

**TITLE 252. DEPARTMENT OF ENVIRONMENTAL QUALITY
CHAPTER 641. INDIVIDUAL AND SMALL PUBLIC ON-SITE SEWAGE
TREATMENT SYSTEMS**

SUBCHAPTER 1. GENERAL PROVISIONS

252:641-1-1. Purpose, authority and applicability

(a) **Purpose.** The purpose of this Chapter is to ensure that sewage is properly treated in order to protect the waters of the State, the public health and the environment. This Chapter establishes requirements for the design, construction, installation and operation of individual and small public on-site sewage treatment systems. This Chapter also establishes requirements for persons seeking certification as installers of on-site sewage treatment systems and for persons seeking certification to perform soil profile descriptions to be used to design on-site sewage treatment systems.

(b) **Authority.** This Chapter is authorized by 27A O.S. §§Section(s) 2-2-101, 2-2-201, 2-6-402 and 403; and 59 O.S. §Section(s) 1158.

(c) **Applicability.** The rules in this Chapter apply to:

(1) Any person who owns, designs, constructs, installs, modifies, repairs or operates an on-site sewage treatment system;

(2) Any person who seeks certification from the DEQ to install, modify or repair on-site sewage treatment systems; and/or

(3) Any person who seeks certification from the DEQ to perform soil profile descriptions to be used to design on-site sewage treatment systems.

(d) **Disclaimer.** The design standards contained in this Chapter are established as minimum criteria and do not guarantee a system's performance.

(e) **Appendices.** All references to appendices are appendices to this Chapter.

252:641-1-2. Definitions

In addition to the definitions contained in the Environmental Quality Code (27A O.S. §Section(s) 2-1-101 et seq.), the following words, terms and acronyms, when used in this Chapter, shall have the following meaning, unless the context clearly indicates otherwise:

"Aerobic treatment unit" means a treatment unit that provides digestion of organic matter through oxidation and has been tested and certified by an ANSI accredited certifier as meeting the most current ANSI/NSF/ANSI Standard 40, whether or not it includes nitrogen reduction.

"Alternative system" means an on-site sewage treatment system that varies from the requirements of on-site sewage treatment systems described in this Chapter.

"ANSI" means the American National Standards Institute.

"ASTM" means the American Society for Testing and Materials (ASTM International).

"Certified installer" means a person in the business of installing or constructing on-site sewage treatment systems who has been certified by the DEQ to inspect and approve his/her own installations.

"Certified soil profiler" means a person who has been certified by the DEQ to perform soil profile descriptions to be used to design on-site sewage treatment systems.

"Chamber" means a molded rigid plastic, ~~arch-shaped~~, hollow structure with an open bottom area and sidewalls that are designed to allow effluent to flow into the surrounding soil while

preventing soil from migrating into the chamber.

"Conventional subsurface absorption field" means a gravity-fed subsurface dispersal field, which may be preceded by a lift station, that provides treatment through soil absorption in media-filled (e.g., gravel, polystyrene, chamber, etc.) trenches. This does not include ET/A or shallow extended dispersal fields.

"CSA" means the Canadian Standards Association (CSA Group).

"DEQ" means the Department of Environmental Quality.

"Designer" means the person who conducts the soil test and/or completes the DEQ Form 641-581P or 641-581SP for submission to the DEQ.

"Dispersal site" means the ten-thousand-square-foot (10,000 ft²) rectangular area that contains the test holes used to design the dispersal field.

"Distribution structure" means a watertight concrete or plastic compartment, box, or solid piping that allows the distribution of sewage at the same elevation throughout the subsurface treatment field.

"Drip irrigation" means the use of pressure to distribute aerobically treated effluent to a subsurface dispersal field using small diameter tubing equipped with pressure compensating emitters.

"Evapotranspiration/absorption (ET/A)" means the subsurface dispersal of sewage for treatment through evaporation, transpiration and absorption.

"Flow equalization tank" means a storage reservoir that contains an automatically controlled pump that is capable of delivering sewage to an on-site sewage treatment system at a specific hourly rate.

"IAPMO" means the International Association of Plumbing and Mechanical Officials.

"Individual on-site sewage treatment system" means an on-site sewage treatment system that treats sewage from one individual residence or a duplex with one owner.

"Installer" means any person who installs an on-site sewage treatment system or who is in the business of contracting to install or furnishing labor to install on-site sewage treatment systems.

"Level" means within a four-inch range of the same elevation.

"Lift station" means a short-term storage reservoir, containing an automatically controlled pump, that pumps sewage to a higher elevation for treatment.

"Low pressure dosing" means the use of pressure to distribute effluent evenly throughout the dispersal field through small diameter perforated piping.

"Major earth fill area" means any area where soil has been added to change the elevation from the original ground level by more than one (1) foot.

"Modification" means the expansion or relocation of any part of an existing on-site sewage treatment system, which does not fall under the definition of new installation.

"New installation" means the installation of a new on-site sewage treatment system. This includes the replacement of an existing lagoon, aerobic treatment unit and/or dispersal field, even when the existing septic tank is not replaced.

"NSF" means the National Sanitation Foundation (NSF International).

"On-site sewage treatment system" means an individual or small public on-site sewage treatment system as defined in this Chapter.

"Redoximorphic soil features" means soil that, due to wetness, contains features that exhibit a color of less than or equal to two (2) chroma and greater than or equal to four (4) value in concentrations greater than five percent (5%) in two (2) consecutive intervals.

"Repair" means the repair of any part of an existing on-site sewage treatment system or the replacement of any part of an existing on-site sewage treatment system as long as the replacement part is placed in the exact same location that the original part had been located. Repair does not include excavation and replacement of a subsurface absorption trench.

"Retention structure" is a sealed concrete or plastic structure that retains sewage until it reaches a depth of ten inches (10") and then allows it to flow to another trench.

"Rock fragments" means unattached pieces of rock two millimeters (2 mm) in diameter or larger that are resistant to rupture (strongly cemented or extremely hard).

"Scenic river corridor" means the two-mile wide area surrounding each scenic river as designated in 82 O.S. ~~§~~ Section(s) 1452, with the center of each scenic river being the center of the corridor.

"Sewage" means wastewater that generally originates as human waste from ~~certain~~ activities including but not limited to using toilet facilities, washing, bathing, preparing foods and washing laundry, excluding industrial wastewater.

"Small public on-site sewage treatment system" means an on-site sewage treatment system, except one that serves an individual residence or duplex, that has an average daily flow of five thousand (5,000) gallons or less.

"Soil profile description" means the identification and characterization of soil at a specific site.

"Soil texture" means the percent by weight of sand, silt, and clay for particles smaller than two millimeters (2 mm) in diameter.

"Storage media" means a natural or manufactured material that provides void spaces for storage and dispersal of effluent in the trenches of a subsurface treatment system.

"Water body" means any reservoir or stream listed in either the most current "Lakes of Oklahoma" or "Water Quality in Oklahoma Integrated Report."

"Water body protection area" means the land area around a water body comprised of Zone 1 and Zone 2.

"Water saturated soil" means soil characterized by either the presence of groundwater or redoximorphic soil features.

"Zone 1" means the land within six hundred sixty feet (660') of the highest normal pool elevation established for a reservoir or within six hundred sixty feet (660') of a stream bed.

"Zone 2" means the land within one thousand three hundred twenty feet (1320') of the highest normal pool elevation established for a reservoir or within one thousand three hundred twenty feet (1320') of a stream bed.

252:641-1-3. General requirements for on-site sewage treatment systems

(a) **Inspections.** All new installations of, modifications to and/or repairs to on-site sewage treatment systems shall be inspected and approved by the DEQ, or installed, self-inspected and approved by a certified installer before new installations, modifications or repairs can be backfilled and/or before the system may be placed into operation. The installer shall be responsible for requesting any required DEQ inspections.

(b) **Treatment.** On-site sewage treatment systems shall only be used for treatment of sewage, as defined in 252:641-1-2. All sewage must be treated and dispersed according to the rules in this Chapter.

(c) **Ownership.** An on-site sewage treatment system shall be located only where:

- (1) all components of ~~the~~an individual on-site sewage treatment system, which includes tanks, pumps, dispersal fields and collection line(s), are or will be located on property that is:
- (A) owned by the owner of the on-site sewage treatment system; and/or
 - (B) dedicated in a recorded easement for the installation and operation of the on-site sewage system to the owner of the on-site sewage treatment system; or
- (2) all components of ~~a~~small public on-site sewage treatment system, excluding service lines, are or will be located on property that is:
- (A) owned by a municipality, rural water district, rural sewer district or federally recognized tribe; and/or
 - (B) dedicated to a municipality, rural water district, rural sewer district or federally recognized tribe in a recorded easement for the installation and operation of the on-site sewage system; ~~or-~~
 - (C) owned by the owner of the small public on-site sewage treatment system.
- (d) **Minimum lot size.** The designer and installer shall comply with the minimum lot size requirements as set forth in Appendix A, Figure 3. Plats recorded before January 1, 1974, are not subject to minimum lot size requirements but systems ~~built~~installed in those platted areas must meet the construction requirements of this Chapter.
- (e) **Requirement for a dispersal field or lagoon.** All on-site sewage treatment systems shall utilize one of the dispersal fields described in Subchapter 12 or a lagoon described in Subchapter 15.
- (f) **Average daily flow.**
- (1) **Individual on-site sewage treatment systems.** The average daily flow for an individual on-site sewage treatment system shall be based on an average water usage of two hundred (200) gallons per day for a residence of two (2) bedrooms or less, with an additional sixty-six (66) gallons per day for each additional bedroom.
 - (2) **Small public on-site sewage treatment systems.** The average daily flow for small public on-site sewage treatment systems shall be calculated using the estimated average daily flows listed in Appendix F, unless actual flow data or a more accurate estimation method is available or there is seasonal flow variation. When there is seasonal flow variation, the average daily flow shall be calculated using the highest monthly flow in the previous twelve (12) months divided by the number of days in that month.
- (g) **Sizing.** All dispersal fields and lagoons shall be sized based on average daily flow using the charts in Appendix H. The size of on-site sewage treatment systems should be increased if the actual or anticipated water usage exceeds the above-stated average.
- (h) **Separation distances.** The designer and the installer shall comply with the required vertical separation distances in Appendix A, Figures 1 and 2, and the horizontal separation distances listed in Appendix E.
- (i) **Pipe specifications.** All pipe used in on-site sewage treatment systems shall meet or exceed the minimum specifications listed in Appendix C.
- (j) **Water body restrictions.** No dispersal field may be installed within Zone 1 of a water body protection area unless it is preceded by a nitrogen reduction system that has been tested and certified by an ANSI accredited third party certifier as meeting the most current ~~ANSI/NSF/ANSI~~ANSI Standard 245.

252:641-1-4. Operation, repairs and maintenance

(a) **Proper operation.** The owner of an on-site sewage treatment system shall ensure that the system is maintained and operated properly so that:

(1) sewage or effluent from the system is properly treated and does not surface, pool, flow across the ground or discharge to surface waters;

(2) septic tanks, lift stations, low pressure dosing tanks, flow equalization tanks, aerobic treatment units and lagoons shall be maintained so that they do not leak or overflow; and

(3) the required security measures are intact (e.g., required fences ~~are intact~~, septic tank lids ~~are intact~~, manhole covers are properly secured).

(b) **Malfunctioning systems.** If an on-site sewage treatment system malfunctions, the person owning or otherwise responsible for the system shall take prompt action to repair the malfunctioning system, prevent further violations and remediate the site.

252:641-1-5. Enforcement

Violations of this Chapter are subject to enforcement actions and penalties set forth in 27A O.S. ~~§§~~Section(s) 2-3-502, 2-3-504 and 2-6-206.

SUBCHAPTER 3. SOIL TESTS

252:641-3-1. General provisions.

(a) **Requirement for soil test.** A soil test, performed in accordance with this Subchapter, shall be used to identify the dispersal site for all modifications to on-site sewage treatment systems and/or to identify the dispersal site and size the dispersal field for new installations of on-site sewage treatment systems except for:

(1) lagoons; and

(2) aerobic treatment systems that utilize spray irrigation when sized for Group 5 soil in the corresponding net evaporation zone.

(b) **Required credentials.** Soil tests may only be performed by Professional Engineers, Professional Land Surveyors, Professional Sanitarians or Professional Environmental Specialists registered to practice in Oklahoma or Soil Scientists as defined in 27A O.S. §Section(s) 3-1-103(20). Additionally, an individual performing soil profile descriptions must also be either:

(1) an Environmental Specialist for the DEQ and authorized by DEQ to perform soil profile descriptions; or

(2) certified by the DEQ to perform soil profile descriptions.

(c) **Submission of soil test results to the DEQ.** When a soil test is required, the results shall be submitted to the local DEQ office on DEQ Form 641-581P or 641-581SP or in a format approved by the DEQ.

(d) **Verification of design.** If there is reason to believe soil test results submitted to DEQ are inaccurate or that there is water saturated soil or soil impervious to boring in any of the test holes at any depth up to thirty-six inches (36"), the system design may be verified by the DEQ. If the results of the verification contradict the proposed design of the system, the DEQ may perform a soil profile description to design the system. Soil tests conducted by DEQ shall supersede the results of any prior soil test completed in the same proposed dispersal site.

(e) **Fill areas and excavation.** If there has been a fill of more than six inches (6") of soil or any excavation over an identified dispersal site, the local DEQ office must be contacted to determine

if an additional soil test is needed. Soil tests shall not be performed in major earth fill areas.

252:641-3-2. Soil Percolation test method

(a) **Use of percolation tests.** A percolation test may only be used to identify dispersal sites for conventional subsurface absorption fields. Percolation tests, including pre-existing ones, may not be used to identify dispersal sites for on-site sewage systems:

(1) in scenic river corridors, unless documentation that the site is not located within the scenic river watershed is provided to DEQ; ~~and~~

(2) in Zone 2 of a water body protection area; and

(3) After July 1, 2023, percolation tests will no longer be a valid test method for the design of on-site sewage treatment systems.

(b) **Test hole requirements.** The following test hole requirements shall be met for percolation tests:

(1) **Configuration.** Three test holes shall be placed in the proposed dispersal site at the approximate corners of an isosceles triangle having two (2) sides fifty feet (50') long and one side seventy-five feet (75') long. If the dispersal field will cover an area larger than ten thousand square feet (10,000 ft²), then one additional test hole shall be used for each additional five thousand square feet (5,000 ft²). Additional test holes shall not be placed within fifty feet (50') of any other test hole and shall be located between fifty to seventy-five feet (50'-75') from one of the other test holes. The DEQ may approve or require alternative configurations.

(2) **Size.** Test holes shall be dug or bored, four to twelve inches (4"-12") in diameter with vertical sides to a depth of at least twenty-four inches (24") and no more than thirty-six inches (36"). All test holes in the proposed dispersal site shall be the same depth. Test holes shallower than twenty-four inches (24") may be used to design conventional subsurface absorption fields under the alternative system approval process.

(3) **Soil surfaces.** The bottoms and sides of the test holes shall be scratched with a sharp-pointed instrument to relieve any smeared soil surfaces. Loose material shall be removed from the hole prior to commencing the presoak.

(4) **Prohibitions.** Test holes dug through animal burrows, root channels or soil that is cracked due to dry weather conditions shall not be used.

(c) **Presoak period.** The presoak period shall commence no earlier than twenty-four (24) hours prior to the start of the percolation test procedure. Each test hole shall be presoaked by filling them with water and refilling them as necessary to maintain a water depth of at least twelve inches (12") for at least four (4) hours. When it is impossible to maintain a water depth of at least twelve inches (12") during the entire presoak period due to an excessive percolation rate, then the hole is deemed unacceptable and may not be:

(1) used to calculate the percolation rate for the dispersal site; and

(2) located in the dispersal site for a conventional subsurface absorption field.

(d) **Calculating the percolation rate for each hole.** At the completion of the presoak, the depth of the water shall be adjusted to ten inches (10") above the bottom of each test hole. A fixed reference point shall be established at or above the initial water level. Using the fixed reference point, the level of the water in each hole shall be measured and recorded. After seventy-five (75) minutes, the number of inches the water level has dropped in each hole shall be measured and recorded. To calculate the percolation rate for each individual hole, divide seventy-five (75) minutes by the number of inches the water level has dropped. Any hole that exhibits a percolation

rate of greater than seventy-five (75) minutes per inch is deemed unacceptable and may not be:

- (1) used to calculate the percolation rate for the dispersal site; and
- (2) located in the dispersal site for a conventional subsurface absorption field.

(e) **Calculating the percolation rate for the dispersal site.** If the rates of any two (2) test holes in the proposed dispersal site vary by more than fifteen (15) minutes, the percolation rate for the dispersal site shall be considered the rate of the slowest test hole. Otherwise, the percolation rate for the dispersal site shall be determined by averaging the percolation rates for the three (3) test holes and then rounding the result to the nearest whole number. If there are more than three (3) test holes in the proposed dispersal site, then the percolation rate must be calculated using the three (3) slowest percolation rates.

(f) **Sizing the dispersal field.** The percolation rate for the dispersal site shall be used in conjunction with the charts in Appendix H, Figures 1 and 4 to size the conventional subsurface absorption field. The chart in Appendix H, Figure 2 may be used to size conventional subsurface absorption fields utilizing chambers when designed using a percolation test.

(g) **Information to be reported.** The following information must be reported to the DEQ on DEQ Form 641-581P, "Report for On-Site Sewage Treatment" or in a format approved by the DEQ:

- (1) Property owner's name(s);
- (2) Address or finding directions for property;
- (3) Legal description of property, including lot and block number when available;
- (4) Lot size in square feet or acres;
- (5) Whether the system will be an individual or small public on-site sewage treatment system;
- (6) The estimated or actual average daily flow for the system as certified on DEQ Form 641-581Cert "Certification Documentation Form";
- (7) Whether the water supply for the property is public or private;
- (8) The location of each test hole (identified from two fixed reference points);
- (9) The depth and percolation rate, along with the depth to groundwater if encountered, for all test holes in the proposed dispersal field;
- (10) The percolation rate for the dispersal site;
- (11) The size of the septic tank, the minimum length of the conventional subsurface absorption field, and the minimum and maximum depth of the trenches;
- (12) The name and signature of the person performing the pre-soak;
- (13) The name, signature and registration number of the person conducting the percolation test; and
- (14) The date the percolation test was conducted.

252:641-3-4. Soil profile description ~~test method~~

(a) **Test hole requirements.** Test holes may be augered borings, continuous core borings, or excavated pits.

- (1) **Borings.** If borings are used, three test holes shall be placed in the proposed dispersal site at the approximate corners of an isosceles triangle having two (2) sides fifty feet (50') long and one side seventy-five feet (75') long. If the dispersal field will cover an area larger than ten thousand square feet (10,000 ft²), then one additional test hole shall be used for each additional five thousand square feet (5,000 ft²). Additional test holes shall not be placed within fifty feet of any other test hole and shall be located between fifty to seventy-five feet (50-75') from one

of the other test holes. The DEQ may approve or require alternative configurations. Borings shall allow for the classification of the soil in six-inch intervals and shall be bored to a minimum depth of forty-eight inches (48") or until one of the following is encountered first:

- (A) a layer that is impervious to boring;
- (B) a six-inch interval classified as a Group 5 soil; or
- (C) water saturated soil.

(2) **Pits.** If excavated pits are used, three (3) pits shall be placed in the proposed dispersal site at the approximate corners of an isosceles triangle having two (2) sides fifty feet (50') long and one side seventy-five feet (75') long. If the dispersal field will cover an area larger than ten thousand square feet (10,000 ft²), then one additional test hole shall be used for each additional five thousand square feet (5,000 ft²). Additional test holes shall not be placed within fifty feet of any other test hole and shall be located between fifty to seventy-five feet (50'-75') from one of the other test holes. The DEQ may approve or require alternative configurations. Pits shall:

- (A) have a depth of a minimum of forty-eight inches (48"), unless rock or water saturated soil is encountered at a shallower depth;
- (B) be a minimum of thirty-six inches (36") wide and sixty inches (60") long; and
- (C) have one end sloped or stepped to allow for entry.

(b) **Identification of limiting layers.** The shallowest limiting layer encountered in the test holes shall be the limiting layer for the entire dispersal site. The following are considered limiting layers and shall be identified by depth on DEQ Form 641-581SP, "Report for On-Site Sewage Treatment:"

- (1) a layer that is impervious to boring;
- (2) a six-inch interval classified as a Group 5 soil; and
- (3) water saturated soil.

(c) **Verifying limiting layers using pits.** Limiting layers may be verified using an excavated pit. The results of the pit(s) shall override the results of borings completed in the same proposed dispersal site.

(d) **Classifying soil intervals.** For each test hole, the soil group for each six-inch interval between the surface and the bottom of the test hole shall be identified using the guidelines found in the "DEQ/OSU Soil Classification Manual" and classified as one of the soil groups in Appendix B.

(e) **Determining the soil group for the separation range.** The soil group for the separation range establishes the required vertical separation between the dispersed effluent and the limiting layer. The separation range consists of the three (3) six-inch intervals above the interval containing a limiting layer or, if no limiting layer was identified, the separation range shall be the three (3) six-inch intervals above the bottom of the test hole. To determine the soil group for the separation range:

- (1) Select the test hole in the dispersal site with the lowest clay content in the separation range; and
- (2) Identify and record the most prevalent soil group in the separation range for that test hole.

(f) **Identifying dispersal field options.** Based on the soil group identified in (e) of this Section, use Appendix A, Figure 1 to identify suitable dispersal fields along with their minimum separations distances from the limiting layer.

(g) **Sizing the dispersal field(s).** Each suitable dispersal field shall be sized as follows:

- (1) **Determining sizing range.** Select the test hole in the dispersal site with the highest clay

content in the sizing range for the chosen dispersal field. The applicable sizing range for each type of dispersal field is as follows:

(A) **Conventional subsurface absorption fields.** The sizing range for conventional subsurface absorption fields is the three (3) six-inch intervals between twelve inches (12") and thirty inches (30").

(B) **Low pressure dosing fields.** The sizing range for low pressure dosing fields is the three (3) six-inch intervals between twelve inches (12") and thirty inches (30").

(C) **ET/A fields.** The sizing range for ET/A fields is the three (3) six-inch intervals between twelve inches (12") and thirty inches (30").

(D) **Shallow extended subsurface absorption fields.** The sizing range for shallow extended subsurface absorption fields is the three (3) six-inch intervals between six inches (6") and twenty-four inches (24").

(E) **Drip irrigation fields.** The sizing range for drip irrigation fields is the three (3) six-inch intervals between ground level and eighteen inches (18").

(F) **Spray irrigation fields.** The sizing range for spray irrigation fields is the three (3) six-inch intervals between ground level and eighteen inches (18").

(2) **Identifying soil group in sizing range.** Determine the most prevalent soil group in the sizing range for the test hole selected in (1) of this subsection;

(3) **Sizing dispersal field.** Based on the soil group identified in (2) of this subsection, size the dispersal field using the charts in Appendix H, Figures 3 and 5-22; and

(4) **Sizing additional dispersal field options.** Repeat (1) through (3) of this subsection for each dispersal field option.

(h) **Information to be reported.** After completion of the soil profile, the soil profiler shall submit an accurate, completed DEQ Form 641-581SP to the local DEQ office.~~The following information must be reported to DEQ on DEQ Form 641-581SP, "Report for On-Site Sewage Treatment":~~

~~(1) Property owner's name(s);~~

~~(2) Address or finding directions for property;~~

~~(3) Legal description of property including block and lot number when available;~~

~~(4) Lot size in square feet or acres;~~

~~(5) Whether the system will be an individual or small public on-site sewage treatment system;~~

~~(6) The estimated or actual average daily flow for the system as certified on DEQ Form 641-581 Cert "Certification Documentation Form";~~

~~(7) Whether the water supply for the property is public or private;~~

~~(8) The location of each test hole (identified from two fixed reference points);~~

~~(9) The soil group for each six-inch interval between ground level and the bottom of each test hole in the proposed dispersal field;~~

~~(10) The depth and description of any soil impervious to boring or water saturated soil layer in each test hole located in the proposed dispersal field;~~

~~(11) Depth of limiting layer for entire dispersal field;~~

~~(12) The test hole number used to identify the separation range and the soil group of the separation range in the proposed dispersal field;~~

~~(13) For each suitable dispersal fields or system(s) identified provide the following:~~

~~(A) the test hole number used to determine the sizing range;~~

~~(B) the soil group of the sizing range; and~~

- ~~(C) the minimum sizing and installation criteria for the dispersal field or system;~~
- ~~(14) The name, signature and registration number of the person conducting the soil profile description;~~
- ~~(15) The date the soil profile description was conducted; and~~
- ~~(16) Check box indicating whether or not dispersal field will be located in Zone 1 of a water body protection area.~~

SUBCHAPTER 5. BUILDING SEWER AND COLLECTION SYSTEMS

252:641-5-1. General provisions

(a) All solid pipe used in the conveyance of wastewater from a structure (home or business) shall comply with the following:

- (1) Oklahoma Uniform Building Code Commission Rules- Title 748 Uniform Building Code Commission Adopted Codes (with Amendments);
- (2) OAC 158:30 Plumbing Industry Regulations; and
- (3) Oklahoma Statute Title 59 Sections 1001 through 1023

~~(a) The pipe used for building sewer and collection lines shall comply with the pipe specifications as set forth in Appendix C.~~

~~(b) The joints of all solid pipe shall be sealed to be watertight.~~

252:641-5-2. Installation

~~(a) **Minimum fall.**—The following minimum fall requirements shall be met:~~

~~(1) **Three-inch and four-inch pipe.**—Pipe having a diameter of three inches (3") or four inches (4") that delivers sewage to a septic tank or a trash tank shall be installed with a minimum fall of one-eighth inch (1/8") per foot.~~

~~(2) **Six-inch pipe.**—Pipe having a diameter of six inches (6") that delivers sewage to a septic tank or a trash tank shall be installed with a minimum fall of one sixteenth inch (1/16") per foot.~~

~~(b) **Cleanouts.**—For all pipe located upstream of a septic tank, a two-way cleanout or two-way cleanout assembly shall be installed:~~

~~(1) Within five feet (5') from where the plumbing stubs out of the building or appurtenance to the building;~~

~~(2) Within five feet (5') after each of a change in direction of more than forty five degrees (45°). Where more than one change of direction greater than forty five degrees (45°) occurs within forty (40) feet of pipe, the cleanout for the first change of direction shall serve as the cleanout for all changes in direction within that forty (40) feet of piping;~~

~~(3) For each one hundred foot interval of straight pipe.~~

~~Nothing in this paragraph shall require the installation of more than one (1) two-way cleanout or two-way cleanout assembly per one hundred foot (100') section of straight pipe. For purposes of this paragraph, straight pipe is pipe that does not have any change of direction of more than forty five degrees (45°).~~

SUBCHAPTER 7. SEPTIC TANKS

252:641-7-1. General provisions

- (a) Once installed, ~~the tops of~~ septic tanks shall have no more than one inch (1") variation in elevation from side to side and end to end.
- (b) Septic tanks shall be constructed to prevent sewage from leaking out of the tank and to prevent the infiltration of water into the tank.
- (c) The bottom of the inlet pipe of a septic tank shall be at least one-eighth inch (1/8") per foot below the bottom of the building sewer pipe unless the wastewater is mechanically lifted.
- (d) Appendix I illustrates the requirements for a septic tank.

252:641-7-3. Design

- (a) **Compartments.** A septic tank may consist of one (1) or two (2) compartments. All septic tanks shall have a removable lid or a manhole opening of at least twenty inches (20") in diameter or, if rectangular, having no side less than twenty inches (20") in length over each compartment. All lids and manholes shall be sealed to prevent leakage.
- (b) **Two-compartment tanks.** The passage in the common wall of two-compartment tanks shall be located ~~below the liquid level~~ and between twenty percent (20%) to forty percent (40%) of the liquid depth. There shall be a vent through the common wall.
- (c) **Inlets and outlets.** The outlet of the septic tank shall be two inches (2") lower than the inlet of the septic tank. Baffles for inlets and outlets shall be constructed and located as follows:
 - (1) **Construction.** Baffles shall be used on all inlet and outlet lines. Cleanout openings shall be located directly above the inlet and outlet baffles. Inlets and outlets shall have a watertight seal. The inlet cleanout shall have an opening of sufficient size to allow for maintenance that extends a minimum of two inches (2") above ground elevation. The cover for the opening shall have a lock, locking bolt or some type of tamper-resistant fastener, or require a tool for removal.
 - (2) **Location.** All baffles shall extend to within two inches (2") of the top of the septic tank.
 - (A) **Inlet.** Inlet baffles shall extend at least six inches (6") below the liquid depth of the septic tank.
 - (B) **Outlet.** Outlet baffles shall extend below the liquid level by twenty percent (20%) to forty percent (40%) of the liquid depth.
- (d) **Precast concrete tanks.** Precast concrete tanks shall have a minimum:
 - (1) wall thickness of two and one-half inches (2-1/2");
 - (2) bottom thickness of three inches (3"); and
 - (3) cover thickness of three and one-half inches (3-1/2").
- (e) **Poured-in-place concrete tanks.** Poured-in-place concrete tanks shall have a minimum:
 - (1) wall thickness of six inches (6");
 - (2) bottom thickness of three inches (3"); and
 - (3) cover thickness of four inches (4").

SUBCHAPTER 9. PUMP TANKS

252:641-9-1. General provisions

- (a) **Primary settling.** All sewage entering a pump tank (i.e., a lift station, a flow equalization tank or a low pressure dosing tank) must first pass through a septic tank or a trash tank for primary settling.
- (b) **Pump tank design and construction.** Pump tanks shall:

- (1) be constructed to prevent sewage from leaking out of the tank and to prevent the infiltration of water into the tank;
 - (2) when made of concrete, meet the requirements of 252:641-7-2(a);
 - (3) have a manhole opening of at least twenty inches (20") in diameter or, if rectangular, having no side less than twenty inches (20") in length. The manhole cover shall have a lock, locking bolt, or some type of tamper-resistant fastener, ~~that~~ or requires tools for removal. The manhole opening shall extend a minimum of two inches (2") above ground elevation;
 - (4) have a threaded union installed in the discharge line located within eighteen inches (18") of the manhole opening so that the pump can be removed without entering the pump tank; and
 - (5) have a check valve installed in the discharge line after the threaded union. The check valve shall be the same diameter as the discharge line.
- (c) **Pump design.** Pumps shall be:
- (1) designed to pump sewage or other liquid containing fine particles/suspended solids;
 - (2) rated to pump at least the average daily flow the required distance and elevation; and
 - (3) when used as a low pressure dosing pump, rated to pump at least fifty (50) gallons per minute with no more than eight feet (8') of head pressure.
- (d) **Prevention of back siphoning.** Pump discharges shall flow through a structure or device that prevents the back siphoning of wastewater to the pump tank.
- (e) **Example.** Appendix J illustrates the requirements for a pump tank.

SUBCHAPTER 10. AEROBIC TREATMENT SYSTEMS

252:641-10-1. ~~Residential~~ Sewage treatment only

Aerobic treatment systems shall only be used for treatment of sewage ~~from residential units~~ and cannot be used when the average daily flow is less than one hundred (100) gallons per day or greater than one thousand five hundred (1,500) gallons per day or generates wastewater with a total Biochemical Oxygen Demand (BOD) greater than one and one half (1.5) pounds per day. All other system designs must be permitted as alternative systems as described in OAC 252:641-1-2.1(c) (e.g., hospitals, laundromats, restaurants, etc).

252:641-10-2. Design and installation

- (a) **Fluctuating flows.** If the daily flow fluctuates so that the flow on any given day during the week exceeds the aerobic treatment unit's daily capacity, then an aerobic treatment system may not be used unless a flow equalization tank, which meets the requirements of 252:641-9, is installed between the trash tank and the aerobic treatment unit.
- (b) **Components of aerobic treatment systems.** Aerobic treatment systems shall be comprised of the following components:
- (1) **Trash tank.** There shall be a trash tank that meets the requirements of ~~ANSI/NSF/ANSI~~ Standard 40 or 252:641-7-2. The trash tank shall:
 - (A) be constructed to prevent sewage from leaking out of the tank and to prevent the infiltration of water into the tank;
 - (B) have a minimum liquid capacity of three hundred (300) gallons or the average daily flow, whichever is greater, except that the minimum liquid capacity shall not be less than what was used in the ~~ANSI/NSF/ANSI~~ certification process;
 - (C) have a removable lid or a manhole opening of sufficient size to allow for maintenance.

The lid or manhole shall be sealed to prevent leakage and extend a minimum of two inches (2") above ground elevation. The cover for the opening shall have a lock, locking bolt or some type of tamper-resistant fastener, or require a tool for removal; ~~and~~

(D) have baffles installed at its inlet and the outlet. The baffles shall extend to within two inches (2") of the top of the trash tank; and

(i) **Inlet.** Inlet baffles shall extend at least six inches (6") below the liquid depth of the trash tank.

(ii) **Outlet.** Outlet baffles shall extend below the liquid level by twenty percent (20%) to forty percent (40%) of the liquid depth.

(E) meet the requirements of 252:641-7-1(c).

(2) **Aerobic treatment unit.** There shall be an aerobic treatment unit that:

(A) has been tested and certified by an ANSI accredited third party certifier as meeting the most current ~~ANSI/NSF/ANSI~~ Standard 40 and when required by waterbody restrictions ~~ANSI/NSF/ANSI~~ Standard 245;

(B) is constructed to prevent sewage from leaking out of the tank and to prevent the infiltration of water into the tank

(C) is rated at or above the design daily flow and designed treatment capacity for BOD;

(D) produces effluent clear enough that the bottom of the pump tank is visible when it is full; and

(E) has an opening of sufficient size to allow for maintenance that extends a minimum of two inches (2") above ground elevation. The cover for the opening shall have a lock, locking bolt or some type of fastener, or require a tool for removal.

(3) **Method of disinfection.** If spray irrigation is used as the type of dispersal, then there shall be a method to disinfect the effluent that has been tested and certified by an ANSI accredited third party certifier as meeting the most current ~~ANSI/NSF/ANSI~~ Standard 46, between the aerobic treatment unit and the pump tank (or in the pump tank). If chlorination is used as the disinfection method, a free chlorine residual of two tenths of a milligram per liter (0.2 mg/l) must be maintained in the pump tank. All other methods of disinfection shall effectively reduce the fecal coliform count to less than two hundred colonies per one hundred milliliters (200/100 ml).

(4) **Pump tank.** There shall be a pump tank, which shall:

(A) meet the requirements of ~~ANSI/NSF/ANSI~~ Standard 40 or 252:641-7-2;

(B) have a minimum liquid capacity of seven hundred (700) gallons or, for systems with an average flow over three hundred fifty (350) gallons per day, have a liquid capacity of at least twice the average daily flow;

(C) have a sampling port in the pump tank at the discharge outlet or in the treated effluent line following the pump tank;

(D) have a float in the pump tank set so that the pump tank is never more than one-half (1/2) full;

(E) have a high-water alarm set to activate and alert the owner/operator if the pump tank becomes more than one-half (1/2) full; and

(F) have an opening of sufficient size to allow for maintenance that extends a minimum of two inches (2") above ground elevation. The cover for the opening shall have a lock, locking bolt or some type of fastener, or require a tool for removal.

(5) **Dispersal field.** Effluent treated by an aerobic treatment unit shall be dispersed as described in Subchapter 12 of this Chapter.

(c) **Level.** Once installed, ~~the top of~~ each tank (i.e., trash tank, aerobic treatment unit and pump tank) shall have no more than one inch (1") variation in elevation from side to side and end to end.

(d) **Depth of aerobic treatment system components.** The top of all components of the aerobic treatment system, excluding the trash tank and dispersal field, shall be covered with no more than ~~twenty-four~~ thirty-six inches (~~24~~36") of soil and have access to all serviceable parts within twenty-four inches (24") of ground level.

(e) **Solid pipe.** The solid pipe used to connect the components of an aerobic treatment system must meet the minimum specifications listed in Appendix C.

(f) **Fall.** Unless a lift pump is utilized, there shall be fall between:

(1) the trash tank and the aerobic treatment unit; and

(2) the aerobic treatment unit and the pump tank.

(g) **Manufacturer's specification.** All aerobic treatment systems shall be installed in accordance with the manufacturer's specifications and maintained as required by the most current version of NSF Standard 40 and Standard 245.

252:641-10-3. Responsibility for maintenance

(a) **Mandatory two year maintenance period.** The installer of any aerobic treatment system including those providing nitrogen reduction shall maintain the aerobic treatment system for a period of two years following the date the system was installed at no additional cost to the owner. During the two-year mandatory maintenance period, the installer shall be responsible for the following:

(1) repairing, adjusting or replacing any broken or malfunctioning parts;

(2) when spray dispersal is used, testing and recording the free chlorine residual of the effluent in the pump tank at least once every six (6) months;

(3) measuring and recording the depth of the sludge in the trash tank at least once every six (6) months;

(4) measuring and recording the volume of the sludge in forced-air aerobic treatment units at least once every six (6) months;

(5) when pump tanks are used, conducting a clarity test and recording the results as passing or failing once every six (6) months. A passing clarity test is one where an eight-inch disk with alternating black and white quadrants is visible when placed on the bottom of the pump tank when the tank is at least one-third (1/3) full;

(6) notifying the owner of the system in writing of all maintenance provided during each site visit;

~~(A) the type and date of any repairs, adjustments or replacements performed on the system;~~

~~(B) the results of the free chlorine residual test if required and, when applicable, the need to add chlorine and how to do it;~~

~~(C) the depth of the accumulation of sludge in the trash tank and the need to have it pumped so that the depth of the sludge is never more than forty percent (40%) of the overall depth;~~

~~(D) the volume of the sludge in the aerobic treatment unit and the need to have it pumped so that the volume of the sludge in the aerobic treatment unit is never more than forty~~

~~percent (40%); and~~

~~(E) — the results of the clarity test and, if it fails the test, what the installer did or the homeowner has to do to correct it; and~~

(7) documenting all maintenance and testing performed on the system and maintaining those records at his/her business for a period of three (3) years following the date of service.

(b) **Exclusions from maintenance.** The installer shall not be responsible for repairing aerobic treatment systems when the owner/operator is the sole cause of the damage to the system or the system's malfunction (e.g., sprinkler heads that properly retract into the ground but are nevertheless damaged by careless actions of the homeowner, excessive water usage, introduction of harmful items into septic system, etc.).

(c) **Owner responsible after two year period ends.** After the expiration of the initial two-year ~~mandatory~~ maintenance period, the owner of the aerobic treatment system shall be solely responsible for maintaining or hiring someone to maintain the system so that it operates as designed.

SUBCHAPTER 12. DISPERSAL FIELDS

252:641-12-2. Conventional subsurface absorption fields

(a) **Location.** All conventional subsurface absorption fields shall be:

- (1) located in the identified dispersal site; and
- (2) installed more than five feet (5') from the septic tank or aerobic treatment unit.

(b) **Fall.** Unless a pump is utilized, there shall be a minimum fall of two inches (2") from the bottom of the outlet of the septic tank to the:

- (1) highest point of the storage media in the conventional subsurface absorption field; or
- (2) highest point of the sidewall openings of a chamber in the conventional subsurface absorption field.

(c) **Minimum linear length.** All conventional subsurface absorption fields must meet the minimum length requirements set forth in Appendix H, Figures 1-5. If perforated pipe is used between distribution structures and installed in accordance with the trench requirements of this Section, it may be counted as part of the overall required length of the conventional subsurface absorption field.

(d) **Trench length limitation.** Conventional subsurface absorption fields shall be constructed so that no sewage flows through more than a total of one hundred fifty linear feet (150') of perforated pipe or chambers in any given path.

(e) **Trench spacing.** The trenches in a conventional subsurface absorption field shall be spaced at least eight feet (8') apart, center to center.

(f) **Trench width.** All trenches in a conventional subsurface absorption field shall be twenty-four inches (24") wide.

(g) **Trench depth.** Each trench in a conventional subsurface absorption field shall have a uniform depth of at least eighteen inches (18"), and no more than thirty inches (30"). The bottom of the trenches shall be level.

(h) **Dispersal and storage.** Each trench in a conventional subsurface absorption field shall contain a zone for the dispersal and storage of effluent comprised of either perforated pipe and storage media, or chambers.

- (1) **Perforated pipe with storage media.** When perforated pipe and storage media are used

to disperse and store effluent throughout the trenches, the following requirements shall apply:

- (A) **Perforated pipe.** The perforated pipe shall:
 - (i) meet the minimum specifications listed in Appendix C.
 - (ii) extend the entire length of the trenches.
- (B) **Storage Media.** The storage media shall:
 - (i) be at least ten inches (10") deep and at least twenty-four inches (24") wide the entire length of the trench;
 - (ii) be installed with at least two inches (2") of storage media above and two inches (2") of storage media below the perforated pipe;
 - (iii) be level:
 - (I) in each trench; and
 - (II) across the dispersal field, unless installed in trenches of different elevations.
- (2) **Chambers.** When chambers are used to disperse and store effluent throughout the trenches, the chambers shall:
 - (A) have a minimum bottom width of twenty-two inches (22");
 - (B) have a minimum sidewall height of ten inches (10") with the sidewalls having evenly distributed open space. If the sidewall height is less than ten inches (10"), then the trench shall be backfilled with storage media to meet the ten-inch height requirement;
 - (C) meet the most current IAPMO PS 63-2005 standard;
 - (D) extend the entire length of the trenches;
 - (E) be level:
 - (i) in each trench; and
 - (ii) across the dispersal field, unless installed in trenches of different elevations.
- (i) **Retention structure.** Retention structures must be used between trenches of different elevations in conventional subsurface absorption fields. When a retention structure is used:
 - (1) the ~~top~~ bottom of the outlet pipe of a retention structure or the ~~top~~ bottom of the outlet pipe of a chamber being used as a retention structure shall be ~~fourteen inches (14")~~ ten inches (10") above the trench bottom; and
 - (2) the line from the outlet of a retention structure to the next distribution point shall be constructed of solid pipe and shall be backfilled with compacted native soil.
- (j) **Backfill.** For conventional subsurface absorption fields:
 - (1) the depth of the backfill shall be consistent and shall not vary more than four inches (4"); and
 - (2) the backfill shall consist of at least eight inches (8") of topsoil.
- (k) **Layout examples.** There are examples of conventional subsurface system layouts in Appendix K, Figures 1, 2, and 4; examples of retention and distribution structures in Appendix L; examples of trench installation in Appendix M, Figures 1 and 2; and examples of chambers installed in trenches in Appendix N.

252:641-12-3. Shallow extended subsurface absorption fields

- (a) **Location.** All shallow extended subsurface absorption fields shall be:
 - (1) located in the identified dispersal site; and
 - (2) installed more than five feet (5') from the septic tank or aerobic treatment unit.
- (b) **Fall.** Unless a pump is utilized, there shall be a minimum fall of two inches (2") from the bottom of the outlet of the septic tank to the:

- (1) highest point of the storage media in the shallow extended subsurface absorption field; or
- (2) highest point of the sidewall openings of a chamber in the shallow extended subsurface absorption field.

(c) **Minimum linear length.** All shallow extended subsurface absorption fields must meet the minimum length requirements set forth in Appendix H, Figures 6 and 7. If perforated pipe is used between distribution structures and installed in accordance with the trench requirements of this Section, it may be counted as part of the overall required length of the shallow extended subsurface absorption field.

(d) **Trench length limitation.** Shallow extended subsurface absorption fields shall be constructed so that no sewage flows through more than a total of one hundred fifty linear feet (150') of perforated pipe or chambers in any given path.

(e) **Trench spacing.** The trenches in a shallow extended subsurface absorption field shall be spaced at least eight feet (8') apart, center to center.

(f) **Trench width.** All trenches in a shallow extended subsurface absorption field shall be twenty-four inches (24") wide.

(g) **Trench depth.** Each trench in a shallow extended subsurface absorption field shall have a uniform depth of at least fourteen inches (14"), and no more than seventeen inches (17") ~~thirty inches (30")~~. The bottom of the trenches shall be level.

(h) **Dispersal and storage.** Each trench in a shallow extended subsurface absorption field shall contain a zone for the dispersal and storage of effluent comprised of either perforated pipe and storage media, or chambers.

(1) **Perforated pipe with storage media.** When perforated pipe and storage media are used to disperse and store effluent throughout the trenches, the following requirements shall apply:

(A) **Perforated pipe.** The perforated pipe shall:

- (i) meet the minimum specifications listed in Appendix C.
- (ii) extend the entire length of the trenches.

(B) **Storage Media.** The storage media shall:

- (i) be at least six inches (6") deep and at least twenty-four inches (24") wide the entire length of the trench;
- (ii) be installed with at least one inch (1") of storage media above and one inch (1") of storage media below the perforated pipe;
- (iii) be level:
 - (I) in each trench; and
 - (II) across the dispersal field, unless installed in trenches of different elevations.

(2) **Chambers.** When chambers are used to disperse and store effluent throughout the trenches, the chambers shall:

- (A) have a minimum bottom width of twenty-two inches (22");
- (B) have a minimum sidewall height of six inches (6") with the sidewalls having evenly distributed open space;
- (C) meet the most current IAPMO PS 63-2005 standard;
- (D) extend the entire length of the trenches;
- (E) be level:
 - (i) in each trench; and
 - (ii) across the dispersal field, unless installed in trenches of different elevations.

- (i) **Retention structure.** Retention structures must be used between trenches of different elevations in shallow extended subsurface absorption fields. When a retention structure is used:
 - (1) the ~~top~~ bottom of the outlet pipe of a retention structure or the ~~top~~ bottom of the outlet pipe of a chamber being used as a retention structure shall be ~~ten~~ six inches (~~406~~) above the trench bottom; and
 - (2) the line from the outlet of a retention structure to the next distribution point shall be constructed of solid pipe and shall be backfilled with compacted native soil.
- (j) **Backfill.** For shallow extended subsurface absorption fields:
 - (1) the depth of the backfill shall be consistent and shall not vary more than four inches (4"); and
 - (2) the backfill shall consist of at least eight inches (8") of topsoil.

252:641-12-5. Evapotranspiration/absorption (ET/A) fields

- (a) **Location.** All ET/A fields shall be:
 - (1) located in the identified dispersal site; and
 - (2) installed more than five feet (5') from the septic tank or aerobic treatment unit.
- (b) **Fall.** Unless a pump is utilized, there shall be a minimum fall of two inches (2") from the bottom of the outlet of the septic tank to the highest point of the storage media in the ET/A field.
- (c) **Minimum linear length.** All ET/A fields must meet the minimum length requirements set forth in Appendix H, Figures 10 and 11. If perforated pipe is used between distribution structures and installed in accordance with the trench requirements of this Section, it may be counted as part of the overall required length of the ET/A field.
- (d) **Trench length limitation.** ET/A fields shall be constructed so that no sewage flows through more than a total of one hundred fifty linear feet (150') of perforated pipe in any given path.
- (e) **Trench spacing.** The trenches in an ET/A field shall be spaced at least eight feet (8') apart, center to center.
- (f) **Trench width.** All trenches in an ET/A field shall be twenty-four inches (24") wide.
- (g) **Trench depth.** Each trench in an ET/A field shall have a uniform depth of at least eighteen inches (18") and no more than ~~not to exceed~~ twenty-four inches (24"). The bottom of the trenches shall be level.
- (h) **Dispersal and storage.** Each trench in an ET/A field shall contain a zone for the dispersal and storage of effluent comprised of perforated pipe and storage media.
 - (1) **Perforated pipe.** The perforated pipe shall:
 - (A) meet the minimum specifications listed in Appendix C; and
 - (B) extend the entire length of the trenches.
 - (2) **Storage media.** The storage media used shall:
 - (A) be at least ten inches (10") deep and at least twenty-four inches (24") wide the entire length of the trench;
 - (B) be installed with at least two inches (2") of the storage media above and two inches (2") of storage media below the perforated pipe;
 - (C) be level:
 - (i) in each trench; and
 - (ii) across the ET/A field, unless installed in trenches of different elevations.
- (i) **Retention structure.** Retention structures must be used between trenches of different elevations in ET/A fields. When a retention structure is used:

(1) the ~~top~~ bottom of the outlet pipe of a retention structure shall be ~~fourteen~~ ten inches (~~14~~10") above the trench bottom; and

(2) the line from the outlet of a retention structure to the next distribution point shall be constructed of solid pipe and shall be backfilled with compacted native soil.

(j) **Backfill.** For ET/A fields:

(1) the trenches shall be backfilled with at least six inches (6") of clean sand to within two inches (2") of the ground level;

(2) the sand used to backfill the trenches shall be separated from the storage media by material that allows the flow of water but prevents the flow of sand; and

(3) after a trench is backfilled with sand, two to four inches (2"-4") of sandy loam soil shall be mounded over the trench.

(k) **Layout examples.** There are layout examples located in Appendix K, Figures 1, 2, and 4, Appendix L, and Appendix M, Figure 2.

252:641-12-6. Drip irrigation fields

(a) **Location.** All drip irrigation fields shall be:

(1) preceded by an aerobic treatment unit;

(2) preceded by a filter capable of filtering particles larger than one hundred (100) microns; and

(3) located in the identified dispersal site.

(b) **Components.** All components used in the drip irrigation field shall be designed and manufactured specifically for use in wastewater treatment systems.

(c) **Pump.** The pump shall:

(1) be set to distribute no more than one fourth (1/4) of the designed daily flow to the drip irrigation pipe during each pumping interval over a twenty-four hour (24) period;

(2) when in operation, maintain a minimum pressure of ten (10) psi and a maximum pressure of forty-five (45) psi throughout the drip irrigation pipe; and

(3) have a high-water alarm set to activate and alert the owner/operator if the pump tank becomes more than one-half (1/2) full.

(d) **Minimum linear length.** All drip irrigation fields shall meet the minimum length requirements set forth in Appendix H, Figure 12.

(e) **Drip irrigation pipe.** The pipe used in drip irrigation fields shall be designed and manufactured for the purpose of distributing wastewater and comply with the minimum specifications in Appendix C.

(f) **Installation of pipe.** The pipe used in drip irrigation fields shall be:

(1) installed eight to ten inches (8-10") deep;

(2) installed at least two feet (2') apart, center to center;

~~(23)~~ installed according to the manufacturer's specifications; and

~~(34)~~ equipped with emitters spaced:

(A) one foot (1') apart in soil groups 1, 4, and 5; and

(B) two feet (2') apart in soil groups 2, 2a, 3, and 3a.

(g) **Emitters.** The emitters shall ~~be set to wet four square feet (4 ft²)~~ and be pressure compensating to deliver uniform distribution regardless of the pressure entering the drip line.

(h) **Prevent backflow.** To prevent backflow, at least one (1) vacuum relief valve, located in a valve box lined with gravel, shall be located at the highest point on both the supply manifold and

the return manifold.

(i) **Back flush.** There shall be a method to flush the drip irrigation pipe. The flush water shall be returned to the trash tank, aerobic treatment unit or pump tank.

252:641-12-7. Spray irrigation fields

(a) **Location.** All spray irrigation fields shall:

- (1) be preceded by an aerobic treatment unit;
- (2) be located in the identified dispersal site, when a soil profile test is used to size the irrigation field;
- (3) utilize at least two sprinkler heads to disperse the treated effluent; and
- (4) be vegetated and landscaped, and/or terraced to prevent runoff.

(b) **Sizing.** The spray irrigation field shall be sized according to Appendix H, Figures 13-22. When calculating the overall area of the spray irrigation field, areas of overlap may only be counted once.

(c) **Sprinklers.** The sprinklers shall be designed to:

- (1) provide uniform distribution of treated effluent over the entire spray irrigation field without misting; and
- (2) have a trajectory of no more than fifteen-degrees (15°) to keep the spray stream low to the ground surface.

(d) **Spray irrigation.** The spray irrigation shall be:

- (1) adjusted and maintained at a rate to prevent runoff; and
- (2) controlled by a timing device to take place daily between 1:00 a.m. and 6:00 a.m.

SUBCHAPTER 15. LAGOONS

252:641-15-1. General provisions

(a) **Primary settling.** All sewage entering a lagoon must first pass through a septic tank for primary settling.

(b) **Total retention.** All lagoons shall be total retention.

(c) **Location.** Installers shall not locate lagoons where vegetation, timber, or terrain could interfere with prevailing wind action or shade the lagoon during daylight hours.

(d) **Prohibitions.** The owner/operator shall not dispose or store wastes or contaminants other than sewage in the lagoon. The owner/operator shall not discharge or dispose of sludge from the lagoon prior to obtaining approval from the DEQ.

(e) **Closure.** ~~The DEQ may, when public health or safety issues arise, require the owner/operator to properly close a lagoon when it is no longer in use.~~ A closure plan shall be submitted for all lagoons being classified as small public on-site sewage treatment systems or when DEQ requires closure of a lagoon when a public health or safety issue arises and will include:

- (1) A description of how the wastewater will be disposed.
- (2) A description of how the sludge will be disposed if more than six (6) inches are present.
- (3) A description of final grading and erosion controls.
- (4) A time schedule indicating:
 - (A) a time schedule for completion of each activity.
 - (B) the estimated date of final completion of the closure activity.

(f) **Examples.** Refer to Appendix O, "Examples of Lagoon Installation" for examples.

252:641-15-5. Lagoon inlet line and septic tank outlet

(a) **Lagoon inlet line.** The lagoon inlet line shall:

- (1) be made of solid pipe that complies with the minimum specifications listed in Appendix C;
- (2) terminate in the center of the lagoon;
- (3) be anchored and supported; and
- (4) discharge onto a concrete structure that is a minimum of one (1) square foot.

(b) **Septic tank outlet.** For gravity flow systems, the outlet of the septic tank shall be at least ~~one foot (1') above the designed five-foot (5') maximum liquid depth~~ six feet (6') above the bottom of the lagoon.

252:641-15-6. Fence

(a) **Fence required.** In order to prevent unauthorized access to the lagoon, the lagoon area shall be surrounded with a fence unless the entire property is fenced and access is controlled.

(b) **Specifications.** The fence shall:

- (1) be, at a minimum, four feet (4') high and provide protection equivalent to the protection afforded by a woven wire or equally-spaced five (5) wire fence. Lagoons that fall within the definition of a small public sewage system and that are located within three hundred fifty feet (350') of existing or platted residential areas or that are in public access areas shall be surrounded by a six-foot (6') woven wire fence or equivalent.
- (2) have a gate that provides access to the lagoon for mowing equipment and maintenance needs.
- (3) not interfere with wind action to the lagoon's surface or shade the lagoon.
- (4) have a sign on each side of the fence of a small public lagoon system that identifies the facility and provides owner contact information.

(c) **DEQ authority to require more stringent fencing requirements.** In order to protect public health and safety, the DEQ may require more stringent fencing requirements, even when the entire property is fenced.

SUBCHAPTER 19. [RESERVED]

SUBCHAPTER 21. CERTIFICATION FOR ON-SITE SEWAGE TREATMENT SYSTEM INSTALLERS

252:641-21-2.1. New certification application requirements

An applicant may become certified in any category of certification by doing the following:

(1) **Application.** The applicant must submit to DEQ a completed and signed DEQ Form 641-002, "Certified Installer Application". If the applicant is not currently certified in at least one category of certification, then the applicant must also pay the annual certification fee and submit documentation that the applicant has done the following:

(A) **Installation experience.** The installer must have installed at least five (5) on-site sewage treatment systems in Oklahoma that meet or exceed the rules in this Chapter as determined by an inspection performed by DEQ. These systems must have been installed within the two-year time period preceding the date of certification and may not include any

joint inspections required in (5) of this subsection;

(B) **Approval percentage rate.** The installer must have had at least ninety percent (90%) of the systems he/she installed within the last year approved upon the initial inspection, with any disapproved systems only requiring minor changes; and

(C) **Financial assurance.** The installer must document financial assurance by submitting to DEQ one of the following:

(i) **Surety bond.** The applicant may document financial assurance by submitting to DEQ a surety bond guaranteeing payment or performance in the amount of Ten Thousand Dollars (\$10,000) with the following stipulations:

(I) The applicant must be named as the principal of the bond and DEQ must be named as obligee of the bond;

(II) The bond must be effective before the certification can be granted by DEQ and must remain in effect as long as the installer is certified. Upon notification to DEQ that a bond is no longer in effect, DEQ may immediately begin the process to suspend the installer's certification(s); and

(III) Payments made under the terms of the bond shall be made by the surety directly to DEQ. DEQ shall establish an account with these funds from which DEQ may pay for the repair or replacement of a faulty or improperly installed system along with DEQ's costs associated with its response and oversight.

(ii) **Affidavit for tribal and governmental installers.** The applicant may document financial assurance by submitting to DEQ an affidavit that:

(I) the installer is working solely for a federally recognized tribe or a governmental entity; and

(II) the entity will pay for the repair or replacement of faulty or improperly installed systems.

(2) **Training.** The applicant must complete the required DEQ training for the category of certification sought;

(3) **Examination.** The applicant must pass the examination for the category of certification sought ~~with a score of at least seventy percent (70%).~~ A passing score is valid for one hundred eighty (180) days from the date of the exam. Any applicant found cheating on an examination will not be certified, will be subject to having any current certifications revoked, and shall be prohibited from applying for any certifications for a period of twelve (12) months;

(4) **Examination fee.** The applicant must pay to the DEQ the appropriate examination fee; and

(5) **Joint inspections.** The applicant must complete at least two (2) joint field inspections with the DEQ. The systems inspected must:

(A) have been installed by the installer seeking certification; and

(B) be in the category of certification sought.

252:641-21-3. Certification renewal requirements

(a) **Renewal.** A certified installer may renew unexpired certifications by submitting to DEQ the following by January 15:

~~(1) a completed renewal application provided by the DEQ;~~

~~(2) the required annual certification fee; and~~

~~(3) documentation that the applicant completed approved renewal training for that~~

certificate year. Renewal training credit may be granted for courses or workshops of four (4) hours or more that have been approved in writing by the DEQ in advance.

(b) **Late renewals.** The applicant shall pay a Fifty-Dollar (\$50.00) late fee for renewal applications postmarked or received by the DEQ after January 15.

(c) **Failure to renew.** Any certification that has not been renewed within twelve (12) months of expiring may not be renewed. Such applicants must apply for a new certification.

252:641-21-12. Duties and responsibilities

(a) **Systems installed.** For each new installation, modification or repair self-inspected and approved a certified installer shall comply with the following:

(1) **Notify DEQ.** The installer must give DEQ an opportunity to inspect a portion of the system to ascertain that the certified installer continues to meet certification requirements. The certified installer shall notify the local DEQ office, before construction begins, of the time, date and location that an on-site sewage treatment system will be installed, modified or repaired. The installer shall pay DEQ a Fifty-Dollar (\$50.00) fee each time the installer fails to notify the DEQ prior to commencing construction.

(2) **Submittals to DEQ.** Within fifteen (15) working days after the work has been completed, the certified installer shall submit an accurate, completed DEQ Form 641-576AS ~~or 641-576S~~ to the local DEQ office. The installer shall pay DEQ a Thirty Dollar (\$30.00) fee each time the installer fails to submit a completed DEQ Form 641-576AS ~~or 641-576S~~ within fifteen (15) days of completing the work.

(b) **Record keeping.** Certified installers are responsible for maintaining their own records for:

- (1) each system installed; ~~and~~
- (2) all training classes completed; and
- (3) a period of three (3) years.

(c) **Identification.** Each certified installer shall present their identification card to DEQ personnel upon request.

SUBCHAPTER 22. CERTIFICATION FOR PERSONS WHO PERFORM SOIL PROFILERS DESCRIPTIONS

252:641-22-2. Prerequisites for new certifications and renewals

Before being eligible for certification or renewal, an applicant must:

- (1) be an individual,
- (2) be eighteen (18) years of age or older,
- (3) be a Professional Engineer, Professional Land Surveyor, Professional Sanitarian or Professional Environmental Specialist registered to practice in Oklahoma or Soil Scientist as defined in 27A O.S. §Section(s) 3-1-103(20),
- (4) owe no outstanding fees or fines to the DEQ,
- (5) be in compliance with the income tax and immigration laws of this state, and
- (6) be in compliance with all DEQ rules and final orders.

252:641-22-3. New certification application requirements

An applicant may, at any time, apply to become a certified soil profiler by doing the following:

- (1) **Application.** The applicant must submit to the DEQ a completed and signed DEQ Form

641-011, "Certified Soil Profiler Application";

(2) **Training.** The applicant must complete the required DEQ training;

(3) **Examination and fee.** The applicant must pay the examination fee and pass the examination for becoming a soil profiler. Passing scores are valid for one hundred eighty (180) days from the date of the exams. Any applicant found cheating on an examination will not be certified and shall be prohibited from applying for certification for a period of twelve (12) months;

(4) **Joint profiles.** The applicant must complete at least four (4) joint soil profile descriptions with the DEQ;

(5) **Annual fee.** The applicant must pay to the DEQ the annual certification fee; and

(6) **Financial assurance.** The applicant must document financial assurance by providing DEQ with one of the following:

(A) **Surety bond.** The applicant may document financial assurance by submitting to DEQ a copy of a surety bond guaranteeing payment or performance in the amount of Ten Thousand Dollars (\$10,000.00) with the following stipulations:

(i) The applicant must be named as the principal of the bond and DEQ must be named as obligee of the bond.

(ii) The bond must be effective before the certification can be granted by DEQ and must remain in effect as long as the soil profiler is certified. Upon notification to DEQ that a bond is no longer in effect, DEQ may immediately begin the process to suspend the profiler's certification.

(iii) Payments made under the terms of the bond shall be made by the surety directly to DEQ. DEQ shall establish an account with these funds to cover the costs:

(I) to bring an on-site sewage treatment system into compliance when the system was improperly designed using an inaccurate soil profile description; and

(II) for DEQ's response and oversight.

(B) **Affidavit for tribal and governmental soil testers.** The applicant may document financial assurance by submitting to DEQ an affidavit that:

(i) the soil profiler is working solely for a federally recognized tribe or a governmental entity; and

(ii) the entity will pay for the repair or replacement of improperly designed systems.

252:641-22-4. Certification renewal requirements

(a) **Renewal.** A certified soil profiler may renew an unexpired certification by doing the following by January 15:

~~(1) **Application.** The soil profiler must submit to DEQ a completed renewal application provided by the DEQ;~~

~~(2)~~(1) **Annual fee.** The soil profiler must pay to DEQ the required annual certification fee;

~~(3)~~(2) **Renewal training.** The soil profiler must submit to DEQ documentation that the applicant completed approved renewal training for that certificate year. Renewal training credit may be granted for courses or workshops of four (4) hours or more that have been approved in writing by the DEQ in advance;

~~(4)~~(3) **Texturing samples.** The soil profiler must complete the analysis of any soil samples issued to them by the DEQ for texturing. All results must be submitted to DEQ on DEQ Form 641-006, "Soil Texturing Worksheet" within fourteen (14) days of receiving the soil

samples; and

~~(5)~~(4) **Annual texturing test.** The soil profiler shall pass the annual texturing test.

(b) **Late fees.** The soil profiler shall pay a Fifty-Dollar (\$50.00) late fee for renewal applications postmarked or received by the DEQ after January 15.

(c) **Failure to renew.** Any certification that has not been renewed within twelve (12) months of expiring may not be renewed. Such applicants must apply for a new certification.

252:641-22-5. Duties and responsibilities

(a) **Soil profile descriptions.** For each soil profile description performed, the soil profiler shall notify the local DEQ office the day the soil profile description will be performed to allow the DEQ the opportunity to corroborate the results. The soil profiler shall pay DEQ a Fifty-Dollar (\$50.00) fee each time the soil profiler fails to notify the DEQ prior to commencing the soil profile description.

(b) **Record keeping.** Certified soil profilers are responsible for maintaining their own records for:

- (1) each soil profile description performed; ~~and~~
- (2) all training classes completed; ~~;~~
- (3) a period of three (3) years.

(c) **Identification.** Each certified soil profiler shall present their identification card to DEQ personnel upon request.

SUBCHAPTER 23. FEES

252:641-23-2. Certified sewage treatment system installer fees

~~(a)~~ **Certification fees.** The following are the fees associated with the installer certification program.

- (1) Annual certification fee -
 - (A) \$150.00
 - (B) \$175.00 (Effective July 1, 2010)
 - (C) \$200.00 (Effective July 1, 2012)
- (2) Examination fee for each category of certification -
 - (A) \$100.00
 - (B) \$125.00 (Effective July 1, 2010)
 - (C) \$150.00 (Effective July 1, 2012)
- (3) Late fee - \$50.00
- (4) Reinstatement fee - \$50.00
- (5) Failure to notify fee - \$50.00
- (6) Failure to submit paperwork timely fee - \$30.00

~~(b) Nonrefundable.~~ Fees are nonrefundable.

252:641-23-3. Certified soil profiler fees

~~(a)~~ **Certification fees.** The following are the fees associated with the soil profiler certification program.

- (1) Annual certification fee -
 - (A) \$150.00 (Effective July 1, 2008)

- (B) \$175.00 (Effective July 1, 2010)
- (C) \$200.00 (Effective July 1, 2012)
- (2) Examination fee -
 - (A) \$100.00 (Effective July 1, 2008)
 - (B) \$125.00 (Effective July 1, 2010)
 - (C) \$150.00 (Effective July 1, 2012)
- (3) Late fee - \$50.00
- (4) Reinstatement fee - \$50.00
- (5) Failure to notify fee - \$50.00

~~(b) **Nonrefundable.** Fees are nonrefundable.~~

252:641-23-4. Fee escalator based on consumer price index (CPI)

To assist in meeting rising costs to DEQ associated with the on-site sewage program, the fees set out in Subchapter 23 shall be automatically adjusted on July 1, 2013, and every year thereafter on July 1st, to correspond to the percentage, if any, by which the Consumer Price Index (CPI) for the most recent calendar year exceeds the CPI for the previous calendar year. DEQ may round the adjusted fees up to the nearest dollar. DEQ may waive collection of an automatic increase in a given year if it determines other revenues, including appropriated state general revenue funds, have increased sufficiently to make the funds generated by the automatic adjustment unnecessary in that year. A waiver does not affect future automatic adjustments.

- (1) Any automatic fee adjustment under this subsection may be averted or eliminated, or the adjustment percentage may be modified, by rule promulgated pursuant to the Oklahoma Administrative Procedures Act. The rulemaking process may be initiated in any manner provided by law, including a petition for rulemaking pursuant to 75 O.S. §Section 305 and OAC 252:4-5-3 by any person affected by the automatic fee adjustment.
- (2) If the United States Department of Labor ceases to publish the CPI or revises the methodology or base years, no further automatic fee adjustments shall occur until a new automatic fee adjustment rule is promulgated pursuant to the Oklahoma Administrative Procedures Act.
- (3) For purposes of this subsection, “Consumer Price Index” or “CPI” means the Consumer Price Index - All Urban Consumers (U.S. All Items, Current Series, 1982-1984=100, CUUR0000SA0) published by the United States Department of Labor. The CPI for a calendar year is the figure denoted by the Department of Labor as the “Annual” index figure for that calendar year.

252:641-23-5. Refunds

Fees contained within this Chapter are non-refundable and are subject to the requirements set forth in OAC 252:4-7.