dispose of effluent from a single home washing machine only, the retention tank or interceptor for such system shall meet the following minimum standards.

(a) The minimum effective capacity shall be 225 gallons.

(b) The interceptor shall be baffled and vented as specified in the septic tank construction standards found elsewhere in this Chapter, provided that a vented inlet tee, vented sweep, or a baffle shall be provided.

(c) The interceptor shall not receive waste flow from kitchen fixtures or be used as a grease trap.

(7) Dosing Tanks - when used as part of an onsite sewage treatment and disposal system, the following requirements shall apply to all dosing tanks manufactured for use in Florida unless specifically exempted by other provisions of these rules.

(a) Dosing tanks shall have a minimum effective capacity of 2 times the required dose for residential applications and 3 times the required dose for commercial applications. Pump levels shall be set so that a minimum of 2 times the required dose volume shall be available in reserve capacity in the event of pump failure for commercial systems and 1.5 times the required dose volume for residential applications.

(b) Construction standards for dosing tanks shall be the same as for treatment receptacles, except that single compartment tanks are allowed.

(8) Tanks used for the stabilization and storage of septage and food service sludges shall be constructed, sized, and operated in accordance with the following provisions:

(a) Stabilization tanks and septage storage tanks shall be constructed of concrete, fiberglass, corrosion-resistant steel, or other equally durable material. Tanks shall be watertight and shall be water tested for leaks prior to placing into service. The tank shall have a liquid capacity of at least 3000 gallons.

(b) Wall and bottom thickness of concrete tanks shall be at a minimum equal to that required of concrete septic tanks in rule 64E-6.013(1). Tank bottom and sidewalls shall be reinforced to prevent cracking or leakage as a result of mixing and handling of the septage. Fiberglass tanks and tanks of similar materials shall be constructed in accordance with standards found in rule 64E-6.013(2).

(c) Stabilization tanks shall contain aeration or mixing devices which will ensure thorough agitation or mixing of lime with the waste as specified in Chapter 6, EPA 625/1-79-011, Process Design Manual for Septage Treatment and Disposal.

Specific Authority: 381.0011(4),(13), 381.006, 381.0065(3)(a), 489.553 FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0067, Part I 386, 489.553, FS. History: New 12-22-82, Amended 2-5-85, Formerly 10D-6.55, Amended 3-17-92, 1-3-95, Formerly 10D-6.055, Amended 11-19-97, 2-3-98.

## 64E-6.014 CONSTRUCTION STANDARDS FOR DRAINFIELD SYSTEMS

(1) Distribution box - where distribution boxes are used for distributing sewage from the septic tank or other waste receptacle to the drainfield lines, the following requirements shall be adhered to:

(a) Distribution boxes shall be watertight, constructed of durable materials, have adequate structural strength, and be of sufficient size to accommodate the required number of drain pipe lines.

(b) Each drainfield line shall be connected individually to the box.

(c) The invert of inlets to the box shall be at least 1 inch above the invert of the outlets. The invert of all outlets shall be level with respect to each other.

(d) The distribution box shall be built as an integral part of the septic tank or shall be a separate unit set on solid ground and anchored in the drainfield.

(2) Header pipe - Header pipe, when used, shall be installed in compliance with the following requirements:

(a) Header pipe shall meet requirements of ASTM D 3034-89, Standard Specifications for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings, ASTM F 892-90 Standard Specification for Polyethylene (PE) Corrugated Pipe with a Smooth Interior and Fittings, ASTM D 2729-89 Standard Specification for Poly(Vinyl Chloride)(PVC) Sewer Pipe and Fittings, or ASTM F 810-85 for other pipe materials. Header pipe shall have a minimum inside diameter of 4 inches for gravity flow applications. Header pipe shall not be perforated.

(b) The header pipe shall be laid level with direct, watertight connections to each drainfield line and the septic tank outlet pipe. When installed in a drainfield which uses mineral aggregate, header pipe shall be encased in mineral aggregate, and shall be included as part of the drainfield area. When a drainfield system is utilized which does not require the use of mineral aggregate or the header pipe is not included within the absorption surface area, the header pipe shall not be included in drainfield size calculations, but shall be considered part of the system. The header pipe shall be designed to distribute effluent as equally as practical to each individual drainline and shall be supported so that the header is laid level.

(c) Pipe which connects the septic tank outlet to the header pipe or a distribution box shall comply with the strength and material standards for header pipe as specified in this subsection.

(3) Automatic dosing - where the total required area of drainfield is greater than 1000 square feet, an automatic dosing device discharging into a low pressure distribution network designed by a registered engineer shall be used. Plans and equipment specifications for automatic dosing systems shall be approved by the department prior to construction or installation. Pumps used to distribute sewage effluent must be certified by the manufacturer to be suitable for such purpose. The use of a timer as a part of any dosing system shall not be allowed unless it is part of a design submitted by an engineer and is approved by the department.

(a) Dosing systems with 2000 square feet of drainfield or less shall consist of a dosing tank that receives the flow from a septic tank or other sewage waste receptacle. This dosing tank shall be at least 24 inches in diameter, or equivalent rectangular size, and shall be provided with one or more pumps with level controls set in accordance with the requirements set forth in (c) and (d) of this section, and rule 64E-6.013(7)(a). Two pumps shall be required for commercial use where dosing is required due to drainfield size or where gravity flow into the drainfield is not possible, and estimated establishment sewage flows exceed 500 gallons per day. The pumps shall dose alternately. Where dosing is required for a commercial system for flows of 500 gallons or less per day, only one pump shall be required if the drainfield does not exceed 2000 square feet.

(b) Systems having more than 2000 square feet of drainfield shall have two dosing pumps, with each pump serving one-half of the total required absorption area. The pumps shall dose alternately. The dosing tank shall be at least 24 inches in diameter, or equivalent rectangular size, and the pumps shall be provided with effluent level controls set in accordance with the requirements set forth in (c) and (d) of this section, and rule 64E-6.013(7)(a).

(c) The volume of the dosing chamber between the pump operating levels shall be adequate to assure that the entire drain pipe is dosed each cycle.

(d) When a drainfield is installed in slightly limited soil, operating levels should be adjusted to dose the drainfield a maximum of six time in a 24 hour period. For moderately limited soils the drainfield should be dosed no more than two times in a 24 hour period. More frequent dosing may be allowed with Class I effluent from an approved aerobic treatment unit.

(e) Where a septic tank or sewage waste receptacle must be placed too low to permit gravity flow into a properly designed, constructed and located drainfield, a pump may be used to lift the effluent to a properly constructed header pipe or distribution box for effluent distribution by gravity throughout the drainfield. This provision shall apply only to drainfields of 1000 square feet or less of total area.

(f) An audio and visual high water alarm shall be provided in a conspicuous location visible by system users to warn of pump failures. If the alarm is located outside, the alarm shall be waterproof and specified by the manufacturer for outside use.

(g) A pump shall not be located within the septic tank, but shall be placed in a separate compartment or tank. A pump system shall not be configured in a manner which will cause the liquid level line within the septic tank to fall below the invert of the tank outlet device. Any compartment or tank in which a pump is located shall not be considered when determining total effective capacity of a septic tank.

(4) Drain trenches and absorption beds - drain trenches and absorption beds are the standard subsurface drainfield systems used for disposing of effluent from septic tanks or other sewage waste receptacles. When used, these systems shall be constructed as specified below.

(a) When utilizing the standard drain trench method, the width of the trench at the bottom shall not exceed 36 inches. For trenches of 12 inches or less, there shall be a minimum separation distance of 12 inches between the sidewalls of adjacent trenches; trenches greater than 12 inches require a minimum 24 inch separation between the sidewalls of adjacent trenches.

(b) The trench method shall be the preferred method. Absorption beds may be used in lieu of the standard drain trench method. An absorption bed consists of an area in which the entire earth content of the required absorption area is removed and replaced with aggregate and distribution pipe or other approved alternative drainfield components. The distance between the centers of distribution lines in standard beds shall be a maximum of 36 inches. The distance between

the sidewall of the bed and the center of the outside drain line shall be no more than 18 inches, but shall not be less than six inches. Where header pipe is used in lieu of a distribution box, the header shall extend to within 18 inches of the bed sidewalls. In no case shall the bottom surface of an absorption bed exceed a total of 1500 square feet. Where two or more beds are used to obtain the necessary absorption area, there shall be a minimum 10 foot separation between the sidewalls of adjacent absorption beds. Absorption beds shall be designed to achieve the maximum length to width ratio practical.

(c) When installing a drainfield system that uses mineral aggregate, all portions of the header pipe and perforated drain pipe shall be installed in aggregate conforming to ASTM C33-86 or lightweight aggregate conforming to ASTM C330-87 meeting State of Florida Department of Transportation (FDOT) specifications under Section 901, "Standard Specifications for Road and Bridge Construction, 1991" and the following gradation requirements.

| Sieve size | 2 IN. | 1 1/2 IN. | 1 IN. | 3/4 IN. | 1/2 IN. | 3/8 IN. | NO. 4 |
|---|---|---|---|---|---|---|---|
| Percent passing | 90-100 | 35-100 | 15-100 | 0-70 | 0-50 | 0-30 | 0-5 |

In addition, not more than 3.75% by weight of the aggregate material at the point of use shall pass a #200 sieve.

1. Approved materials for drainfield mineral aggregate shall be limestone, slag, quartz rock, granite, river gravel, recycled crushed concrete, lightweight aggregate and other equally durable materials.

2. The aggregate shall be labeled as drainfield aggregate on the freight bill-of-lading. Effective March 1, 1995, a copy of the freight bill-of-lading shall be part of the documentation of aggregate size and quality and records shall be available for department review for a period of two years from the date of purchase. This bill-of-lading shall clearly certify that the material meets the requirements for drainfield use.

(d) Mineral aggregate material shall have a total depth of at least 12 inches extending throughout the width of the trench or absorption bed. The distribution pipe shall have a minimum of six inches of aggregate under the pipe, but shall not exceed 10 inches under the pipe when the total depth of aggregate is 12 inches.

(e) The drainfield in place shall be protected from infiltration of earth backfill by a barrier of polyester bonded filament. The barrier shall be placed on top of the drainfield only. For alternative drainfield systems any required earth backfill barrier shall be as specified by the alternative system manufacturer, which must be approved by the department at the time of the initial alternative drainfield approval.

(f) Providing the requirements of rule 64E-6.006(1),(2) and (6) are met, the maximum depth from the bottom of the drainfield to the finished ground surface shall not exceed 30 inches after natural settling. The minimum earth cover over the top of the drainfield, distribution box or header pipe in standard subsurface drainfields shall be 6 inches after natural settling.

(g) The inside diameter of the drain pipe used in drainfields shall be determined based on the type and design of the proposed absorption system. However, for standard gravity aggregate drainfield systems, inside pipe diameter shall not be less than 4 inches. Perforated pipe shall have two rows of holes, and a minimum perforated area of 1 1/2 square inches per linear foot. Perforations shall be located not less than $30^{o}$ or more than $60^{o}$ from the vertical on either side of the center line of the bottom of the pipe. However, for drainfield systems designed by an engineer, drainpipe perforation area and hole configuration shall assure that effluent is distributed as equally as possible throughout the drainfield area. All plastic pipe shall conform to the standards of ASTM D 3034-89, ASTM F 405-89, Standard Specification for Corrugated Polyethylene (PE) Tubing and Fittings, or ASTM F 810-85.

(h) Depending on the type of drainfield system being utilized, the drainfield absorption surface shall be constructed level or with a downward slope not exceeding one inch per 10 feet. Drain lines shall be placed at the same slope as the drainfield absorption surface.

(i) The maximum length of drain lines shall not exceed 100 feet and where two or more drain lines are used, they shall be, as near as practical, the same length. The ends of two or more drain lines in bed and mound systems shall be connected to produce a continuous circuit. A continuous circuit arrangement is also recommended but not required for standard drain trench systems. However, when a continuous circuit arrangement is not used, the distal ends of the drain lines shall be capped or sealed.

(j) No part of a drainfield shall be placed within 18 inches of the treatment or dosing tank.

(k) If lots are encountered whereby a standard drainfield system cannot meet drainfield slope or soil cover requirements, a drop box configuration for sloping lots as per section 7.2.8.1, Chapter 7, EPA 625/1-80-012, Design Manual for Onsite Wastewater Treatment and Disposal Systems, such section hereby incorporated by reference, may be used at the installer's discretion for drainfield construction.

Specific Authority: 381.0011(13), 381.006, 381.0065(3)(a), 489.553(3) and 489.557(1) FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0067, Part I 386, FS. History: New 12-22-82, Amended 2-5-85, Formerly 10D-6.56, Amended 3-17-92, 1-3-95, Formerly 10D-6.056, Amended 2-3-98.

All repairs made to a failing onsite sewage treatment and disposal system shall be made only with prior knowledge and written approval from the DOH county health department having jurisdiction over the system. Approval shall be granted only if all of the following conditions are met:

(1) Any property owner or lessee who has an onsite sewage treatment and disposal system which is improperly constructed or maintained, or which fails to function in a safe or sanitary manner shall request from the DOH county health department, either directly or through their agent, a permit to repair the system prior to initiating repair of the system. A permit shall be issued on Form DH 4016, hereby incorporated by reference, only after the submission of an application accompanied by the necessary exhibits and fees. Form DH 4015, 10/96, hereby incorporated by reference, shall be used for this purpose, and can be obtained from the department. Applications shall contain the following information:

(a) A site plan showing property dimensions, the existing and proposed system configuration and location on the property, the building location, potable and non-potable water lines, within the existing and proposed drainfield repair area, the general slope of the property, property lines and easements, any obstructed areas, any private or public wells, or any surface water bodies and stormwater systems in proximity to the onsite sewage system which restricts replacement or relocation of the drainfield system. The existing drainfield type shall be described. For example, mineral aggregate, non-mineral aggregate, chambers, or other.

(b) The size of the septic tank or other treatment tank currently in use and the approximate square footage and elevation of the drainfield existing on the site.

(c) The quantity and type of waste being discharged to the system. Where water use records cannot be obtained, estimates shall be made from values found in rule 64E-6.008, Table I.

(d) The soil textures encountered within the existing and proposed drainfield areas, and the estimated water table during the wettest season of the year.

(e) Any unusual site conditions which may influence the system design or function such as sloping property, drainage structures such as roof drains or curtain drains, and any obstructions such as patios, decks, swimming pools or parking areas.

(f) The person performing the site evaluation shall provide a brief description of the nature of the failure which is occurring.

(2) Site evaluations necessary to obtain the above referenced information shall be conducted at the expense of the owner or lessee by department personnel, by an engineer who is registered in the State of Florida, or by other qualified persons as per rule 64E-6.004(3). Site specific information may be obtained by the applicant through examination of department records of permits previously issued for the site.

(3) When a repair is to be performed on a failing system in which the contractor will be using any method other than drainfield addition or replacement, the following additional permit application information shall be submitted to the county health department by the contractor. This is in addition to the information required in rules 64E-6.015(1) and (2).

(a) The process used to repair the system. For example, hydrogen peroxide treatment or high-pressure injection of air alongside the drainfield. Such information shall include the manner in which the proposed repair will take place. The manufacturers recommended method for product use, quantities and concentration of product, shall be included in this information.

(b) Any chemical compound to be introduced into the system in an effort to repair the system shall be identified by chemical composition or trade name, including the concentration and quantity of product used. The method of product introduction shall be stated. For example, product introduced through the distribution box.

(c) Any repair method proposed which intends to physically disrupt the absorption surface shall include a drawing of the drainfield system that includes a diagram of the sites where the absorption surface will be disrupted. The depth of each disruption shall be recorded at each site.

(4) Where the absorption surface of the drainfield is within 6 inches of the wet season high water table, an alternative repair method addressed in 64E-6.015(3) shall not be used. The existing drainfield shall be removed and a replacement drainfield shall be installed in accordance with all other repair criteria, including separation from seasonal high water table and drainfield sizing. Rule 64E-6.015(6)(f) shall be used to determine septic tank conformance.

(5) The department shall make every effort to issue a permit within 2 working days after receiving the application for system repair. Repair permits shall be valid for 90 days from the date of issuance. However, if the system is maintained to not create a sanitary nuisance, a repair permit shall be extended for one 90 day period.

(6) Construction materials used in system repairs shall be of the same quality as those required for new system construction. Contaminated spoil from drainfield repairs shall not be used in system repair in any manner. Any

contaminated spoil material shall be disposed of in a sanitary landfill or shall be limed and stockpiled for at least 30 days. The resulting material shall not be used for drainfield repair. Any failing system shall, at a minimum, be repaired in accordance with the following criteria:

(a) System repairs shall comply with minimum setbacks and separations as specified in rule 64E-6.005. If current required setbacks and separations cannot be met, lesser setbacks as specified in Table V shall be maintained. For repairs only, if current required setbacks given below cannot be attained, absolute minimum setbacks shall be met. When site conditions exist which allow either absolute or current required setbacks to various features, current required setbacks shall be maintained from features with the highest protection factor. Setbacks to features with lower protection factors shall be reduced to the maximum setback or separation attainable, with no less than the absolute minimum setback allowed. A standard gravity flow system is to be used when possible to achieve the appropriate separations of absorption surface to seasonal high water and effective soil depth.

**TABLE V Repair System Setback Requirements**

| Permit Date of Original System | Description of Setback (Separation) | Protection Factor | Current Required Setback | Absolute Minimum Setback |
|---|---|---|---|---|
| Prior to 1-1-72 | System to a Private Potable Well | 6 | 75 feet | Greatest of the Following: a) Maximum Setback (<75 feet and >50 feet) b) Original Setback (if >50 feet) c) 50 feet |
| | Bottom of Drainfield Absorption Surface to Wet Season Water Table | 5 | 24 inches | Greatest of the Following: a) Maximum Separation (>6 inches) b) Original Separation (if >6 inches) c) 6 inches |
| | Effective Soil Depth | 5 | 42 inches | Greatest of the Following: a) 24 inches b) Maximum Separation (>12 inches) c) 12 inches |
| | System to Surface Water | 4 | 50 feet | Greatest of the Following: a) Maximum Setback (>25 feet and <50 feet) b) Original Setback (if >25 feet) c) 25 feet |
| | System to | 3 | 50 feet | Greatest of |

| | | | | |
|---|---|---|---|---|
| | Non-Potable Well | | | the Following:<br>a) Maximum Setback (>25 feet and <50 feet)<br>b) Original Setback (if (>25 feet)<br>c) 25 feet |
| | Drainfield Sidewall to Start of Slope | 2 | 5 feet | Greatest of the Following:<br>a) Maximum Separation (>2.5 feet)<br>b) 2.5 feet |
| | System to Property Line or Building Foundation | 1 | 5 feet | Greatest of the Following:<br>a) Maximum Setback (>2 feet)<br>b) 2 feet |
| 1-1-72 to 12-31-82 | System to a Private Potable Well | 6 | 75 feet | Greatest of the Following:<br>a) Maximum Setback (<75 feet and >50 feet)<br>b) Original Setback (if >50 feet)<br>c) 50 feet |
| | Bottom of Drainfield Absorption Surface to Wet Season Water Table | 5 | 24 inches | Greatest of the Following:<br>a) Maximum Separation (<24 inches and >6 inches)<br>b) Original Separation (if >6 inches)<br>c) 6 inches |

| | | | |
|---|---|---|---|
| Effective Soil Depth | 5 | 42 inches | Greatest of the Following:<br>a) 36 inches<br>b) Maximum Separation (>24 inches)<br>c) 24 inches |
| System to Surface Water | 4 | 75 feet | Greatest of the Following:<br>a) Maximum Setback (<75 feet and >50 feet)<br>b) Original Setback (if >50 feet)<br>c) 50 feet |
| System to Non-Potable Well | 3 | 50 feet | Greatest of the Following:<br>a) Maximum Setback (<50 feet and >25 feet)<br>b) Original Setback (if >25 feet)<br>c) 25 feet |
| Drainfield Sidewall to Start of Slope | 2 | 5 feet | Greatest of the Following:<br>a) Maximum Separation (>3 feet)<br>b) 3 feet |
| System to Property Line or Building Foundation | 1 | 5 feet | Greatest of the Following:<br>a) Maximum Setback (>2 feet)<br>b) 2 feet |

| | | | | |
|---|---|---|---|---|
| 1-1-83 to Present | System to a Private Potable Well | 6 | 75 feet | 75 feet |
| | Bottom of Drainfield Absorption Surface to Wet Season Water Table | 5 | 24 inches | Greatest of the Following: a) Existing elevation (>12 inches) b) 12 inches |
| | Effective Soil Depth | 5 | 42 inches | Greatest of the Following: a) Maximum Separation (>36 inches) b) 36 inches |
| | System to Surface Water | 4 | 75 feet | Greatest of the Following: a) Maximum Setback (if >50 feet) b) 50 feet |
| | System to Non-Potable Well | 3 | 50 feet | 50 feet |
| | Drainfield Sidewall to Start of Slope | 2 | 5 feet | 5 feet |
| | System to Property Line or Building Foundation | 1 | 5 feet | Greatest of the Following: a) Maximum Setback (if >2 feet) b) 2 feet |

Footnotes to Table V:

1. For sites which contain oolitic limestone, the minimum effective soil depth shall be 12 inches regardless of the date the original system was installed provided that the wet season water table is a minimum of 4 feet below the bottom surface of the drainfield.

2. Where severely limited soil underlies the drainfield, soil removal and replacement shall be performed as per Footnote 3. to Table III.

(b) For systems permitted on or after January 1, 1983, if system failure is due to excessive hydraulic loading, the original permitted drainfield shall be allowed to remain in service but shall have additional drainfield added to it. The resulting system drainfield size shall be 50 percent larger than the drainfield originally permitted, or shall be in compliance with drainfield sizing criteria specified in rule 64E-6.008 and 64E-6.009, whichever is larger.

(c) Minimum sizing of drainfield repairs for residential systems installed prior to 1983 shall be based on the criteria specified below. Failed drainfields shall be replaced with drainfields meeting, at a minimum, the sizing criteria specified below.

1. If sufficient area is available, the existing drainfield can be left in place and used as part of the system. A new drainfield equal in size to, and separate from, the existing drainfield shall be added and flow directed to both the old and new drainfield.

2. Table VI and VII values are for subsurface and filled systems if the existing drainfield cannot be used as part of the repair. Mound trench systems shall be sized 10 percent larger than the values below and 20 percent larger if absorption beds are installed in the mound. The amount of drainfield installed during the repair shall not be less than the amount the system had prior to the repair.

**TABLE VI**
**Residential Sizing for Slightly Limited Soil Textures**

| Number of Bedrooms | Square Feet of Trench Area | Square Feet of Absorption Bed |
|---|---|---|
| 1 | 75 | 100 |
| 2 | 150 | 200 |
| 3 | 225 | 300 |
| 4 | 300 | 400 |
| Add per bedroom | 75 | 100 |

**TABLE VII**
**Residential Sizing for Moderately-Limited Soil Textures**

| Number of Bedrooms | Square Feet of Trench Area | Square Feet of Absorption Bed |
|---|---|---|
| 1 | 100 | 125 |
| 2 | 200 | 250 |
| 3 | 300 | 375 |
| 4 | 400 | 500 |
| Add per bedroom | 100 | 125 |

(d) Repairs of commercial systems installed prior to 1983 shall be based on the following criteria:

1. Sewage flows shall be determined from values found in Table I of 64E-6.008 or on the highest monthly flow for the previous 18 month period from documented water use records, whichever is higher.

2. Failed drainfields shall at a minimum, meet the sizing criteria specified below.

a. If sufficient room is available, the existing drainfield can be left in place and used as part of the system. A new drainfield equal in size to, and separate from, the existing failed drainfield shall be added.

b. Sewage loading rates to trench or absorption bed bottom areas shall be in accordance with the values in Table VIII which are applicable to subsurface and filled drainfield systems if the existing drainfield is replaced with a new drainfield. Mound trench systems shall be sized 10 percent larger than the values below and 20 percent larger if absorption beds are installed in the mound.

**TABLE VIII**
**Drainfield Sizing for Commercial Systems Installed Prior to 1983**
in gallons/square foot/day

| | Trenches | Absorption Beds |
|---|---|---|
| Slightly limited textures | 1.00 | 0.80 |
| Moderately limited textures | 0.65 | 0.50 |

(e) Where the cause of system failure is determined to be from root clogging of the distribution box or drainfield line of a system, and where removal of the root mass and replacement of damaged drainfield material will restore the system to its original design function, upon inspection and verification of the repair work by the health unit, permit satisfaction will be considered to be achieved.

(f) A tank need not be replaced as part of the repair if the health unit determines the tank to be structurally sound, constructed of approved materials, and if such tank has an effective capacity within two tank sizes of the capacities required by Table II. In addition, the tank shall be pumped and a solids deflection device shall be installed as a part of the outlet of the tank if one is not currently in place.

(g) Repairs to a system shall not be located within 2 feet of a sleeved and sealed potable water line or 2 feet from non-potable water lines.

(h) If the total drainfield area exceeds 1000 square feet, or if the tank is too low to permit gravity flow into the drainfield, the drainfield shall be dosed. The requirements of rule 64E-6.014(3) and 64E-6.014(3)(a)-(e) shall be used for dosing requirements.

(i) Setbacks from an existing system to a public well shall not be decreased from existing setbacks, but shall be increased where practical to achieve the required setbacks as per rule 64E-6.005(1)(b) and (c).

(7) If a repair cannot be made utilizing the standards in (6) above, all available area for drainfield repair shall be assessed and the repair permit shall allow for the maximum size drainfield that can be accommodated in the available area while allowing for the system to be installed above the wet season water table. Total removal of the existing drainfield and replacement of the drainfield in its original location shall be authorized if there is no additional area to enlarge the system. Setbacks to wells, surface waters, and other pertinent features which are less than the setbacks in (6) above shall not be reduced below existing setbacks. Nothing in this section shall be construed to allow a drainfield to remain in the wet season water table. The appropriate requirements for bottom of drainfield absorption surface to wet season water table separation in Table V shall be adhered to in all repairs.

(8) If soil replacement is to be performed on any repair, the requirements of Footnote 3., Table III, shall be adhered to.

(9) System repairs shall be performed by persons who are qualified to do so as set forth in Part III of this rule.

(10) Except as provided for in (7) above, the amount of drainfield installed during the repair shall not be less than the amount the system had prior to the repair.

(11) Rule 64E-6.004(7) shall be used in conjunction with this section when permitting a repair in which the property has been divided after the original permit was issued.

(12) For inspection purposes when a drainfield is repaired using a physical disruption method, such as air injection, the contractor shall mark the location of each injection site in an easily identifiable manner.

(a) The county health department shall inspect repairs to determine that the absorption surface of the repaired drainfield is at least six inches above the wet season high water table, to determine the repair process was completed according to the information provided with the repair permit application and to determine the repair site is free of sanitary nuisance conditions.

(b) The county health department shall keep a separate file for repairs completed using physical disruption methods. These records shall be used to provide periodic follow-up evaluations of a sampling of these systems to determine the general long term effectiveness of this type of repair. The follow-up protocol and evaluation procedure shall be provided by the Bureau of Onsite Sewage Programs.

Specific Authority: 381.0011(13), 381.006, 381.0065(3)(a), 489.553(3) and 489.557(1) FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0067, Part I 386, FS. History - New 3-17-92, Amended 1-3-95, 2-13-97, Formerly 10D-6.0571, Amended 2-3-98.

## 64E-6.016 U.S. DEPARTMENT OF AGRICULTURE SOIL TEXTURAL CLASSIFICATION SYSTEM

(1) Soil texture is a term commonly used to designate the proportionate distribution of different sized mineral particles in a soil material. The three basic sizes of soil mineral particles are the sand size, the silt size and the clay size. The sand size class is subdivided further into the subclasses of very coarse sand, coarse sand, medium sand, fine sand, and very fine sand. Individual particles, based on their size, are grouped into separates. These soil separates are classified by size into the groupings shown below:

| Separate | Diameter Limit in Millimeters |
|---|---|
| Very coarse sand | 2.00 - 1.00 |
| Coarse sand | 1.00 - .50 |
| Medium sand | .50 - .25 |
| Fine sand | .25 - .10 |
| Very fine sand | .10 - .05 |
| Silt | .05 - .002 |
| Clay | less than .002 |

(2) Florida's major soil texture classifications and some of the characteristics which can be utilized in the field for identification of these soil texture groups is accomplished primarily by rubbing moist samples of soil material between the fingers and observing how the material feels.

(a) Sand - Sand feels extremely gritty and does not form a ribbon or ball when wet or moist. A sand is loose and single grained. The individual grains can readily be seen or felt.

(b) Loamy sand - Loamy sand feels extremely gritty and forms a weak ball that cannot be handled without breaking.

(c) Sandy loam - A sandy loam feels extremely gritty and slightly sticky. When moist, it forms a cast that will bear careful handling without breaking.

(d) Loam - A loam feels somewhat gritty, yet fairly smooth and slightly plastic. When moist, it forms a cast that may be handled quite freely without breaking. Loam forms only short ribbons about 0.25 inch to 0.50 inches in length. This soil texture is not common in Florida soils.

(e) Silt loam - Silt loam lacks grittiness and feels extremely floury when moist or dry. When dry it may appear cloddy but the lumps can be readily broken. When moist it will form casts that can be freely handled without breaking. It will not form a ribbon but will give a broken appearance. This soil texture is not common in Florida soils.

(f) Silt - Silt lacks grittiness and feels extremely floury when moist or dry. It will not ribbon and forms a weak ball that will tolerate careful handling without breaking. This soil texture is extremely rare in Florida soils.

(g) Sandy clay loam - sandy clay loam feels very gritty and sticky. When moist it forms a firm ball and may form a ribbon of one to two inches before it breaks.

(h) Clay loam - A clay loam feels very sticky with little or no grittiness. When moist it will form a ribbon that is about one to two inches long. The moist soil is plastic and will form a cast or ball that will bear much handling. When kneaded in the hand it does not crumble readily but tends to work into a heavy compact mass.

(i) Sandy clay - Sandy clay feels extremely sticky and very gritty. When moist and forms a firm ball and produces a ribbon that is over two inches in length before breaking.

(j) Silty clay - Silty clay feels both plastic and extremely sticky when moist and lacks any gritty feeling. It forms a firm ball and readily ribbons to over two inches in length before it breaks. This soil texture is not common in Florida soils.

(k) Clay - A clay feels extremely sticky and is neither gritty nor floury. When moist it forms a ribbon over two inches in length before breaking. It will form a hard ball or cast which will not break when handled.

(l) Organic soils - Muck peat, and mucky peat are used in place of textural class names in organic soils. Muck is well decomposed organic soil material; peat consists of raw undecomposed organic soil material; and mucky peat designates materials intermediate in decomposition between muck and peat.

(3) Definitions of the soil texture classes according to distribution of size classes of mineral particles less than 2 millimeters in diameter are as follows:

(a) Sands - 85 percent or more sand and the percentage of silt plus 1 1/2 times the percentage of clay is 15 or less.

1. Coarse sand - 25 percent or more very coarse and coarse sand and less than 50 percent any other single grade of sand.

2. Sand - 25 percent or more very coarse, coarse and medium sand, but less than 25 percent very coarse and coarse sand, and less than 50 percent either fine sand or very fine sand.

3. Fine sand - 50 percent or more fine sand; or less than 25 percent very coarse, coarse, and medium sand and less than 50 percent very fine sand.

4. Very fine sand - 50 percent or more very fine sand.

(b) Loamy sands - At the upper limit 85 to 90 percent sand and the percentage of silt plus 1 1/2 times the percentage of clay is 15 or more; at the lower limit 70 to 85 percent sand and the percentage of silt plus twice the percentage of clay is 30 or less.

1. Loamy coarse sand - 25 percent or more very coarse and coarse sand and less than 50 percent any other single grade of sand.

2. Loamy sand - 25 percent or more very coarse, coarse, and medium sand and less than 50 percent either fine sand or very fine sand.

3. Loamy fine sand - 50 percent or more fine sand; or less than 50 percent very fine sand and less than 25 percent very coarse, coarse, and medium sand.

4. Loamy very fine sand - 50 percent or more very fine sand.

(c) Sandy loams - 20 percent or less clay and 52 percent or more sand and the percentage of silt plus twice the percentage of clay exceeds 30; or less than 7 percent clay, less than 50 percent silt, and between 43 and 52 percent sand.

1. Coarse sandy loam - 25 percent or more very coarse and coarse sand and less than 50 percent any other single grade of sand.

2. Sandy loam - 30 percent or more very coarse, coarse, and medium sand, but less than 25 percent very coarse and coarse sand, and less than 30 percent either fine sand or very fine sand.

3. Fine sandy loam - 30 percent or more fine sand and less than 30 percent very fine sand; or between 15 and 30 percent very coarse, coarse, and medium sand; or more than 40 percent fine and very fine sand, at least half of which is fine sand, and less than 15 percent very coarse, coarse, and medium sand.

4. Very fine sandy loam - 30 percent or more very fine sand; or more than 40 percent fine and very fine sand, at least half of which is very fine sand, and less than 15 percent very coarse, coarse, and medium sand.

(d) Loam - 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand.

(e) Silt loam - 50 percent or more silt and 12 to 27 percent clay; or 50 to 80 percent silt and less than 12 percent clay.

(f) Silt - 80 percent or more silt and less than 12 percent clay.
(g) Sandy clay loam - 20 to 35 percent clay, less than 28 percent silt, and 45 percent or more sand.
(h) Clay loam - 27 to 40 percent clay and 20 to 45 percent sand.
(i) Silty clay loam - 27 to 40 percent clay and less than 20 percent sand.
(j) Sandy clay - 35 percent or more clay and 45 percent or more sand.
(k) Silty clay - 40 percent or more clay and 40 percent or more silt.
(l) Clay - 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Specific Authority: 154.06, 381.0011, 381.006, 381.0065, 489.553 and 489.557 FS. Law Implemented: 154.01, 381.001, 381.0011, 381.0012, 381.0025, 381.006, 381.0061, 381.0065, 381.00655, 381.0066, 381.0067, Part I 386, FS. History: New 12-22-82, Amended 2-5-85, Formerly 10D-6.58, Amended 3-17-92, 1-3-95, Formerly 10D-6.058.

## PART II

### 64E-6.017 DEFINITIONS

Definitions in Chapter 64E-6, Parts I and III, are also applicable to Chapter 64E-6, Part II.

(1) Advanced waste treatment - a treatment which will provide a recovered water product that contains not more, on a permitted annual average basis, than the following concentrations from a sampling point located after the treatment system:

| | |
|---|---|
| (a) Biochemical Oxygen Demand ($CBOD_5$) | 5 mg/l |
| (b) Suspended Solids | 5 mg/l |
| (c) Total Nitrogen, expressed as N | 3 mg/l |
| (d) Total Phosphorus, expressed as P | 1 mg/l |

(e) Has received disinfection as defined by Chapter 62-600.440(5), F.A.C.

(2) Building Area - that enclosed area of a dwelling unit, excluding the garage, carport, exterior storage shed, or open or screened patios or decks. Calculations of building area shall be made by measurements of the outside building dimensions. Building area of each additional story of the structure shall be added to determine the total building area.

(3) Cesspit - a pit, with or without a cover, that receives untreated sewage from a building and discharges the sewage, either untreated or improperly treated, directly to the surrounding soil or limestone. A septic tank that functions as a cesspit shall be considered a cesspit.

(4) Effective grain size - that size soil particle or grain, in millimeters, in which 10 percent by weight of the soil particles in a sample are smaller.

(5) Injection well - an open vertical hole at least 90 feet in depth, fully cased and grouted to at least 60 feet in depth which is used to dispose of onsite sewage treatment and disposal system effluent.

(6) Salt Marsh and Buttonwood Associations - two plant associations that are sometimes collectively or individually referred to as the "transitional zone."

(a) The salt marsh community is a wetland area subject to tidal influence wherein the dominant vegetation includes the following:

1. *Batis maritima* Saltwort
2. *Distichilis spicata* Salt grass
3. *Fimbristylis castanea* Chestnut sedge
4. *Monanthochloe littoralis* Key grass
5. *Salicornia spp.* Glasswort
6. *Sesuvium portulacastrum* Sea purslane
7. *Spartina spp.* Cordgrass

The woody vegetation that may be present includes red, white and black mangroves, as well as buttonwood (*Conocarpus erectus*); the salt marsh community is distinguished by the dominance of non-woody plants, and the woody species have a coverage of less than 40 percent. The salt marsh community may be associated and intermixed with areas of almost bare ground on which the vegetation may be limited to mats of algae.

(b) The buttonwood association is an association that is usually present in the more landward zone, and may intermix with more upland communities. The vegetation may include, but is not limited to, the following species:

1. *Borrichia spp*. Sea oxeye daisy
2. *Bumelia celastrina* Saffron plum
3. *Coccoloba uvifera* Sea grape
4. *Conocarpus erectus* Buttonwood
5. *Erithalis fruticosa* Black torch
6. *Fimbristylis castanea* Chestnut sedge
7. *Jacquinia keyensis* Joewood
8. *Lycium carolinianum* Christmas berry
9. *Maytenus phyllanthoides* Mayten
10. *Spartina spp*. Cordgrass

The buttonwood association is distinguished from the salt marsh association by the dominance of buttonwood trees, usually occurring as an open stand that permits the growth of an understory of groundcovers and shrubs.

(7) Undocumented system - an onsite sewage treatment and disposal system that does not have a record of installation, but meets system construction standards for the time period the structure was originally built.

(8) Uniformity coefficient - the number representing the degree of homogeneity in the distribution of particle size of filter sand or other granular material. The coefficient is calculated by determining the ratio of the grain size in a soil sample that has 60 percent by weight finer than itself to the grain size which has 10 percent of the soil sample by weight finer than itself.

Specific Authority: 381.0011(4),(13), 381.006, 381.0065(3)(a) and (4)(k), FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.006(7), 381.0061, 381.0065, 381.00655, Part I, 386 FS. History: New 7-15-86, Amended 3-17-92, 1-3-95, Formerly 10D-6.062, Amended 3-3-98.

## 64E-6.018 SYSTEM LOCATION, DESIGN AND MAINTENANCE CRITERIA

Table III of Chapter 64E-6, Part I, and other subsections of Part I pertaining to soil texture, soil depth, and maximum sewage loading rates for specific soils shall not apply to areas subject to the provisions of this Part except for Table III, footnote 2. as it relates to the falling head percolation test procedure. However, maximum system loading rates, approved system design criteria, system location, operation and maintenance requirements of subsections 64E-6.018(1), (2), (3) shall apply. A minimum of one soil profile and one percolation test per application shall be required for site evaluations performed in the Florida Keys. However, a soil profile and percolation test is not required when the applicant chooses the use of an injection well for effluent disposal. The systems described in rule 64E-6.018 shall be considered as interim systems which meet the interim level of service standard required in rule 28-20.100(58)(B), FAC. Interim systems shall be permitted until such time as engineer-designed performance-based systems that meet or exceed advanced secondary treatment standards as defined in rule 64E-6.025(1) are available. Notwithstanding the requirements for total nitrogen (TN) and total phosphorus (TP) in rule 64E-6.025(1), the arithmetic mean of the TN values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 10 mg/l and the arithmetic mean of the TP values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 5 mg/l. When systems meeting AWT standards become available, such systems shall be used in place of interim and advanced secondary treatment systems. Interim systems and advanced secondary treatment systems which have been permitted up to that point shall not be required to be replaced with a system which meets AWT standards.

(1) A Class I aerobic treatment unit which meets the location, construction, maintenance and operational requirements of rule 64E-6.018(1)(a) or (b) and the certification, construction, operational and maintenance requirements of 64E-6.012 shall be approved.

(a) Where a Class I aerobic treatment unit is utilized, and where final effluent disposal is into a sand lined drainfield system, the following general requirements shall apply:

1. For a sand-lined drainfield, a minimum 12 inch thick layer of quartz sand shall be placed beneath the bottom of the drainfield absorption surface and a minimum 12 inch wide and minimum 24 inch thick layer of quartz sand shall be placed contiguous to the drainfield sidewall absorption surfaces in order to provide an additional level of effluent treatment prior to effluent passing into the surrounding natural limestone rock. Sand material shall have either an effective grain size in the range of 0.25 millimeter to 1.00 millimeter and shall have a uniformity coefficient of less than 3.5, or the material shall be of such size whereby at least 90 percent of the sand particles pass a U.S. Standard Number 18 sieve and less than 10 percent pass a number 60 sieve. These materials are in the USDA soil texture classes known as medium sand and coarse sand. The county health department shall require the installer of a sand-lined drainfield system to provide certification from the installer's sand supplier that the sand supplied for such type of installations meets the requirements of this subsection.

2. No part of the system shall be within 25 feet of the mean high water line of tidal surface water bodies or within 25 feet of the ordinary high water line of lakes, ponds or other non-tidal surface waters or salt marsh and Buttonwood Association habitat areas where the dominant vegetation species are those typical of salt marsh communities.

3. The bottom surface of the sand layer shall be at least 12 inches above mean high water.

4. The maximum sewage loading rate to an aerobic treatment unit absorption bed drainfield with underlying sand liner shall be 1.1 gallons per square foot per day.

5. Appropriate shallow root vegetative cover shall be established over drainfield systems to maximize the beneficial effects of evapotranspiration.

(b) Provided a Class I aerobic treatment unit is utilized and provided effluent from the treatment unit, prior to discharge into an injection well, is passed through a mineral aggregate filter unit as described in rule 64E-6.018(1)(b), or where effluent is passed through a filter unit of another design which has been determined by the State Health Office to be at least equal to the mineral aggregate filter unit with regard to sewage treatment capability, an injection well shall be approved provided setbacks from salt marsh/buttonwood habitats and other surface waters cannot be met by another effluent disposal system noted above, and provided the installation is in compliance with the following:

1. An injection well shall not be permitted or installed under the provisions of this part in any area designated by the United States Environmental Protection Agency or the Florida Department of Environmental Protection as having a single or sole source aquifer. Single source aquifer is defined in Chapter 62-520.200(14), F.A.C.

2. In areas where injection wells are approved for use, the DOH Monroe County Health Department shall be the permitting agent for the aerobic treatment unit, the filter unit and the injection well, where the estimated daily domestic sewage flow will not exceed 2000 gallons per day. For establishments having a total daily sewage flow greater than 2000 gallons per day but not greater than 10,000 gallons per day, the Monroe County Health Department shall be the permitting authority for the aerobic treatment unit and the filter unit and DEP is the permitting agent for the injection well and any additional associated effluent treatment device. The effluent from the treatment unit permitted by the DOH Monroe County Health Department shall not exceed 20 mg/l $CBOD_5$ or 20 mg/l suspended solids on a permitted annual average basis and shall have disinfection in accordance with rule 64E-6.018(1)(b)8., F.A.C., prior to discharge into any injection well.

3. The interior of the aerobic treatment unit, the top surface of the mineral aggregate filter soil cover, and the ground surface within a distance of at least 10 feet in all directions around the injection well, filter unit and aerobic treatment unit shall not be subject to surface or ground water flooding. In addition, the invert of the effluent inlet pipe to the injection well shall be a minimum 18 inches above the estimated seasonal high water level.

4. If there is adequate vertical and horizontal clearance to allow for proper maintenance, repair or replacement of the aerobic treatment unit, filter unit and injection well, such components of the onsite sewage treatment and disposal system shall be allowed to be placed beneath an elevated building.

5. If a mineral aggregate filter as referred to in rule 64E-6.018(1)(b) is utilized, effluent discharge from the aerobic unit shall be by gravity or pressure distribution to a perforated pipe distribution system as specified in Part I, rule 64E-6.014. Such distribution system shall be placed within the walls of the mineral aggregate filter, shall have at least 4 inches of soil cover and shall be placed above a mineral aggregate filter layer which shall be at least 24 inches thick. Mineral aggregate filter material shall have either an effective size in the range of 2.36 millimeters to 4.75 millimeters and shall have a uniformity coefficient of less than 3.5 or the material shall be equivalent in size to Florida Department of Transportation aggregate classification number eight or nine. The DOH Monroe County Health Department shall require the installer of mineral aggregate filter systems to provide certification from the installer's mineral aggregate supplier that the aggregate supplied meets requirements of this sub-paragraph.

6. The maximum sewage loading rate to the mineral aggregate filter shall be 5.5 gallons per square foot per day based upon the top surface area of the filter layer. The maximum sewage loading rate to an approved filter unit other than a mineral aggregate filter as described in this section shall be evaluated by the State Health Office based on unit design, size, filter media characteristics and expected functional life of the unit.

7. Effluent having passed through a mineral aggregate filter shall collect in an underdrain for gravity or mechanical discharge into an injection well. The underdrain shall consist of minimum 4 inch diameter perforated drainpipe which is encased within a minimum 8 inch depth of 1/2 to 2 inch diameter washed and durable aggregate. The walls and bottom of the filter unit shall be reinforced concrete or other material of adequate strength and durability to withstand hydrostatic and earth stresses to which the unit will be subjected. The walls and bottom of the unit shall be made waterproof so that the total volume of effluent passed through the mineral aggregate filter will be collected in the filter underdrain for discharge into the injection well.

8. Prior to discharge into an injection well, effluent from the filter unit shall be disinfected by chlorination or other disinfection method approved by the State Health Office. A minimum disinfection level equivalent to a free chlorine residual of 0.5 milligram per liter measured at the point of effluent discharge after a minimum chlorine contact time of 15 minutes into the injection well, shall be maintained in the effluent at all times.

9. An injection well to receive an estimated daily domestic sewage flow not exceeding 2000 gallons per day shall meet minimum construction criteria a., b. and c. of this sub-paragraph. The DOH Monroe County Health Department shall not approve an injection well for use until the well driller has certified, in writing to the DOH Monroe County Health Department, that the well has been installed in compliance with the provisions of this sub-paragraph. The inspection fee for the construction of an injection well shall be $125.00.

a. An injection well as defined in rule 64E-6.017(6), F.A.C., shall be constructed, in part, utilizing a casing of polyvinyl chloride, commonly referred to as PVC. The minimum PVC casing weight and strength classification shall be schedule 40 and the minimum outside diameter of the casing shall be 4 inches. Other casing materials having strength and corrosion resistance properties equal to or greater than PVC schedule 40 pipe shall also be approved.

b. An open hole having a minimum diameter of 6 inches shall extend to a depth of not less than 30 feet below the bottom of the casing.

c. The annular space between the casing and the natural rock wall of the borehole shall be grouted the full length of the casing.

10. A minimum of one maintenance visit every four months shall be made to those systems using injection wells for effluent disposal. In addition to the standard aerobic treatment unit maintenance visit, the visit shall include an inspection of the chlorination and filter units. Documents and reports required in rule 64E-6.012 shall also include the results of these inspections and shall include information on chlorine residuals to assess compliance with the disinfection requirements of this rule.

11. If an injection well is discontinued for effluent disposal use such injection well shall be properly abandoned and plugged by filling the injection well from bottom to top with cement grout.

(2) For an aerobic treatment unit treating domestic sewage flows in excess of 1500 gallons per day but not exceeding 10,000 gallons per day, where effluent from the treatment unit will be discharged to a soil absorption drainfield system, the following requirements shall be met:

(a) The soil absorption drainfield system shall be set back from surface waters by the greatest distance attainable, but shall meet at least minimum setback and elevation requirements specified in rule 64E-6.018(1).

(b) The owner or lessee of a system shall comply with the general maintenance and operational requirements of rule 64E-6.012(2) and (3).

(3) In conjunction with the systems specified in rule 64E-6.018(1) and (2), an applicant may use the alternative systems described in rule 64E-6.009(1), (3), (4), (5) or (6). An alternative system shall meet the general intent of Part I and Part II of this rule.

Specific Authority: 381.0011(4),(13), 381.006, 381.0065(3)(a) and (4)(k), FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.006(7), 381.0061, 381.0065, 381.00655, FS. History: New 7-15-86, Amended 3-17-92, 1-3-95, Formerly 10D-6.063, Amended 3-3-98.

**64E-6.0181 CESSPIT REPLACEMENT AND UNDOCUMENTED SYSTEM UPGRADE**

Where a property is determined to have a cesspit, the cesspit shall be required to be replaced with an onsite sewage treatment and disposal system complying with rule 64E-6.018. Where a property is determined to have an undocumented onsite sewage treatment and disposal system, such system shall be required to be upgraded to meet the Department of Health Policy for the Evaluation, Approval and Permitting of Existing Onsite Sewage Treatment and Disposal Systems in the Florida Keys, dated December 19, 1997, which is herein incorporated by reference.

Specific Authority: 381.0011(4),(13), 381.006, 381.0065(3)(a) and (4)(k), FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.006(7), 381.0061, 381.0065, 381.00655, 386.01, 386.03, 386.041 FS. History: New 3-3-98.

**64E-6.0182 COORDINATED PERMITTING**

Chapter 28-20, F.A.C., and the Memorandum Of Understanding (MOU) between Monroe County, the Department of Community Affairs, the Department of Environmental Protection, and the Department of Health, including the Monroe County Health Department, dated July 25, 1997, are herein incorporated by reference. Chapter 28-20, F.A.C., and the MOU establish an interim permit allocation system for interim development and a coordinated permit review process. Chapter 28-20, F.A.C., and the MOU prohibit new system construction permits to serve new residential development that would allow development in excess of the number of permits that Monroe County may issue under its' interim policy.

Specific Authority: 381.0011(4),(13), 381.006, 381.0065(3)(a) and (4)(k), FS. Law Implemented: 154.01, 381.0011(4), 381.006(7), 381.0065, 381.00655, 386.01, 386.03, 386.041, FS. History: New 3-3-98.

## Part III

### 64E-6.019 REQUIREMENTS FOR REGISTRATION

(1) Persons subject to registration - A person shall be subject to the requirements of this rule if he or she contracts or advertises to provide services to the public or holds himself or herself out as being capable of performing services related to any of the following activities in the onsite sewage treatment and disposal industry regulated by the department:

(a) Installation of onsite sewage treatment and disposal systems,

(b) Repair of onsite sewage treatment and disposal systems,

(c) Modification of onsite sewage treatment and disposal systems,

(d) Maintenance of onsite sewage treatment and disposal systems,

(e) Septic tank pumping and septage disposal services, excluding companies which only provide portable toilet or temporary holding tank services,

(f) Abandonment of an onsite sewage treatment and disposal system.

(2) Any person seeking registration shall apply to the department to take the registration examination on Form DH 4075, 1/97, Application for Septic Tank Contractor Registration, incorporated by reference in these rules. The form is available from the department.

(3) A person shall be eligible to take the registration examination if they submit necessary exhibits and fees and meet the requirements of s. 489.553(4), F.S.

(a) Under the supervision and control of a registered septic tank contractor or a plumbing contractor in s. 489.553(4)(d), F.S., is defined as an employment relationship where compensation can be documented by the regular deduction of FICA and withholding tax and the provision of worker's compensation, all as required by law.

(b) Out-of-state work experience on a year for year basis shall be accepted for any applicant who demonstrates that they hold a current statewide license for septic tank contracting which was issued upon satisfactory completion of an equivalent examination and required continuing education courses for renewal. For purposes of this section, an equivalent examination means that at a minimum, the following topics were tested and passed: system location and installation; site evaluation criteria; system size determinations; disposal of septage; construction standards for drainfield systems and U.S. Department of Agriculture soil textural classification system. A person employed by and under the supervision and control of such a licensed contractor shall be granted up to two years of related work experience.

(4) Completed applications for examination must be received by the department's Onsite Sewage Program at least 30 days prior to examination. In order to be complete, the application must have all appropriate spaces filled, be signed by the applicant, be reviewed by the county health department where the applicant provides service, include a money order or sufficiently funded check in the correct amount and contain all necessary support documentation. Support documentation shall include:

(a) A list of all contracts by the applicant or business organization under way at the time of filing, if any, along with a list of all contracts completed 3 years immediately preceding the date of filing or, in the alternative, a list of the 25 most recent contracts performed. This list shall include the description of each job, location, owner, construction permit number if applicable, date job completed, and general contractor, if applicable.

(b) Affidavits from two persons not related to the applicant for whom the applicant has provided contracted services, stating that the applicant is of good moral character.

(c) Certification from a registered septic tank contractor of the applicant's employment dates and work responsibilities, to include documentation of payment of federal withholding tax and social security and worker's compensation, all a required by law.

(d) Two recent color passport style photographs, not older than 12 months and 1 1/2 X 1 1/2 inches in size.

(5) Eligible applicants must successfully complete an examination administered by the department. Minimum passing score for the examination shall be a 70 percent correct response to all questions comprising the exam.

Specific Authority: 154.06(1), 381.0011(4),(13), 381.006, 381.0065(3)(a), 489.553(2),(3) and 489.557 FS. Law Implemented: 154.01, 381.001, 381.0011(4), 381.0012, 381.006, 381.0061, 381.0065, Part III 489.552, 489.553 FS. History: New 10-25-88, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.072, Amended 2-3-98.

### 64E-6.020 MASTER SEPTIC TANK CONTRACTORS

(1) A septic tank contractor or a plumbing contractor certified under 489.105(3)(m), F.S., who is eligible under s. 489.553(5)(a) and (b), F.S., may apply to the department on form DH 4105, 10/96, Application for Master Septic Tank

Contractor Registration, hereby incorporated by reference and available from the department, to take the master contractor examination provided the contractor:

(a) Has been in "active" status for the three years immediately preceding the date of application. This time period may not be interrupted by or include any registration probation or suspension imposed by the department through administrative action.

(b) Has not been assessed more than $500 in administrative penalties by the department in the three years immediately preceding the date of application.

(c) Does not have an outstanding fine assessed pursuant to this chapter which is in final order status and judicial reviews are exhausted.

(d) Does not have a disciplinary case pending with the department involving septic tank contracting.

(e) Has not been convicted of, found guilty of, or entered a plea of nolo contendere to, regardless of adjudication, a crime in any jurisdiction which is related to the practice of contracting for the three years immediately preceding the date of application.

(f) Has completed 30 hours of master contractor course work approved by the department. At a minimum, this course work shall include training and testing of soil classification, system design and theory, contractor ethics, system material and construction standards, and regulatory requirements.

(2) Completed applications for examination must be received by the department Onsite Sewage Program office at least 30 days prior to examination. In order to be complete, the application must have all appropriate spaces filled, be signed and dated by the applicant, be reviewed by the county health department where the applicant's primary place of business is located, and include a money order or sufficiently funded check in the correct amount.

(3) Eligible applicants must successfully complete an examination administered by the department. Minimum passing score for the examination shall be a 70 percent correct response to the examination questions.

(4) Successful applicants shall be issued a master septic tank contractor certificate after they have paid the registration fee

(5) Master septic tank contractor certificates shall be renewed only after the contractor has completed 12 classroom hours of approved instruction for each renewal cycle. At least 6 classroom hours must be in an approved master contractor course. Instructional time spent by a master septic tank contractor in providing department approved continuing education training shall receive credit as master contractor course hours. Application for renewal shall be made on form DH 4076, 10/96, Application for Septic Tank Contractor Registration Renewal, accompanied by the required supporting documentation and fees.

(a) A master septic tank contractor who only completes 6 classroom hours of approved instruction during the renewal cycle shall revert to registered septic tank contractor status and shall apply for renewal under rule 64E-6.021.

(b) Applications for renewal not submitted in a timely and complete manner shall revert to inactive status. Each application for renewal shall be considered filed in a timely manner if it is postmarked prior to close of business on the date of expiration of the certificate. Application for renewal of an inactive certificate shall be made on form DH 4076, 10/96, Application for Septic Tank Contractor Registration Renewal, accompanied by the required supporting documentation and fees.

(c) The department shall deny an application for renewal for an outstanding administrative penalty with the department where the penalty is final agency action.

(d) Master contractor certificates not renewed within one renewal cycle of the expiration date shall be considered null and void.

Specific Authority: 154.06(1), 381.0011(4),(13), 381.006, 381.0065(3)(a), 489.553(2),(3) and 489.557 FS. Law Implemented: 154.01, 381.001, 381.0011(4), 381.0012, 381.006, 381.0061, 381.0065, Part III 489.552, 489.553 FS. History: New 2-13-97, Formerly 10D-6.0725, Amended 2-3-98.

## 64E-6.021 ISSUANCE OF REGISTRATION CERTIFICATES AND RENEWAL

(1) Certificates of registration shall be renewed only after information has been provided to the department that the contractor has successfully completed 6 classroom hours of approved instruction within the previous 12-month period regarding the public health and environmental effects of onsite sewage treatment and disposal systems and the proper installation and use of onsite sewage treatment and disposal systems. Such information shall be accompanied by necessary

renewal fees and a completed renewal application on form DH 4076, Application for Septic Tank Contractor Registration Renewal, incorporated by reference in these rules.

(2) Any registration renewal application which for any reason is not submitted in a timely and complete manner shall revert to inactive status. Each application for renewal shall be considered filed in a timely manner if the application has been postmarked prior to the close of business on the date of expiration of the registration. If that date falls on a weekend or legal holiday, the date of expiration shall be the first working day after the expiration date on the certificate of registration.

(3) A registered contractor may request inactive status. Inactive registrations not renewed in two renewal cycles from the date of inactivation shall be considered null and void. Persons wishing to renew an inactive registration must make application on form DH 4076 and substantiate six classroom hours of approved instruction for each year the registration was considered inactive. Application must be accompanied by necessary exhibits and renewal fees.

(4) The department shall deny an application for renewal if there is any outstanding administrative penalty with the department where the penalty is final agency action and all judicial reviews are exhausted.

Specific Authority: 154.06, 381.0011, 381.006, 381.0065, 489.553 and 489.557 FS. Law Implemented: 154.01, 381.001, 381.0011, 381.0012, 381.0025, 381.006, 381.0061, 381.0065, 381.00655, 381.0066, 381.0067, Part I 386, Part III 489 FS. History: New 10-25-88, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.073.

**64E-6.022 DISCIPLINARY GUIDELINES**

(1) The following guidelines shall be used in disciplinary cases, absent aggravating or mitigating circumstances and subject to other provisions of this section.

(a) Providing contracted services without obtaining registration from the department, failure to obtain a certificate of authorization for a firm which provides contracted services, acting under a name not registered or authorized by the department. First violation, letter of warning; repeat violation, $500 fine, or revocation.

(b) Permit violations.

1. Contractor initiates work to install, modify, or repair a system when no permit has been issued by the department. A permit is issued after construction is started but prior to completion of the contracted work. No inspections are missed. First violation, $500 fine; repeat violation, $500 fine and 90 day suspension or revocation.

2. Contracted work is completed without a permit having been issued, or no permit application is received until after contracted work was completed, resulting in missed inspection or inspections. First violation, $1000 fine; repeat violation, revocation.

(c) Contracting with a delinquent registration. First violation, $250 fine; repeat violation, $500 fine or revocation.

(d) Failure to call for required inspections. First violation, $250 fine; repeat violation, $500 fine and 90 day suspension or revocation.

(e) False payment statements which are the result of assessing charges to a customer for work not performed. First violation, $500 fine; repeat violation, $500 fine and one year suspension or revocation.

(f) Misconduct by failure to reasonably honor warranty. First violation, $500 fine; repeat violations, $500 fine and one year suspension or revocation.

(g) Abandoning without good cause, a project in which the contractor is engaged or under contractual obligation to perform. First violation, $500 fine; repeat violation, revocation.

(h) Aiding or abetting evasion of Chapter 489, FS. First violation, letter of warning; repeat violation, $500 fine and one year suspension or revocation.

(i) Obtaining registration through fraud or misrepresentation. Revocation and $500 fine.

(j) Convicted or found guilty of a crime relating to contracting. Use penalty for violation most closely resembling the act underlying the conviction; repeat violation, revocation.

(k) Practicing fraud or deceit, making misleading or untrue representations. First violation, $500 fine; repeat violation, revocation.

(l) Gross negligence, incompetence, or misconduct which:

1. Causes no monetary or other harm to a customer, or physical harm to any person. First violation, $500 fine; repeat violation, $500 fine and 90 day suspension or revocation.

2. Causes monetary or other harm to a customer, or physical harm to any person. First violation, $500 fine and 90 day suspension; repeat violation, $500 fine and revocation.

(m) Operating a septage disposal service without a valid department operating permit. First violation, $500 fine; repeat violation, revocation.

(n) Failure to properly treat or properly dispose of septage or food service sludge. First violation, $500 fine per violation of rule 64E-6.010; repeat violation, revocation.

(o) Failure to maintain completed records of septage treatment and disposal activities. First violation, $250 fine; repeat violation, $500 fine and 90 day suspension or revocation.

(p) Installation, modification, or repair of an onsite sewage treatment and disposal system in violation of the standards of s. 381.0065 or s. 381.00655, F.S., or chapter 64E-6, F.A.C. First violation, $500 per specific standard violated; repeat violation, 90 day suspension or revocation.

(q) Creation or maintenance of a sanitary nuisance as defined by s. 386.041, F.S. First violation, $500 fine, repeat violation, 90 day suspension or revocation.

(r) Falsifying an inspection report or covering a system in violation of the standards of rule 64E-6.003. First violation, $500 fine; repeat violation, 90 day suspension of master septic tank contractor privileges or revocation of registration.

(s) The absence of any violation from this section shall be viewed as an oversight, and shall not be construed as an indication that no penalty is to be assessed.

(2) Circumstances which shall be considered for the purposes of mitigation or aggravation of penalty shall include the following:

(a) Monetary or other damage to the registrant's customer, in any way associated with the violation, which damage the registrant has not relieved, as of the time the penalty is to be assessed.

(b) Actual job-site violations of this rule or conditions exhibiting gross negligence, incompetence or misconduct by the contractor, which have not been corrected as of the time the penalty is being assessed.

(c) The severity of the offense.

(d) The danger to the public.

(e) The number of repetitions of the offense.

(f) The number of complaints filed against the contractor.

(g) The length of time the contractor has practiced and registration category.

(h) The actual damage, physical or otherwise, to the customer.

(i) The effect of the penalty upon the contractor's livelihood.

(j) Any efforts at rehabilitation.

(k) Any other mitigating or aggravating circumstances.

(3) As used in this rule, a repeat violation is any violation on which disciplinary action is being taken where the same licensee had previously had disciplinary action taken against him or received a letter of warning in a prior case. This definition applies regardless of the chronological relationship of the violations and regardless of whether the violations are of the same or different subsections of this rule. The penalty given in the above list for repeat violations is intended to apply only to situations where the repeat violation is of a different subsection of this rule than the first violation. Where the repeat violation is the very same type of violation as the first violation, the penalty set out above will generally be increased over what is shown for repeat violations.

(4) Where several of the above violations shall occur in one or several cases being considered together, the penalties shall normally be cumulative and consecutive.

(5) The provisions of this section shall not be construed so as to prohibit civil action or criminal prosecution as provided in Part III of Chapter 489, FS, and Section 381.0065 FS, or for a violation of any provision of part I of Chapter 386, FS. No provision of this section shall be construed as to limit the ability of the department to enter into binding stipulation with the accused party per subsection 120.57(4), FS.

Specific Authority: 154.06(1), 381.0011(4),(13), 381.006, 381.0065(3)(a), 489.553(2),(3) and 489.557 FS. Law Implemented: 154.01, 381.001, 381.0011(4), 381.0012, 381.006, 381.0061, 381.0065, 381.0067, Part I 386, Part III 489 FS. History: New 3-17-92, Amended 1-3-95, 2-13-97, Formerly 10D-6.0751, Amended 2-3-98.

## 64E-6.023 CERTIFICATION OF PARTNERSHIPS AND CORPORATIONS

(1) Authorization of a corporation is only effective as to that corporation; subsidiaries or parents of authorized corporations must be separately authorized.

(a) Application for a certificate of authorization shall be made to the department on form DH 4077, Application for Certificate of Authorization, incorporated by reference into this rule, and shall be accompanied by all necessary exhibits and fees.

(b) Any certificate of authorization not renewed in a timely manner shall revert to inactive status. Applications for renewal shall be considered timely filed if the application has been post marked prior to the close of business on the date of expiration of the certificate. If that date falls on a weekend or legal holiday, the day of expiration shall be the first working

day after the expiration date of the certificate. Inactive certificates not renewed within 2 years from the date of expiration shall be considered null and void.

(2) A registered contractor may not be the sole qualifying contractor for more than one business requesting a certificate of authorization.

(3) A business organization which loses its qualifying person shall have sixty (60) days from the date the qualifier terminated his affiliation within which to obtain another qualifying person. This period may be extended by the department upon a showing of good cause. During this period, the business organization may complete any existing contracts or continuing contracts, but may not undertake new contracts.

Specific Authority: 154.06, 381.0011, 381.006, 381.0065, 489.553 and 489.557 FS. Law Implemented: 154.01, 381.001, 381.0011, 381.0012, 381.0025, 381.006, 381.0061, 381.0065, 381.00655, 381.0066, 381.0067, Part I 386, Part III 489 FS. History: New 10-25-88, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.076.

**64E-6.024 FEES**

Specific Authority: 154.06(1), 381.0011(4),(13), 381.006, 381.0065(3)(a), 489.553, 489.554 and 489.557 FS. Law Implemented: 154.01, 381.001, 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0066, 489.553(2), 489.554, 489.555, 489.557, FS. History - New 10-25-88, Amended 3-17-92, 1-3-95, 5-14-96, 2-13-97, Formerly 10D-6.077, Amended 11-19-97. Repealed 2-3-98. Editor's Note: See 64E-6.030.

## PART IV
## PERFORMANCE-BASED TREATMENT SYSTEMS

**64E-6.025 DEFINITIONS**

Definitions in Chapter 64E-6, Parts I and II, are also applicable to Chapter 64E-6, Part IV.

(1) Advanced Secondary Treatment Standards: A wastewater system with the following operational criteria:

(a) $CBOD_5$ and TSS

1. The arithmetic mean of the $CBOD_5$ or TSS values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 10 mg/l.

2. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used)on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 12.5 mg/l.

3. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 15 mg/l.

4. Maximum-permissible concentrations of $CBOD_5$ or TSS values in any effluent grab sample at any time shall not exceed 20 mg/l.

(b) TN

1. The arithmetic mean of the TN values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 20 mg/l.

2. The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used)on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 25 mg/l.

3. The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 30 mg/l.

4. Maximum-permissible concentrations of TN values in any effluent grab sample at any time shall not exceed 40 mg/l.

(c) TP

1. The arithmetic mean of the TP values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 10 mg/l.

2. The arithmetic mean of the TP values for a minimum of four effluent samples, each collected (whether grab or composite technique is used)on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 12.5 mg/l.

3. The arithmetic mean of the TP values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 15 mg/l.

4. Maximum-permissible concentrations of TP values in any effluent grab sample at any time shall not exceed 20 mg/l.

(d) Fecal coliform - system operation shall result in not more than 14 fecal coliform colonies per 100 ml of effluent sample. Where chlorine is used for disinfection, the design shall include provisions for rapid and uniform mixing and a total chlorine residual of at least 1.0 mg/l shall be maintained after at least 15 minutes contact time at the peak hourly flow. To determine compliance of a system, the following operational criteria (using either MF or MPN methods) are applicable.

1. The arithmetic mean of the fecal coliform colonies collected during the annual period shall not exceed 14 per 100 ml of effluent.

2. The median value of the fecal coliform colonies for a minimum number of 10 samples of effluent, each collected on a separate day during a period of 30 days (monthly) shall not exceed 14 per 100 ml of sample.

3. No more than 10% of the samples collected during the period of 30 consecutive days shall exceed 43 fecal coliform colonies per 100 ml of sample.

4. Any one sample shall not exceed 86 fecal coliform colonies per 100 ml of sample.

(2) Advanced Wastewater Treatment Standards: A wastewater system with the following operational criteria:

(a) $CBOD_5$ and TSS

1. The arithmetic mean of the $CBOD_5$ or TSS values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 5 mg/l.

2. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used)on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 6.25 mg/l.

3. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 7.5 mg/l.

4. Maximum-permissible concentrations of $CBOD_5$ or TSS values in any effluent grab sample at any time shall not exceed 10 mg/l.

(b) TN

1. The arithmetic mean of the TN values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 3 mg/l.

2. The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used)on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 3.75 mg/l.

3. The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 4.5 mg/l.

4. Maximum-permissible concentrations of TN values in any effluent grab sample at any time shall not exceed 6 mg/l.

(c) TP

1. The arithmetic mean of the TP values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 1 mg/l.

2. The arithmetic mean of the TP values for a minimum of four effluent samples, each collected (whether grab or composite technique is used)on a separate day during a period of 90 consecutive days (quarterly) shall not exceed 1.25 mg/l.

3. The arithmetic mean of the TP values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 1.5 mg/l.

4. Maximum-permissible concentrations of TP values in any effluent grab sample at any time shall not exceed 2.0 mg/l.

(d) Fecal coliform - system operation shall result in an effluent in which fecal coliform colonies (per 100 ml of sample) are below detectable limits. Where chlorine is used for disinfection, the design shall include provisions for rapid and uniform mixing; and the total chlorine residual of at least 1.0 mg/l shall be maintained at all times. The minimum acceptable contact time shall be 15 minutes at the peak hourly flow. To determine compliance of a system, the following operational criteria (using either MF or equivalent MPN methods) shall be applicable

1. Fecal coliform shall be below the detection limits for 75% of the samples collected over a 30 day period.

2. Any one sample shall not exceed 25 fecal coliform colonies per 100 ml of sample.

3. Any one sample shall not exceed 5.0 mg/l of TSS at a point before application of the disinfectant.

(3) Baseline system standards- A passive, gravity fed subsurface trench system that is made up of the following components and characteristics, and is in compliance with Part I requirements:

(a) a dual compartment septic tank, or tanks in series,

(b) an approved outlet filter device meeting the manufacturers recommendations, installed on the septic tank discharge outlet immediately prior to discharge into the drainfield,

(c) Anticipated effluent concentrations from the treatment tank are within the following ranges:

1. $CBOD_5$ - 120-240 mg/l
2. TSS - 65-176 mg/l
3. TN - 36 - 45 mg/l
4. TP - 6- 10 mg/l

(d) a distribution box or header pipe,

(e) a mineral aggregate drainfield trench with the following characteristics

1. measures 12 inches deep by 36 inches wide
2. the top of the drainfield no closer to the ground surface than 6 inches
3. the bottom of the drainfield no farther from the ground surface than 30 inches
4. bottom of drainfield is a minimum of 24 inches above the seasonal high water table in undisturbed natural soil
5. a 4 inch distribution line.

(f) Anticipated percolate concentrations from the baseline system prior to discharge to groundwater is within the following ranges:

1. $CBOD_5$ - $<5$ mg/l
2. TSS - $<5$ mg/l
3. TN - 15 - 25 mg/l
4. TP - $<5$ mg/l

(4) Bottom infiltrative surface - the vertical projection of the bottom surface of the drainfield that is no lower in elevation than 30 inches below grade.

(5) Composite sample - means a combination of individual samples of wastewater or effluent taken at selected intervals, generally hourly or less for some specified period, to minimize the effect of the variability of the individual sample.

(6) Grab sample - a sample which is taken from a wastestream without regard to the flow in the wastestream and over a period of time not to exceed fifteen minutes.

(7) Effective drainfield depth - the vertical distance from the bottom of the drainfield to the invert of the distribution pipe.

(8) Performance-based treatment system - a specialized onsite sewage treatment and disposal system designed by a professional engineer with a background in wastewater engineering, registered in the state of Florida, using appropriate application of sound engineering principles to achieve specified levels of $CBOD_5$ (carbonaceous biochemical oxygen demand), TSS (total suspended solids), TN (total nitrogen), TP (total phosphorus), and fecal coliform found in domestic sewage waste, to a specific and measurable established performance standard. This term does not include package sewage treatment facilities and other treatment works regulated under chapter 403.

(9) Performance System Maintenance Entity - any person or business entity which has been issued a written permit by the county health department and has been authorized by the design engineer or manufacturer of all treatment components used in the performance-based treatment system and provides operation and maintenance services associated with performance-based treatment system.

(10) Secondary Treatment Standards: A wastewater system with the following operational criteria:

(a) $CBOD_5$ and TSS

1. The arithmetic mean of the $CBOD_5$ or TSS values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 20 mg/l.

2. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day during a period of 30 consecutive days (monthly) shall not exceed 30 mg/l.

3. The arithmetic mean of the $CBOD_5$ or TSS values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 45 mg/l.

4. Maximum-permissible concentrations of $CBOD_5$ or TSS values in any effluent grab sample at any time shall not exceed 60 mg/l.

(b) Fecal coliform - system operation shall result in not more than 200 fecal coliform colonies per 100 ml of effluent sample. Where chlorine is used for disinfection, the design shall include provisions for rapid and uniform mixing and a total chlorine residual of at least 0.5 mg/l shall be maintained after at least 15 minutes contact time at the peak hourly flow. To determine compliance of a system, the following operational criteria (using either MF or equivalent MPN methods) are applicable.

1. The arithmetic mean of the fecal coliform colonies collected during the annual period shall not exceed 200 per 100 ml of effluent.

2. The geometric mean of the fecal coliform colonies for a minimum of 10 samples of effluent, each collected on a separate day, shall not exceed 200 per 100 ml of sample.

3. No more than 10% of the samples collected during a period of 30 consecutive days shall exceed 400 fecal coliform colonies per 100 ml of sample.

4. Any one sample shall not exceed 800 fecal coliform values per 100 ml of sample.

(11) Sidewall infiltrative surfaces - the horizontal projection of the drainfield measured from the invert of the drainfield distribution pipe to the bottom infiltrative surface, or to 30 inches below finished grade, whichever is less.

(12) Total drainfield depth - the vertical distance from the bottom of the drainfield to the top of the drainfield.

(13) Wastewater strength - the sum of the $CBOD_5$ and TSS concentrations in the effluent.

Specific Authority: 381.0011(13), 381.006, 381.0065(3)(a), 489.553(3) and 489.557(1) FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0067, Part I 386, 489.553, FS. History - New 2-3-98.

## 64E-6.026 APPLICATION FOR SYSTEM CONSTRUCTION PERMIT

All information required in Part I for an application for system construction permit shall be included as part of the application for a performance-based treatment system. Additional information shall include the following.

(1) Two copies of all information shall be dated, signed and sealed by the registered engineer who designed the system, and provided to the department. Upon any change to the design, two copies of any revisions shall be provided to the department.

(a) System design criteria, to include performance levels for the performance-based system and monitoring requirements and monitoring locations, and method of monitoring flow through the system. Performance levels shall be indicated in the design as secondary treatment standards, advanced secondary treatment standards, or advanced wastewater treatment standards, or baseline treatment. If soil is considered part of the treatment system in any performance-based standard, monitoring points in the effluent plume within the boundaries of the property must be in compliance with the minimum criteria for class G-I and G-II groundwater as specified in 62-520.420, F.A.C., hereby incorporated by reference.

(b) System design calculations for the performance-based system.

(c) System design plans and drawings for the performance-based treatment system, to include all components and method of installation to be used in construction. A detailed installation drawing shall be included. The site plan required in 64E-6.004(3)(a) shall be drawn to scale.

(d) Contingency plan for effluent to be collected and disposed of, or treated, in the event of system failure.

(e) Certification of design. The design engineer shall certify the design of the system to meet all applicable performance standards. The certification shall be as follows: "I certify that the engineering features of this performance-based treatment system have been designed or specified by me and conform to engineering principles applicable to such projects. In my professional judgment, this system, when properly constructed, operated and maintained, will achieve the established performance standard and comply with all applicable statutes of the State of Florida and rules of the Department".

(f) An operation and maintenance manual shall be prepared by the design engineer and provided as part of the original design.

(g) All changes to the engineering specifications shall be approved and certified by the design engineer. A copy of any changes shall be provided to the county health department for review for compliance with performance-based system standards and approval or disapproval.

(h) All changes to the operation and maintenance manual shall be approved and certified by the design engineer. A copy of any changes shall be provided to the county health department for review and approval or disapproval.

(i) A cover letter addressed to the county health department stating that the applicant wishes to apply for a performance-based treatment system.

(2) Within five working days after receipt of an application, or change to the original application, the county health department shall request additional information if the application is not complete.

Specific Authority: 381.0011(13), 381.006, 381.0065(3)(a), 489.553(3) and 489.557(1) FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0067, Part I 386, 489.553, FS. History - New 2-3-98.

64E-6.027 PERMITS

Permits for performance-based treatment systems shall be issued in accordance with the following requirements.

(1) System Construction Permit - No portion of a performance-based treatment system shall be installed, repaired, altered, modified, abandoned or replaced until an "Onsite Sewage Treatment and Disposal System Construction Permit" has been issued on form DH 4016. If building construction has commenced, the system construction permit shall be valid for an additional 90 days beyond the eighteen month expiration date. A fee shall be charged for a repair permit issued within 12 months from the date of final authorization of the performance-based treatment system . If a construction or repair permit for a performance-based treatment system is transferred to another person, the date of the construction or repair permit shall not be amended, but shall run from the date of original issuance prior to the transfer. Servicing or replacing with like kind mechanical or electrical parts of a performance-based treatment system; pumping of septage from a system; or making minor structural corrections to a tank, or distribution box, does not constitute a repair, however, all services must be performed by the performance system maintenance entity. Any proposed change from the original design, including increasing or decreasing changes in flow rate, shall require that the system be re-engineered to achieve the desired performance standard under the altered conditions.

(2) Within 15 working days after the department receives a completed application for a performance-based treatment system, the county health department must either issue a permit for the system or shall notify the applicant that the system does not comply with the performance criteria, and refer the application to the Bureau of Onsite Sewage Programs, who shall review the application for a determination whether the system should be approved, disapproved, or approved with modifications. The determination of the engineer for the Bureau of Onsite Sewage Programs shall prevail over the action of the local county health department.

(3) The applicant shall be notified of the department's determination. If the permit is denied, the applicant shall be notified of their right to pursue a variance or seek review under the provisions of Chapter 120, F.S.

(4) System inspection - Before covering with earth and before placing the performance-based treatment system into service, a person installing or constructing any portion of the performance-based treatment system shall notify the county health department of the completion of the construction activities and shall have the system inspected by the department for compliance with the requirements of this Chapter.

(a) Prior to or concurrent with a final installation inspection by the department, the professional engineer who designed the system, or the design engineer's designee, shall observe the entire installation and shall certify in writing that the installed system complies with the approved design and installation requirements. This certification shall read as follows: "I certify that the engineering features of this performance-based treatment system have been examined by me and found to substantially comply with all specifications contained in the engineering design that was the basis for issuance of the construction permit. I certify that the operation and maintenance manual for this performance-based treatment system has been prepared or examined by me or by an individual(s) under my direct supervision and that there is reasonable assurance, in my professional judgment, that the system, when properly operated and maintained in accordance with this

manual, will achieve the established performance standard and comply with all applicable statutory requirements and rules of the department".

(b) If the system construction is approved after an inspection by the county health department, the department shall issue a "Construction Approval" notice to the installer. A drawing to depict the installation as built shall be provided to the department prior to final system approval.

(c) If the system is found to not comply with the construction permit during the construction inspection on any type of system installation, the county health department shall notify the engineer. The installer shall make all required corrections and notify the county health department of the completion of the work prior to reinspection of the system. A reinspection fee shall be charged for each additional inspection leading up to construction approval.

(d) Final installation approval shall not be granted until the county health department has confirmed that all requirements of this Chapter, including building construction and lot grading are in compliance with plans and specifications provided with the permit application, the system maintenance entity has been identified to the county health department, and the property owner has executed and recorded in the public property records at the county courthouse, a written notice that informs all subsequent property owners of the use of the performance-based treatment system, and of the requirement for the system to be maintained, in perpetuity, in compliance with all lawful requirements. "Approved" installation does not imply that a system will perform satisfactorily for a specific period of time.

(5) Operating permits - No residence served by a performance-based treatment system shall be occupied until Form DH 4081, 10/96, "Application for Onsite Sewage Treatment and Disposal System Operating Permit" has been received and approved by the department. Form DH 4081, is hereby incorporated by reference, and is available from the department. Where a performance-based treatment system is used, only one operating permit shall be required for the system.

(a) Persons using performance-based treatment systems shall obtain an annual operating permit from the county health department for the system. Persons operating a performance-based treatment system shall permit department personnel right of entry to the property during normal working hours to allow for effluent sampling or evaluating the general state of repair or function of the system.

(b) The permit shall designate the performance system maintenance entity responsible for the operation and maintenance of the system. At a minimum, the performance system maintenance entity responsible for maintenance of the system shall test, or cause to be tested, the performance-based treatment system in accordance with Part IV of this rule. The frequency of testing shall be specified on the annual operating permit. The operating permit shall also specify the observation interval to assess the operation of the system without taking monitoring samples.

(c) Systems and the structures which they serve shall be inspected by the department at least once during the term of the annual operating permit to determine compliance with the terms of the operating permit.

(d) A copy of the signed maintenance agreement between the property owner or property lessee and an engineer-designed performance-based system maintenance entity shall be provided to the county health department by the maintenance entity. The maintenance agreement shall:

1. Initially be for a period of at least 2 years and subsequent maintenance agreement renewals shall be for at least 1 year periods for the life of the system.

2. Provide that a maintenance entity which desires to discontinue the provision of maintenance services, notify in writing, the property owners and lessees and the county health department at least 60 days prior to discontinuance of service.

3. Provide that, if a private maintenance entity discontinues business, property owners who have previously contracted with the discontinued maintenance service shall, within 60 days of the service termination date, contract with an approved maintenance service and provide the county health department a copy of the newly signed maintenance agreement.

4. Provide that each performance-based treatment system is inspected by an engineer-designed performance-based system maintenance entity at least two times each year. The maintenance entity shall furnish to the county health department a listing of all performance based treatment systems inspected or serviced during the respective reporting period. As a minimum, reports shall indicate the system owner or building lessee, the street address of the system, the date of system inspection or service and a statement as to the maintenance or service performed. The maintenance entity shall also include a list of the owners who have refused to renew their maintenance agreement.

(e) The county health department shall also inspect each authorized maintenance entity, including review of their service records and maintenance agreements. A report summarizing results of field evaluations, effluent sample analysis, and a summary of maintenance agreement and servicing records compliance, shall be provided annually to the departments' Bureau of Onsite Sewage Programs for a determination of the effectiveness of the provisions of this section in assuring proper operation and maintenance of performance-based treatment systems.

Specific Authority: 381.0011(13), 381.006, 381.0065(3)(a), 489.553(3) and 489.557(1) FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0067, Part I 386, 489.553, FS. History - New 2-3-98.

## 64E-6.028 LOCATION AND INSTALLATION

Performance-based treatment systems shall be installed in compliance with the following.

(1) Systems shall receive the following setbacks to the listed feature. If no setback is specified for a specific feature, Part I requirements shall apply unless the performance-based treatment system is located in the Florida Keys. If located in the Florida Keys, Part II shall be used for all setbacks.

(a) Secondary Treatment Standards. The system shall be a minimum of 65 feet from any surface water or wet retention or detention area if the lot was platted on or after January 1, 1972.

(b) Advanced Secondary Treatment Standards

1. Surface water: The system shall be a minimum of 50 feet from any surface water or wet retention or detention area if the lot was platted on or after January 1, 1972.
2. Groundwater interceptor drain: 10 feet
3. Dry retention area and swales: 10 feet

(c) Advanced Wastewater Treatment Standards

1. Surface water: The drainfield shall be a minimum of 25 feet from any surface water or wet retention or detention area. The treatment unit or process containers shall be a minimum of 50 feet from any surface water or wet retention or detention area.
2. Groundwater interceptor drain: 10 feet
3. Dry retention area and swales: 10 feet
4. Seasonal high water table to bottom of drainfield: 12 inches

(2) Systems designed to meet secondary treatment standards shall be allowed to exceed their authorized lot sewage flow allowances by up to 25%. Systems designed to meet advanced secondary treatment standards shall be allowed to exceed their authorized lot sewage flow allowances by up to 50%. Systems designed to meet advanced wastewater treatment standards shall be allowed to exceed their authorized lot sewage flow allowance by up to 100%. For example, if authorized lot flow is 200 gallons per day, a total of 300 gallons per day lot flow will be allowed for systems designed to meet advanced secondary treatment standards.

(3) Drainfield designs: The following alterations to drainfield requirements shall be allowed for pressure dosed systems only.

(a) Long Term Acceptance Rate, also known as LTAR - LTAR's for sidewall infiltrative surfaces shall not exceed 1.25 times the bottom infiltrative surface LTAR for the same soil classification. Where the soil classification varies within the drainfield soil profile, the sidewall LTAR shall be adjusted accordingly. Sidewall infiltrative surfaces may be utilized only when a system is dosed a maximum of two times per day and the trench width is no greater than 18 inches.

(b) For septic tank effluent, maximum LTAR values shall not exceed the equivalent to the baseline standard for the soil classification in question.(see Table IX)

**Table IX**

BOTTOM/SIDEWALL INFILTRATIVE SURFACE
MAXIMUM EQUIVALENT LTAR's

| | | | | |
|---|---|---|---|---|
| Side LTAR : Bottom LTAR ratio = | 1.25 | 1.25 | 1.25 | 1.25 |
| Current trench bottom LTAR (gal/sq. ft/day)= | 1.20 | 0.90 | 0.65 | 0.35 |
| Trench width (inches)= | 36.00 | 36.00 | 36.00 | 36.00 |
| Effective sidewall height (inches)= | 8.00 | 8.00 | 8.00 | 8.00 |
| Total sidewall height (inches)= | 12.00 | 12.00 | 12.00 | 12.00 |
| Revised bottom LTAR (gal/sq. ft/day)= | 0.77 | 0.58 | 0.42 | 0.23 |
| New sidewall LTAR (gal/sq. ft/day)= | 0.96 | 0.72 | 0.52 | 0.28 |

Footnotes to Table IX.
Footnote 1. Designs that utilize onsite open trench horizontal and vertical hydraulic conductivity testing to adjust the bottom and sidewall LTAR's shall be acceptable. The LTAR can be modified; however, the side LTAR : bottom LTAR ratio cannot exceed 1.25 for like soils.
Footnote 2. Designs that utilize established modeling techniques to determine the maximum effective capacity (design daily flow) of a designed drainfield system shall be acceptable.
Footnote 3. The horizontal and vertical projections of inclined surfaces cannot be considered for both sidewall and bottom credit in the same cross section. The designer must select one or the other.
Footnote 4. - The current trench bottom LTAR's are from Part I, Table III, and are referred to as maximum sewage loading rates in Table III.
Footnote 5 - Absorption beds shall be allowed providing the LTAR's are adjusted accordingly.

(c) Designs based on groundwater monitoring shall be site specific with auger borings in accordance with rule 64E-6.004(3)(c), not to exceed 10 foot increments along the drainfields.

(d) Infiltrative surfaces greater than 30 inches below finished grade shall be considered ineffective in the aerobic treatment of wastewater.

(e) Sidewall-to-sidewall separation between adjacent trenches shall be equal to or greater than 1.0 times the width for slightly limited soils and 2.0 times the width for moderately limited soils. A minimum separation not less than six inches shall be maintained between trenches.

(f) Hydraulic surge storage - the design shall protect the residence from backflow into the treatment tank.

(g) For gravity and pumped systems, the following shall apply:

1. For aggregate systems, the porosity shall be calculated at 33%.

2. The effective storage volume of the drainfield shall be equal to or greater than 1.5 times the design daily flow.

3. The total storage volume of the drainfield shall be equal to or greater than 1.8 times the design daily flow.

(h) For any pumped systems, the following shall apply:

1. The pump chamber shall be capable of providing the reserve required to make up the difference between the actual drainfield effective and total storage volumes provided and the effective and total storage volumes required, if applicable. In the event of pump failure, the pump chamber shall have a reserve capacity of at least 50% of the design daily flow.

2. Pumps shall be designed in accordance with the May, 1985 Sump, Effluent and Sewage Pump Manufacturers Association standards for the purpose intended, hereby incorporated by reference.

(i) Designs that utilize sound engineering principles and groundwater movement modeling to determine appropriate soil replacement and digout criteria for the disbursement of the design daily flow shall be considered. Groundwater mounding shall not be allowed to be within 18 inches of the infiltrative surface under a hydraulic stress equal to 1.5 times the design daily flow.

(j) Infiltrative surface area reductions shall be allowed for systems designed to reduce the wastewater strength of the effluent. The baseline system shall be used for comparison with a typical average $CBOD_5$ of 140 mg/l and TSS of 105 mg/l. The maximum reduction in infiltrative surface area shall not exceed the following standards.

1. Secondary treatment standards: 25% reduction
2. Advanced secondary treatment standards: 30%
3. Advanced wastewater treatment standards: 40%

Reductions shall not be permitted if all other design requirements are not met. For example, the hydraulic surge storage requirements in rule 64E-6.028(3)(f-h) above must be sufficient in the drainfield size specified.

Specific Authority: 381.0011(13), 381.006, 381.0065(3)(a), 489.553(3) and 489.557(1) FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0067, Part I 386, 489.553, FS. History - New 2-3-98.

64E-6.029 MONITORING

Monitoring requirements - All performance-based treatment systems shall be monitored in compliance with the following requirements.

(1) Advanced wastewater treatment systems

(a) A maintenance report shall be kept by the performance system maintenance entity. A copy of all maintenance reports shall be provided to the county health department on monthly intervals, to begin one month after system operation

has started. After the first six reports are provided to the county health department, reports shall be provided once every three months. All reports must be legible. The report shall include the following information.

1. Address of performance-based treatment system.
2. Date and time of inspection.
3. Sample collection time and date, and person who collected sample.
4. Results of all sampling.
5. Volume of effluent treated, to include total monthly and daily average.
6. Maintenance performed.
7. Problems noted with performance-based treatment system and actions taken or proposed to overcome them.
8. During the first six months of system operation, or after the system has failed, systems shall be monitored a minimum of once every two weeks. Monitoring shall include sampling for $CBOD_5$, TSS, TN, TP and fecal coliform. Monitoring shall occur at the time the system is expected to be at capacity, or as close to capacity as possible. Re-sampling within 48 hours of receipt of laboratory results shall be allowed on all samples that exceed design parameters in order to evaluate the validity of the original sample results. If the re-sample is in compliance with the appropriate performance-based standard, the original result shall be disregarded. Laboratories must be approved by the department or the Department of Environmental Protection for all analyses performed. All results shall be certified by the laboratory.

a. If any two consecutive samples exceed design treatment standards by more than 100%, the system design and operation shall be inspected by the design engineer for conformance with permitting requirements, and shall be adjusted to bring the effluent quality into compliance with permitting requirements. Monitoring shall be increased to once per week, or more if the design engineer specifies such, until such time the violation is corrected. When two consecutive samples are within 100% of the design parameters, monitoring shall be reduced to once every two weeks. For example, if the design parameter is 10 mg/l $CBOD_5$, a reading of 20 mg/l $CBOD_5$ exceeds the standard by 100%.

b. After a six month period of compliance with all applicable performance standards, sampling shall be performed quarterly.

c. When an applicant installs a system designed to meet advanced wastewater treatment standards, the monitoring frequency shall be reduced by 50% if only one of the following three location and installation requirements is used and the other two remain at the standards required of prescriptive systems. The three requirements are:

(I) Setbacks required in 64E-6.028(1)(a-c).

(II) Seasonal high water table 64E-6.028(1)(d).

(III) Authorized lot flow 64E-6.028(2).

(b) When four consecutive once every two week samples from a system are at or below the applicable standard, sampling frequency shall be reduced to quarterly.

(c) When eight consecutive quarterly samples from a system are below the applicable standard, sampling frequency shall be reduced to once every six months.

(d) All reports of operating permit violations shall be reported to the department within five working days.

(e) If the system cannot be brought into compliance with design parameters, the contingency plan must be enforced.

(f) All failures of the performance-based treatment system shall be reported to the county health department by the maintenance entity within one working day from discovery of failure. The testing laboratory shall mail copies of all results to the county health department.

(g) Testing performed during periods of system non-use that exceed one week, shall not qualify as legitimate samples for purposes of compliance with any provisions of this rule.

(2) All other performance-based treatment systems shall be monitored via placing a minimum of two observation ports in the drainfield, Monitoring will consist of recording depth of effluent ponding in the drainfield in at least two places on a monthly basis during the first six months and quarterly thereafter.

(3) Any performance based treatment system that is out of compliance with the terms of the operating permit shall be re-engineered by an engineer registered in the State of Florida. The system shall be brought into compliance with treatment standards required at the time of system permitting.

(4) The following shall be considered as violations of the performance based treatment system:

(a) The failure to maintain equipment in a condition which will enable the intended function.

(b) The submission, by the owner, manager or maintenance entity of a performance based treatment system, or agent or employee thereof, of misleading, false, or inaccurate information or operational reports to the department, either knowingly or through neglect.

(c) The submission of fraudulent data produced with an intention to deceive including the following:

1. Apparent measurement results for which no measurement or test results were actually made as determined by the absence of the supporting records which are usually made.

2. Measurements or test results obtained by deliberately and knowingly making measurements or collecting samples at places and times other than as specified in this chapter.

3. Test results obtained through use of unapproved and erroneous sampling, preservation, storage, or analysis procedures.

4. Computational errors, misunderstandings of required procedures and other common errors are excluded.

Specific Authority: 381.0011(13), 381.006, 381.0065(3)(a), 489.553(3) and 489.557(1) FS. Law Implemented: 154.01, 381.001(2), 381.0011(4), 381.0012, 381.0025, 381.006(7), 381.0061, 381.0065, 381.0067, Part I 386, 489.553, FS. History - New 2-3-98.

## Part V

### 64E-6.030 FEES

(1) The following fees are required to accompany applications for site evaluations, construction or repair permits, and other services provided by the department, but do not include performance-based treatment systems.

| | | |
|---|---|---|
| (a) | Application for permitting of an onsite sewage treatment and disposal system, which includes application and plan review | $ 25 |
| (b) | Site evaluation for a new system which includes an evaluation of criteria specified in rule 64E-6.004(3) | $ 60 |
| (c) | Site evaluation for a system repair which includes an evaluation of criteria specified in rule 64E-6.015(1). | $ 40 |
| (d) | Site re-evaluation, new or repair | $ 40 |
| (e) | Permit for new system, including standard subsurface, filled or mounded system | $ 55 |
| (f) | New system installation inspection | $ 55 |
| | The following research fee is to be collected in addition to, and concurrent with the permit for a new system installation fee | $ 5 |
| (g) | Repair permit issuance, which includes inspection | $ 50 |
| (h) | Inspection of System Previously in Use | $ 50 |
| (i) | Reinspection fee per visit for site inspections after system construction approval | $ 25 |
| (j) | Installation reinspection for non-compliant system per each site visit | $ 25 |
| (k) | System abandonment permit, includes permit issuance and inspection | $ 40 |
| (l) | Annual operating permit fee for systems in industrial, manufacturing, and equivalent areas, and for systems receiving commercial sewage waste | $150 |
| | Amendments or changes to the operating permit during the permit period per change or amendment | $ 25 |
| (m) | Aerobic treatment unit operating permit per annum | $150 |
| (n) | Tank Manufacturer's Inspection per annum | $100 |
| (o) | Septage Disposal Service permit per annum | $ 50 |
| | Additional charge per pumpout vehicle | $ 25 |
| (p) | Portable or Temporary Toilet Service permit per annum | $ 50 |
| | Additional charge per pumpout vehicle | $ 25 |
| (q) | Septage stabilization facility inspection fee per annum per facility | $150 |
| (r) | Septage disposal site evaluation fee per annum | $100 |
| (s) | Aerobic treatment unit maintenance entity permit per annum | $ 25 |
| (t) | Variance Application for a single family residence per each lot or building site | $150 |
| (u) | Variance Application for a multi-family or commercial building per each building site | $200 |
| (v) | Application for innovative product approval | $500 |