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6/30/07

Charlie Crist
Governor

Ana M. Viamonte Ros, M.D., M.P.H.
State Surgeon General

INTEROFFICE MEMORANDUM

**ACTION
HSES 10-007**

DATE: June 30, 2010

TO: Bob Eadie, Administrator, Monroe County Health Department
Attn: Bobbi Sleighter, Environmental Health Director

THROUGH: Lisa Conti, D.V.M., M.P.H, Dipl. ACVPM, CEHP
Director, Division of Environmental Health *[Signature]*

FROM: *[Signature]*
Gerald R. Briggs, Chief, Onsite Sewage Programs

SUBJECT: Implementation of Ch. 2010-205 (SB 550) – Florida Keys

ACTION REQUIRED: Review and implement **DUE DATE:** July 1, 2010

Chapter 2010-205, Laws of Florida, (Senate Bill 550) contains provisions for onsite sewage treatment systems in the Florida Keys which become effect July 1, 2010, and impact construction permits issued on or after that date. The changes also impact permits which expire on or after July 1. Specifically, the current interim standards for aerobic treatment units in areas to be served by sewer expires and the following requirements must be met:

1. All new, modified, and repaired onsite sewage treatment and disposal systems must meet the 10-10-10-1 Florida Keys performance based treatment standards. The only exception is for systems being repaired in areas scheduled to be served by central sewer if the property owner has paid the connection fee or the assessment for connection to sewer. Owners requesting the repair exception will need written documentation from the sewer authority that they have paid or made arrangements to pay the connection or assessment fee. The county tax collector's web site can also be used to document the payment of sewer connection fees.
2. The repair exception requires that tanks be pumped and inspected and certified as watertight and free of defects. They must meet the rule requirement that they be within two tank sizes of the current requirement. A sand lined drainfield or borehole in accordance with the department rule is required. Revisions to the Keys rule have been submitted for public notice and are attached. The revised standards shall be required for systems permitted on or after July 1. Sizing for a sand lined drainfield is 0.90 gallons per square foot per day.

The applicant has the right to request a 381.0065 variance. However, given the statutory requirements, hardship cannot be based solely on projected connection to sewer or the cost of a 10-10-10-1 system. Please call Kim Duffek at 407-317-7325 if you have any questions.

Attachment



Core Public Health at Your Service
Bureau of Onsite Sewage Programs
4052 Bald Cypress Way, Bin #A08, Tallahassee, FL 32399-1713
(850)245-4070 www.MyFloridaEH.com

PART II

64E-6.017 Definitions.

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

(1) Basic disinfection – treatment process designed to meet secondary treatment standards for fecal coliform providing an arithmetic annual mean not to exceed 200 fecal coliform colonies per 100 ml sample.

RENUMBER TO END:(1) 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.

(2) 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.

(3) 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.

(4) Minimum level of 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 following the final design treatment step of the onsite sewage treatment and disposal system:

(a) Biochemical Oxygen Demand (CBOD ₅)	10 mg/l
(b) Suspended Solids	10 mg/l
(c) Total Nitrogen, expressed as N	10 mg/l
(d) Total Phosphorus, expressed as P	1 mg/l

(5) 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; and
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. *Borrchia spp.* Sea oxeye daisy;

2. *Bumelia celastrina* Saffron plum;
3. *Coccoloba uvifera* Sea grape;
4. *Conocarpus erectus* Buttonwood;
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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 under-story of groundcovers and shrubs.

(6) Nutrient reducing material – material which is used in the final treatment stage of an onsite sewage treatment and disposal system to reduce effluent nutrient levels to the minimum level of waste treatment.

(7) Undocumented system – an onsite sewage treatment and disposal system that does not have a record of installation and approval.

Rulemaking Authority 381.0011(4), (13), 381.006, 381.0065(3)(a), (4)(k) FS., Chs. 99-395, 2010-205, LOF. Law Implemented 381.0065, 381.00655, 386.041 FS., Chs. 99-395, 2010-205, LOF. History– New 7-15-86, Amended 3-17-92, 1-3-95, Formerly 10D-6.062, Amended 3-3-98, 3-22-00, .

64E-6.018 System Location, Design and Maintenance Criteria.

(1) Table III of Chapter 64E-6, Part I, F.A.C., 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, approved system design criteria, system location, operation, maintenance and monitoring requirements of this section 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 an injection well is used for effluent disposal.

(2) Effluent loading rates for various onsite sewage treatment and disposal system components installed under this part shall not exceed the following:

(a) Nutrient material-lined drainfield receiving effluent from a performance-based treatment system.	1.7 gallons per day per square foot
(b) Sand-lined drainfield receiving effluent from a performance-based treatment system	1.3 gallons per day per square foot
(c) Sand-lined drainfield receiving effluent from an aerobic treatment unit	1.1 gallons per day per square foot
(d) Sand-lined drainfield receiving effluent from a septic tank	0.9 gallons per day per square foot
(e) Mineral aggregate filter receiving effluent from an aerobic treatment unit or performance based treatment systeml	5.5 gallons per day per square foot

(3) All new, modified and repaired onsite sewage treatment and disposal systems shall be performance-based treatment systems designed by an engineer licensed in the State of Florida, permitted in accordance with Part IV of this chapter and shall

meet the minimum level of waste treatment as defined in section 64E-6.017, F.A.C. All receptacles subject to a positive buoyancy exposure shall be anchored or otherwise weighted to prevent flotation during flooding periods. The engineer's design shall evaluate the receptacles for buoyancy while in their normal operating condition.

(4) An onsite sewage treatment and disposal system which meets the location, construction, maintenance and operational requirements of this section shall be approved, provided that if an aerobic treatment unit is a component of the system design, the certification, construction, operational and maintenance requirements of Rule 64E-6.012, F.A.C., shall also be met; however, the design engineer may specify an aerobic treatment unit with a minimum treatment capacity equal to the estimated sewage flow in Table I in lieu of using the values in Table IV when the aerobic treatment unit is part of a performance-based treatment system..

(a) When final effluent disposal is into a nutrient reducing material-lined drainfield system, the following general requirements shall apply:

1. 2. No part of the system shall be within 25 feet of the boundaries of surface water bodies or salt marsh and Buttonwood Association habitat areas where the dominant vegetation species are those typical of salt marsh communities.

2. 3. The bottom of the drainfield shall be at least 24 inches above mean high water. The nutrient reducing material layer shall be a minimum of 12 inches thick and the bottom surface of the nutrient reducing material layer shall be at least 12 inches above mean high water. The nutrient reducing material shall overlie a 12 inch thick layer of quartz sand meeting the particle size requirements for sand liners under drainfields. The bottom surface of the sand liner shall be at the elevation of mean high water.

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

4. Even effluent distribution over the nutrient reducing material layer shall be assured by utilizing low-pressure dosing, or drip irrigation.

(b) When final disposal is into a sand-lined drainfield, the following general requirements 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 installation 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 of the drainfield shall be at least 24 inches above mean high water. The bottom surface of the sand layer shall be at least 12 inches above mean high water.

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

(c) An injection well shall be approved for final effluent disposal provided setbacks from salt marsh/buttonwood habitats and other surface water bodies cannot be met by another approved effluent disposal system or when the percolation rate exceeds 30 minutes per inch or where the soil profile shows caprock underlies the site. Installation of injection wells shall be 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 subsection 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 authority for the engineer designed onsite sewage treatment 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 engineer designed treatment unit and DEP is the permitting authority for the injection well and any additional associated effluent treatment device.

3. The ground surface within a distance of at least 10 feet in all directions around the injection well and any portion of the onsite sewage treatment and disposal system shall not be subject frequent 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 treatment 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. Prior to discharge into an injection well, effluent shall pass through an unsaturated mineral aggregate filter unit as described in this paragraph, 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. The unsaturated mineral aggregate filter shall be designed in accordance with the following:

a. Effluent application to the unsaturated mineral aggregate filter unit shall be by gravity or pressure distribution to a perforated pipe distribution system as specified in Part I, Rule 64E-6.014, F.A.C. Such distribution system shall be placed within the walls of the mineral aggregate filter 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 1.18 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 system designer may specify additional layers of filter material above or below the required 24-inch layer of filter material. 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. If the filter is not sealed with a lid meeting the requirements for septic tank lids in 64E-6.013, F.A.C., the filter shall be capped with a layer of slightly limited soil no less than 6 nor more than 12 inches thick. The design engineer may choose to use 24 inches of phosphorous absorbing material in lieu of the 24-inch layer of filter material provided the phosphorous absorbing material meets the particle size distribution required for unsaturated mineral aggregate filters.

b. The maximum sewage loading rate to an approved filter unit other than an unsaturated 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.

c. Effluent having passed through an unsaturated 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.

6. 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 to meet the basic disinfection requirements of this rule. Where chlorination is used, 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. Disinfection shall occur in a treatment chamber dedicated to that purpose.

7. 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 Monroe County Health Department shall be notified by the well driller regarding the time when the well will be drilled so the county health department can schedule observation of well construction. 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 subsection 64E-6.017(3), 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.

8. A minimum of one maintenance visit every four months shall be made to those systems using injection wells for effluent disposal. The visit shall include an inspection of the chlorination unit and any filter units. When an aerobic treatment unit is a component of the onsite sewage treatment and disposal system, documents and reports required in Rule 64E-6.012, F.A.C., shall also include the results of aerobic treatment unit inspections and shall include information on chlorine residuals to assess compliance with the disinfection requirements of this rule.

9. If an injection well is discontinued for effluent disposal the injection well shall be properly abandoned and plugged by filling the injection well from bottom to top with cement grout or by filling the open hole from the bottom of the hole to one foot below the bottom of the casing with gravel that meets the size requirements for drainfield aggregate in paragraph 64E-6.014(4)(c), and filling the remainder of the injection well with cement grout. The Monroe County Health Department shall be notified by the well driller, septic tank contractor, or state-licensed plumber about the time when the well will be abandoned so the county health department can schedule observation of well abandonment. The DOH Monroe County Health Department shall not approve an injection well abandonment until the well driller, septic tank contractor, or state-licensed plumber has

certified, in writing to the DOH Monroe County Health Department, that the well has been abandoned in compliance with the provisions of this sub-paragraph. If the abandonment of the well is not ready to be inspected at the time of the inspection of the abandonment of the treatment receptacles, the inspection fee for the abandonment of an injection well shall be \$75.00 and shall be paid to the department prior to the inspection.

(d) Nutrient-reducing materials have a finite life-span. Nutrient-reducing material shall be used in accordance with the following requirements:

1. The installer shall provide certification from the nutrient reducing material supplier that the material supplied meets the requirements of this section. The certification shall include the capacity of the material to absorb nutrient stated in units of mass of nutrient absorbed per mass of absorbing material at the design effluent nutrient concentration.

2. The nutrient reducing material shall be replaced as necessary to ensure that the system continues to meet the minimum level of waste treatment. The design engineer shall specify the capacity of the nutrient reducing material to absorb nutrient stated in units of mass of nutrient absorbed per mass of absorbing material at the design effluent nutrient concentration. The design engineer shall provide an estimate of the life span for the system using the absorption capacity and estimated sewage flow.

(5) The owner or lessee of a performance-based treatment system shall obtain and maintain a maintenance contract with an approved maintenance entity.

(a) All new onsite sewage treatment and disposal systems shall be inspected by an approved maintenance entity at least two times each year.

(b) A maintenance report shall be kept by the maintenance entity. A copy of all maintenance reports shall be provided to the county health department. The report shall include the following information:

1. The address of the 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 the treatment system and actions taken or proposed to overcome them.

(6) The maintenance entity of a performance-based treatment system shall cause the system to be screening tested for nitrogen and phosphorous at least once every year. The screening test shall be one of the tests approved by the Monroe County Health Department. If the health department is requested to conduct the screening test, an inspection fee of \$75 shall be paid to the health department prior to requesting the test. Upon the results of a screening test that shows a violation for phosphorous or nitrogen, the owner shall have the system sampled and tested by a laboratory certified by the Department. The Monroe County Health Department shall require the property owner or maintenance entity to have the system sampled for nitrogen or phosphorous or both and to have the samples tested by a laboratory certified by the department when there is reason to believe that the system is not meeting applicable performance standards.

(a) If any individual laboratory-certified test shows a total phosphorous concentration in excess of 4.0 mg/l, the system may be resampled at the owner's discretion. If the system is not resampled within 30 days of the original sampling date or the resample shows a phosphorous concentration in excess of 4.0 or shows less than a 50% reduction of phosphorous between the influent and effluent samples, the phosphorous absorbing material shall be replaced as a system repair or the system 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.

(b) If any individual laboratory certified test shows a total nitrogen concentration in excess of 40.0 mg/l, the system may be resampled at the owner's discretion. If the system is not resampled within 30 days of the original sampling date or the resample shows a nitrogen concentration in excess of 40.0 or shows less than a 50% reduction of nitrogen between the influent and effluent samples, the system 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.

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

Rulemaking Authority 381.0011(4), (13), 381.006, 381.0065(3)(a) FS., Chs. 99-395, 2010-205, LOF. Law Implemented 381.0065, 381.00655 FS., Chs. 99-395, 2010-205, LOF. History— New 7-15-86, Amended 3-17-92, 1-3-95, Formerly 10D-6.063, Amended 3-3-98, 3-22-00, 4-21-02, 11-26-06, .

64E-6.0181 System Repair .

(1) Where a property is determined to have a cesspit or an undocumented system, the cesspit or undocumented system shall be required to be replaced with an onsite sewage treatment and disposal system complying with Rule 64E-6.018, F.A.C..

(2) In areas that are scheduled to be served by a central sewer by December 31, 2015, where there is documentation from the sewer utility that the property is scheduled to be served by December 31, 2015 and there is documentation from the sewer utility or from the county tax collector's office that the property owner has paid or has signed an agreement to pay for connection to the central sewer system, an onsite sewage treatment and disposal system requiring repair shall be repaired to the standards in this section.

(a) No system shall be repaired to meet a lower standard of treatment than the treatment standard permitted or required to be met prior to the repair.

(b) The following general requirements apply for the use of a septic tank and sand-lined drainfield system:

1. 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. If the tank needs to be replaced as part of the repair, it shall be replaced with a tank meeting the requirements of Table II and 64E-6.013, FAC.

2. Effluent from the septic tank shall discharge to a drainfield over a sand liner meeting the standards in subparagraph 64E-6.018(4)(b)1.

3. No part of a septic tank and sand-lined drainfield system shall be located within 50 feet of the mean high water line of tidal surface water bodies or within 50 feet of the ordinary high water line of lakes, ponds or other non-tidal surface waters.

4. The drainfield component of the system must be located a minimum distance of 50 feet from salt marsh and Buttonwood Association habitat areas where the dominant vegetation species are those typical of salt marsh communities.

5. The bottom of the drainfield shall be at least 30 inches above mean high water. The bottom surface of the sand layer shall be at least 18 inches above mean high water.

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

(c) The following general requirements apply for the use of an aerobic treatment unit and a sand-lined drainfield system:

1. The Class I aerobic treatment unit shall meet the certification, construction, operational and maintenance requirements of Rule 64E-6.012, F.A.C.

2. Effluent from the aerobic treatment unit shall discharge to a drainfield over a sand liner meeting the standards in subparagraph 64E-6.018(4)(b)1.

3. 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.

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

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

(d) The following general requirements apply for the use of an aerobic treatment unit and an injection well as defined in 64E-6.017, F.A.C.

1. The Class I aerobic treatment unit shall meet the certification, construction, operational and maintenance requirements of Rule 64E-6.012, F.A.C.

2. Effluent from the aerobic treatment unit shall discharge to filter, disinfection chamber and injection well located, designed, installed, operated and maintained in accordance with paragraph 64E-6.018(4)(c).

Rulemaking Authority 381.0011(4), (13), 381.0065(3)(a) FS. , Chs. 99-395, 2010-205, LOF. Law Implemented 381.0065, 381.00655 FS. , Chs. 99-395 2001-337, 2010-205, LOF. History– New 3-3-98, Amended 3-22-00, 4-21-02, 5-24-04, 11-26-06,

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, and is available by contacting the department. Chapter 28-20, F.A.C., and the MOU establish a permit allocation system for 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 policy.

Rulemaking Authority 381.0011(4), (13), 381.006, 381.0065(3)(a), (4)(k) FS., Ch. 99-395, LOF. Law Implemented 381.0065, 381.00655, 386.041 FS., Ch. 99-395, LOF. History– New 3-3-98, Amended 3-22-00.

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(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:

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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 under-story of groundcovers and shrubs.

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Rulemaking Authority 381.0011(4), (13), 381.006, 381.0065(3)(a), (4)(k) FS., Chs. 99-395, 2010-205, LOF. Law Implemented 381.0065, 381.00655, 386.041 FS., Chs. 99-395, 2010-205, LOF. History– New 7-15-86, Amended 3-17-92, 1-3-95, Formerly 10D-6.062, Amended 3-3-98, 3-22-00, .

64E-6.018 System Location, Design and Maintenance Criteria.

(1) Table III of Chapter 64E-6, Part I, F.A.C., 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, approved system design criteria, system location, operation, maintenance and monitoring requirements of this section 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 an injection well is used for effluent disposal.

(2) Effluent loading rates for various onsite sewage treatment and disposal system components installed under this part shall not exceed the following:

(a) Nutrient material-lined drainfield receiving effluent from a performance-based treatment system.	1.7 gallons per day per square foot
(b) Sand-lined drainfield receiving effluent from a performance-based treatment system	1.3 gallons per day per square foot
(c) Sand-lined drainfield receiving effluent from an aerobic treatment unit	1.1 gallons per day per square foot
(d) Sand-lined drainfield receiving effluent from a septic tank	0.9 gallons per day per square foot
(e) Mineral aggregate filter receiving effluent from an aerobic treatment unit or performance based treatment systeml	5.5 gallons per day per square foot

(3) All new, modified and repaired onsite sewage treatment and disposal systems shall be performance-based treatment systems designed by an engineer licensed in the State of Florida, permitted in accordance with Part IV of this chapter and shall

meet the minimum level of waste treatment as defined in section 64E-6.017, F.A.C. All receptacles subject to a positive buoyancy exposure shall be anchored or otherwise weighted to prevent flotation during flooding periods. The engineer's design shall evaluate the receptacles for buoyancy while in their normal operating condition.

(4) An onsite sewage treatment and disposal system which meets the location, construction, maintenance and operational requirements of this section shall be approved, provided that if an aerobic treatment unit is a component of the system design, the certification, construction, operational and maintenance requirements of Rule 64E-6.012, F.A.C., shall also be met; however, the design engineer may specify an aerobic treatment unit with a minimum treatment capacity equal to the estimated sewage flow in Table I in lieu of using the values in Table IV when the aerobic treatment unit is part of a performance-based treatment system..

(a) When final effluent disposal is into a nutrient reducing material-lined drainfield system, the following general requirements shall apply:

1. 2. No part of the system shall be within 25 feet of the boundaries of surface water bodies or salt marsh and Buttonwood Association habitat areas where the dominant vegetation species are those typical of salt marsh communities.

2. 3. The bottom of the drainfield shall be at least 24 inches above mean high water. The nutrient reducing material layer shall be a minimum of 12 inches thick and the bottom surface of the nutrient reducing material layer shall be at least 12 inches above mean high water. The nutrient reducing material shall overlie a 12 inch thick layer of quartz sand meeting the particle size requirements for sand liners under drainfields. The bottom surface of the sand liner shall be at the elevation of mean high water.

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

4. Even effluent distribution over the nutrient reducing material layer shall be assured by utilizing low-pressure dosing, or drip irrigation.

(b) When final disposal is into a sand-lined drainfield, the following general requirements 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 installation 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 of the drainfield shall be at least 24 inches above mean high water. The bottom surface of the sand layer shall be at least 12 inches above mean high water.

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

(c) An injection well shall be approved for final effluent disposal provided setbacks from salt marsh/buttonwood habitats and other surface water bodies cannot be met by another approved effluent disposal system or when the percolation rate exceeds 30 minutes per inch or where the soil profile shows caprock underlies the site. Installation of injection wells shall be 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 subsection 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 authority for the engineer designed onsite sewage treatment 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 engineer designed treatment unit and DEP is the permitting authority for the injection well and any additional associated effluent treatment device.

3. The ground surface within a distance of at least 10 feet in all directions around the injection well and any portion of the onsite sewage treatment and disposal system shall not be subject frequent 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 treatment 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. Prior to discharge into an injection well, effluent shall pass through an unsaturated mineral aggregate filter unit as described in this paragraph, 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. The unsaturated mineral aggregate filter shall be designed in accordance with the following:

a. Effluent application to the unsaturated mineral aggregate filter unit shall be by gravity or pressure distribution to a perforated pipe distribution system as specified in Part I, Rule 64E-6.014, F.A.C. Such distribution system shall be placed within the walls of the mineral aggregate filter 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 1.18 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 system designer may specify additional layers of filter material above or below the required 24-inch layer of filter material. 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. If the filter is not sealed with a lid meeting the requirements for septic tank lids in 64E-6.013, F.A.C., the filter shall be capped with a layer of slightly limited soil no less than 6 nor more than 12 inches thick. The design engineer may choose to use 24 inches of phosphorous absorbing material in lieu of the 24-inch layer of filter material provided the phosphorous absorbing material meets the particle size distribution required for unsaturated mineral aggregate filters.

b. The maximum sewage loading rate to an approved filter unit other than an unsaturated 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.

c. Effluent having passed through an unsaturated 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.

6. 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 to meet the basic disinfection requirements of this rule. Where chlorination is used, 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. Disinfection shall occur in a treatment chamber dedicated to that purpose.

7. 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 Monroe County Health Department shall be notified by the well driller regarding the time when the well will be drilled so the county health department can schedule observation of well construction. 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 subsection 64E-6.017(3), 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.

8. A minimum of one maintenance visit every four months shall be made to those systems using injection wells for effluent disposal. The visit shall include an inspection of the chlorination unit and any filter units. When an aerobic treatment unit is a component of the onsite sewage treatment and disposal system, documents and reports required in Rule 64E-6.012, F.A.C., shall also include the results of aerobic treatment unit inspections and shall include information on chlorine residuals to assess compliance with the disinfection requirements of this rule.

9. If an injection well is discontinued for effluent disposal the injection well shall be properly abandoned and plugged by filling the injection well from bottom to top with cement grout or by filling the open hole from the bottom of the hole to one foot below the bottom of the casing with gravel that meets the size requirements for drainfield aggregate in paragraph 64E-6.014(4)(c), and filling the remainder of the injection well with cement grout. The Monroe County Health Department shall be notified by the well driller, septic tank contractor, or state-licensed plumber about the time when the well will be abandoned so the county health department can schedule observation of well abandonment. The DOH Monroe County Health Department shall not approve an injection well abandonment until the well driller, septic tank contractor, or state-licensed plumber has

certified, in writing to the DOH Monroe County Health Department, that the well has been abandoned in compliance with the provisions of this sub-paragraph. If the abandonment of the well is not ready to be inspected at the time of the inspection of the abandonment of the treatment receptacles, the inspection fee for the abandonment of an injection well shall be \$75.00 and shall be paid to the department prior to the inspection.

(d) Nutrient-reducing materials have a finite life-span. Nutrient-reducing material shall be used in accordance with the following requirements:

1. The installer shall provide certification from the nutrient reducing material supplier that the material supplied meets the requirements of this section. The certification shall include the capacity of the material to absorb nutrient stated in units of mass of nutrient absorbed per mass of absorbing material at the design effluent nutrient concentration.

2. The nutrient reducing material shall be replaced as necessary to ensure that the system continues to meet the minimum level of waste treatment. The design engineer shall specify the capacity of the nutrient reducing material to absorb nutrient stated in units of mass of nutrient absorbed per mass of absorbing material at the design effluent nutrient concentration. The design engineer shall provide an estimate of the life span for the system using the absorption capacity and estimated sewage flow.

(5) The owner or lessee of a performance-based treatment system shall obtain and maintain a maintenance contract with an approved maintenance entity.

(a) All new onsite sewage treatment and disposal systems shall be inspected by an approved maintenance entity at least two times each year.

(b) A maintenance report shall be kept by the maintenance entity. A copy of all maintenance reports shall be provided to the county health department. The report shall include the following information:

1. The address of the 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 the treatment system and actions taken or proposed to overcome them.

(6) The maintenance entity of a performance-based treatment system shall cause the system to be screening tested for nitrogen and phosphorous at least once every year. The screening test shall be one of the tests approved by the Monroe County Health Department. If the health department is requested to conduct the screening test, an inspection fee of \$75 shall be paid to the health department prior to requesting the test. Upon the results of a screening test that shows a violation for phosphorous or nitrogen, the owner shall have the system sampled and tested by a laboratory certified by the Department. The Monroe County Health Department shall require the property owner or maintenance entity to have the system sampled for nitrogen or phosphorous or both and to have the samples tested by a laboratory certified by the department when there is reason to believe that the system is not meeting applicable performance standards.

(a) If any individual laboratory-certified test shows a total phosphorous concentration in excess of 4.0 mg/l, the system may be resampled at the owner's discretion. If the system is not resampled within 30 days of the original sampling date or the resample shows a phosphorous concentration in excess of 4.0 or shows less than a 50% reduction of phosphorous between the influent and effluent samples, the phosphorous absorbing material shall be replaced as a system repair or the system 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.

(b) If any individual laboratory certified test shows a total nitrogen concentration in excess of 40.0 mg/l, the system may be resampled at the owner's discretion. If the system is not resampled within 30 days of the original sampling date or the resample shows a nitrogen concentration in excess of 40.0 or shows less than a 50% reduction of nitrogen between the influent and effluent samples, the system 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.

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

Rulemaking Authority 381.0011(4), (13), 381.006, 381.0065(3)(a) FS., Chs. 99-395, 2010-205, LOF. Law Implemented 381.0065, 381.00655 FS., Chs. 99-395, 2010-205, LOF. History— New 7-15-86, Amended 3-17-92, 1-3-95, Formerly 10D-6.063, Amended 3-3-98, 3-22-00, 4-21-02, 11-26-06, .

64E-6.0181 System Repair .

(1) Where a property is determined to have a cesspit or an undocumented system, the cesspit or undocumented system shall be required to be replaced with an onsite sewage treatment and disposal system complying with Rule 64E-6.018, F.A.C..

(2) In areas that are scheduled to be served by a central sewer by December 31, 2015, where there is documentation from the sewer utility that the property is scheduled to be served by December 31, 2015 and there is documentation from the sewer utility or from the county tax collector's office that the property owner has paid or has signed an agreement to pay for connection to the central sewer system, an onsite sewage treatment and disposal system requiring repair shall be repaired to the standards in this section.

(a) No system shall be repaired to meet a lower standard of treatment than the treatment standard permitted or required to be met prior to the repair.

(b) The following general requirements apply for the use of a septic tank and sand-lined drainfield system:

1. 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. If the tank needs to be replaced as part of the repair, it shall be replaced with a tank meeting the requirements of Table II and 64E-6.013, FAC.

2. Effluent from the septic tank shall discharge to a drainfield over a sand liner meeting the standards in subparagraph 64E-6.018(4)(b)1.

3. No part of a septic tank and sand-lined drainfield system shall be located within 50 feet of the mean high water line of tidal surface water bodies or within 50 feet of the ordinary high water line of lakes, ponds or other non-tidal surface waters.

4. The drainfield component of the system must be located a minimum distance of 50 feet from salt marsh and Buttonwood Association habitat areas where the dominant vegetation species are those typical of salt marsh communities.

5. The bottom of the drainfield shall be at least 30 inches above mean high water. The bottom surface of the sand layer shall be at least 18 inches above mean high water.

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

(c) The following general requirements apply for the use of an aerobic treatment unit and a sand-lined drainfield system:

1. The Class I aerobic treatment unit shall meet the certification, construction, operational and maintenance requirements of Rule 64E-6.012, F.A.C.

2. Effluent from the aerobic treatment unit shall discharge to a drainfield over a sand liner meeting the standards in subparagraph 64E-6.018(4)(b)1.

3. 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.

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

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

(d) The following general requirements apply for the use of an aerobic treatment unit and an injection well as defined in 64E-6.017, F.A.C.

1. The Class I aerobic treatment unit shall meet the certification, construction, operational and maintenance requirements of Rule 64E-6.012, F.A.C.

2. Effluent from the aerobic treatment unit shall discharge to filter, disinfection chamber and injection well located, designed, installed, operated and maintained in accordance with paragraph 64E-6.018(4)(c).

Rulemaking Authority 381.0011(4), (13), 381.0065(3)(a) FS. , Chs. 99-395, 2010-205, LOF. Law Implemented 381.0065, 381.00655 FS. , Chs. 99-395 2001-337, 2010-205, LOF. History– New 3-3-98, Amended 3-22-00, 4-21-02, 5-24-04, 11-26-06,

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, and is available by contacting the department. Chapter 28-20, F.A.C., and the MOU establish a permit allocation system for 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 policy.

Rulemaking Authority 381.0011(4), (13), 381.006, 381.0065(3)(a), (4)(k) FS., Ch. 99-395, LOF. Law Implemented 381.0065, 381.00655, 386.041 FS., Ch. 99-395, LOF. History– New 3-3-98, Amended 3-22-00.