252:641-1-2.1. Authorizations and permits for on-site sewage treatment systems
(a) Requirement for authorizations and permits. Before installing a new or modifying an existing on-site sewage treatment system, the installer shall first obtain either:
   (1) DEQ authorization to construct an on-site sewage treatment system under the general permit, the terms of which are the rules of this Chapter; or
   (2) an individual permit to construct an alternative on-site sewage treatment system.
(b) Applying for authorizations; necessity for permit.
   (1) An installer seeking an authorization to construct a new or modify an existing on-site sewage treatment system shall submit a completed and signed:
      (A) DEQ Form 641-575, "Request for Authorization/Permit to Construct an On-Site Sewage Treatment System" along with the appropriate fee(s) [see 252:641-23 (relating to fees)] to DEQ's Oklahoma City office; and
      (B) DEQ Form 641-581P or 641-581SP "Report for On-Site Sewage" to the local DEQ office. The detail needed varies with each system design; guidance will be provided by the local DEQ office;
      (C) DEQ Form 641-581Design "Design Documentation Form" Cert "Certification Documentation Form" to the local DEQ office.
   (2) Any construction or modification design that deviates from the rules in this Chapter will require the installer to apply for an individual permit to construct a new or modify an existing alternative system.
(c) Applying for permits for alternative systems. Installers seeking an individual permit to construct a new or modify an existing alternative on-site sewage treatment system shall submit a completed and signed:
   (1) DEQ Form 641-575, "Request for Authorization/Permit to Construct an On-Site Sewage Treatment System" along with the appropriate fee(s) [see 252:641-23 (relating to fees)] to DEQ;
   (2) DEQ Form 641-581P or 641-581SP "Report for On-Site Sewage" to the local DEQ office; and
   (3) DEQ Form 641-581Sup., "Supplemental Application for an Alternative On-Site Sewage Treatment System" to the local DEQ office for DEQ's review and approval; and
   (4) DEQ Form 641-581Cert "Certification Documentation Form" to the local DEQ office.

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 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 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 installed in those platted areas must meet the construction requirements of this Chapter. All minimum lots sizes listed in Appendix A, Figure 3 shall exclude road easements and surface impoundments.

(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 NSF/ANSI Standard 245.
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), or DEQ Environmental Program Specialists. Additionally, an individual performing soil profiles must also be certified by DEQ 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 supercede 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
(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.
(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 5 to size the conventional subsurface absorption field.

(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
(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 2-4 and 6-19; 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.

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**SUBCHAPTER 7. SEPTIC TANKS**
252:641-7-1. General provisions
(a) Once installed, 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.
(e) All concrete tanks shall have a data plate permanently affixed to the lid of at least one manhole riser. All data plates shall provide the following information:
   (1) Name of the tank manufacturer;
   (2) Liquid capacity; and
   (3) Date of manufacture.

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 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 and outlet cleanouts shall have an opening of sufficient size to allow for maintenance that extends a minimum of two inches (2") above ground elevation and shall use a riser safety screen system or factory supplied concrete manhole lid. 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").

252:641-7-4. Liquid capacity
(a) **Individual on-site sewage treatment system.** A septic tank used in an individual on-site sewage treatment system for a residential unit with four (4) or fewer bedrooms shall have a liquid capacity of at least one thousand (1,000) gallons. An additional two hundred and fifty (250) gallons of capacity must be added for each additional bedroom.

(b) **Small public sewage system.** The liquid capacity for a septic tank used in a small public sewage system shall be at least five hundred (500) gallons for small public sewage systems with a daily flow of one hundred (100) gallons or less. For small public sewage systems with daily flows exceeding one hundred (100) gallons, the liquid capacity shall be equal to or greater than the average daily flow plus fifty percent (50%), but in no case shall it be less than one thousand (1,000) gallons.

(c) **Two-compartment tanks.** The capacity of the influent compartment of a two-compartment tank shall not be less than one-half (1/2) nor more than two-thirds (2/3) of the total required liquid capacity of the tank.

(d) **All septic tanks.** All septic tanks shall be designed to have:

1. a liquid depth of at least three feet (3') but not more than six and one-half feet (6-1/2'); and
2. an air space of eight inches (8") or more inside the tank.

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**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 no more than one inch (1) variation in elevation from side to side and end to end;
4. 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, or require tools for removal. The manhole opening shall extend a minimum of two inches (2") above ground elevation and shall use a riser safety screen system;
5. 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
6. 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; and
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.

252:641-9-2. Sizing
Pump tanks shall be sized as follows:

(1) Lift stations. The lift station pump tank shall have a minimum liquid storage capacity of one thousand (1,000) gallons.

(A) Daily flow over 500 gallons. For systems with average daily flows over five hundred (500) gallons, the liquid capacity of the pump tank shall be at least twice the highest daily flow.

(B) Daily flow over 2,000 gallons. For systems with an average daily flow over two thousand (2,000) gallons, the liquid capacity of the pump tank may be reduced to one-half (1/2) of the average daily flow, if a backup pump is available on site.

(2) Flow equalization tanks. The flow equalization pump tank shall have a minimum liquid storage capacity of one thousand (1,000) gallons. If the daily flow is greater than five hundred (500) gallons, the liquid capacity of the pump tank shall be at least twice the highest daily flow.

(3) Low pressure dosing tanks. The low pressure dosing pump tank shall be sized to have a minimum liquid capacity of at least one and one-half (1 1/2) times the average daily flow.

The pump controls shall be set as follows:

(1) Lift stations. The following control settings apply to lift stations:

(A) Never more than 1/2 full. The pump controls shall be set so that the pump tank is never more than one-half (1/2) full.

(B) Alarm. There shall be an alarm set to activate and alert the owner/operator if the pump tank becomes more than one-half (1/2) full.

(2) Flow equalization tanks. The following control settings apply to flow equalization tanks:

(A) Never more than 1/2 full. The pump controls shall be set so that the pump tank is never more than one-half (1/2) full.

(B) Alarm. There shall be an alarm set to activate and alert the owner/operator if the pump tank becomes more than one-half (1/2) full.

(C) Regulating pumping rate. The pumping of wastewater to the treatment system shall be regulated by timers, float switches or by piping and valves that allow excess pumped effluent to be returned to the flow equalization tank. The pumping of wastewater to the treatment system shall not exceed:

(i) one-fourth (1/4) of the design capacity of the treatment system in a one-hour period; and

(ii) the daily treatment capacity of the treatment system in any given twenty-four-hour period.

(3) Low pressure dosing tanks. The following control settings apply to low pressure dosing tanks:

(A) Alarm. There shall be an alarm set to activate and alert the owner/operator if the reserve volume of the pump tank falls below one day's flow.

(B) Regulating pumping rate. The pumping of wastewater to the dispersal field shall be regulated by timers, float switches or by piping and valves that allow excess pumped effluent to be returned to the low pressure dosing pump tank. The pump controls shall be set so that the pumping of wastewater to the dispersal field shall:

(i) occur at least four (4) times per day; and

(ii) not exceed one-fourth (1/4) of the daily flow per dosing event.
SUBCHAPTER 10. AEROBIC TREATMENT SYSTEMS

252:641-10-1. Sewage treatment

Aerobic treatment systems shall only be used for treatment of sewage 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 (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 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 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 and shall use a riser safety screen system or factory supplied concrete manhole lid. The cover for the opening shall have a lock, locking bolt or some type of tamper-resistant fastener, or require a tool for removal;
   (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 NSF/ANSI Standard 40 and when required by waterbody restrictions 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 and shall use a riser safety screen system. 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 NSF/ANSI Standard 46 for disinfection mechanics, between the aerobic treatment unit and 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.** When a pressurized dispersal method is used, there shall be a pump tank, which shall:

(A) meet the requirements of 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 and shall use a riser safety screen system. 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, 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 thirty-six inches (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.

**SUBCHAPTER 12. DISPERSAL FIELDS**

252:641-12-1. **General provisions**

(a) **Primary settling.** Prior to being conveyed to a dispersal field, all sewage must first pass
through a septic tank or trash tank for primary settling.

(b) **Delivery method.** All sewage shall be conveyed to the dispersal field through solid pipe, which shall meet the specifications listed in Appendix C.

c) **Surface water.** Surface water shall be diverted around or away from the dispersal field.

(d) **Types of dispersal fields.** The following are the allowed types of dispersal fields:

1. Conventional subsurface absorption fields;
2. Shallow extended subsurface absorption fields;
3. Evapotranspiration/absorption (ET/A) fields;
4. Low pressure dosing fields;
5. Drip irrigation fields; and

(e) **Specifications for storage media.** Storage media shall meet the following requirements:

1. **Storage capacity.** All storage media shall provide a storage capacity of:
   (A) at least five (5) gallons per linear foot in the bottom ten inches (10") of a twenty-four inch-wide trench in a conventional subsurface absorption field or ET/A field; or
   (B) at least three and one-half (3-1/2) gallons per linear foot in the bottom six inches (6") of a twenty-four-inch-wide trench in a low pressure dosing field or a shallow extended subsurface absorption field.

2. **Media size.** Storage media shall be one-half to two and one-half inches (1/2" to 2-1/2") in diameter with no more than ten percent (10%) by weight passing through a one-half inch (1/2") screen.

3. **Media with specific gravity of less than 1.0.** If the specific gravity of the storage media is less than 1.0, it shall be bundled with a netting sleeve.

4. **Resistant to degradation.** The storage media shall be non-degradable by septic tank effluent.

5. **Hardness of natural media.** Natural materials (e.g., rock, etc.) used as storage media shall have a Mohs hardness of at least 3.0.

6. **Deflection rate for manufactured media.** Manufactured materials (e.g., glass, plastic, polystyrene, etc.) used as storage media shall have a deflection rate of ten percent (10%) or less when subjected to a minimum of ten (10) psi for ninety-six (96) hours (ASTM D2221-01).

(f) **Dispersal Systems.** Systems utilized for the treatment of sewage shall meet the following requirements:

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;
      (iii) be installed in the center of the storage media and the trench.

   (B) **Storage Media.** The storage media shall:
      (i) be at least twenty-four inches (24") wide the entire length of the trench;
      (ii) be level:
         (I) in each trench; and
         (II) across the dispersal field, unless installed in trenches of different elevations.

2. **Manufactured Media Systems.** When manufactured media systems are used to disperse and store effluent throughout the trenches, the systems shall:
   (A) have a minimum exterior width of twenty-two inches (22");
   (B) have a permeable sidewall interface evenly distributed along the manufactured media
system. If the manufactured media system does not meet the storage media minimum height requirement, then the trench shall be backfilled with storage media to the depth required for the dispersal field being installed;

(C) has been tested and certified by an ANSI accredited third party certifier as having a minimum load rating of American Association of State Highway and Transportation Officials H-10 with 12 inches of compacted soil cover over the top of the manufactured media system;

(D) be fabricated from durable, non-deteriorating materials;

(E) extend the entire length of the trenches;

(F) be level:
   (i) in each trench; and
   (ii) across the dispersal field, unless installed in trenches of different elevations.

252:641-12-4. Low pressure dosing fields  [REVOKED]

(a) Location. All low pressure dosing fields shall be:
   (1) located in the identified dispersal site;
   (2) installed more than five feet (5') from the septic tank or aerobic treatment unit; and
   (3) preceded by a low pressure dosing tank.

(b) Header line. The header pipe (i.e., the pipe between the pump tank and the manifold) shall:
   (1) have a diameter the same as the diameter of the outlet of the low pressure dosing pump; and
   (2) be no longer than thirty feet (30').

(c) Total linear length. All low pressure dosing fields shall meet the total linear length requirements set forth in Appendix H, Figures 9 and 10.

(d) Trench length. Each trench in a low pressure dosing field shall be forty feet (40') long.

(e) Trench spacing. The trenches in a low pressure dosing field shall be spaced six feet (6') apart, center to center.

(f) Trench width. All trenches in a low pressure dosing field shall be twenty-four inches (24") wide.

(g) Trench depth. Each trench in a low pressure dosing field shall have a uniform depth of at least fourteen inches (14") and no more than thirty inches (30'). The bottom of the trenches shall be level.

(h) Dispersal and storage. Each trench in a low pressure dosing field shall contain a zone for the dispersal and storage of effluent with a total depth of at least six inches (6"'), comprised of low pressuring dosing pipe and storage media or a low pressure dosing pipe and a manufactured media system. Low pressure dosing pipe shall:
   (1) meet the minimum specifications listed in Appendix C;
   (2) have one-fourth inch (1/4") diameter holes spaced five feet (5') apart the entire length of the pipe;
   (3) extend the entire length of the trenches; and
   (4) have all of the joints glued.

(i) Retention structures prohibited. Retention structures may not be used in low pressure dosing fields.

(j) Backfill. For low pressure dosing 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 layout examples located in Appendix K, Figure 3, and Appendix M, Figure 3.

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

**252:641-21-1. General provisions**

(a) **Applicability.** Persons may become certified by DEQ to install on-site sewage treatment systems by complying with the requirements of this Subchapter.

(b) **Inspections.** Certified installers may self-inspect and approve only systems they install, modify, or repair within the category(ies) for which they are certified. Certified installers may self-inspect and approve any lift-stations or flow equalization tanks they install. However, certified installers may not self-inspect and approve any:

1. small public sewage system that has a design flow greater than one thousand, five hundred (1,500) gallons per day; or
2. alternative system.

(c) **Compliance.** Certified installers shall comply with all the rules in this Chapter.

(d) **Certification period.** Certifications shall be effective from February 1 or the day of certification, through January 31, unless modified by an Administrative Proceeding.

(e) **Specified dates.** If any date specified in this Subchapter falls on a weekend or holiday, the date of the following working day shall be the effective date.

(f) **Application time frame.** Applications will become void if the applicant fails to meet all certification requirements within one hundred eighty (180) days of being notified of any deficiencies. All fees paid are non-refundable when an application is voided.

(g) **Categories of certification.** The following are the categories of certification for which an installer may become certified:

1. **Conventional/Shallow Extended/ET/A (CSE).** The "CSE" category includes all systems that utilize conventional subsurface absorption fields, shallow extended subsurface absorption fields, or ET/A fields described in Subchapter 12 of this Chapter.
2. **Lagoon.** The "Lagoon" category includes all systems that utilize a lagoon described in Subchapter 15 of this Chapter.
3. **Aerobic-Spray.** The "Aerobic-Spray" category includes all aerobic treatment systems, which are described in Subchapter 10 of this Chapter, that utilize a spray irrigation field described in Subchapter 12 of this Chapter.
4. **Aerobic-Drip.** The "Aerobic-Drip" category includes all aerobic treatment systems, which are described in Subchapter 10 of this Chapter, that utilize a drip irrigation field described in Subchapter 12 of this Chapter.
5. **Low Pressure Dosing (LPD).** The "LPD" category includes all systems that utilize a low pressure dosing field described in Subchapter 12 of this Chapter.

**252:641-21-2. 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. owe no outstanding fees or fines to the DEQ,
4. be in compliance with the income tax and immigration laws of this state, and
5. be in compliance with all DEQ rules and final orders.
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) Fifty Thousand Dollars ($50,000) 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. 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) the required annual certification fee; and
(2) 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) six (6) 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.

SUBCHAPTER 22. CERTIFICATION FOR PROFILERS

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 Twenty-five-Thousand Dollars ($10,000.00-25,000.00) 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.

SUBCHAPTER 23. FEES

252:641-23-1. Requested services fees
(a) Fees. The following fee schedule applies to services provided by the Environmental Complaints and Local Services Division (ECLS) of the DEQ.
   (1) Soil profile description:
      (A) When DEQ augers test holes -
         (i) $150.00 (Effective July 1, 2008)
         (ii) $175.00 (Effective July 1, 2009)
         (iii) $200.00 (Effective July 1, 2010)
         (iv) $225.00 (Effective July 1, 2011)
         (v) $250.00 (Effective July 1, 2012)
      (B) When pits are provided by applicant -
         (i) $60.00 (Effective July 1, 2008)
         (ii) $80.00 (Effective July 1, 2009)
         (iii) $100.00 (Effective July 1, 2010)
         (iv) $125.00 (Effective July 1, 2011)
         (v) $150.00 (Effective July 1, 2012)
   (2) DEQ authorization or permit to construct a new on-site sewage treatment system when the average daily flow is:
      (A) less than or equal to one thousand five hundred (1,500) gallons and when the installer is:
         (i) certified to self-inspect the system -
            (I) $150.00 (Effective July 1, 2008)
            (II) $175.00 (Effective July 1, 2009)
            (III) $200.00 (Effective July 1, 2010)
            (IV) $225.00 (Effective July 1, 2011)
            (V) $250.00 (Effective July 1, 2012)
         (ii) not certified to self-inspect the system -
            (I) $250.00 (Effective July 1, 2008)
(II) $275.00 (Effective July 1, 2009)
(III) $300.00 (Effective July 1, 2010)
(IV) $325.00 (Effective July 1, 2011)
(V) $350.00 (Effective July 1, 2012)

(B) greater than one thousand five hundred (1,500) gallons -
   (i) $350.00 (Effective July 1, 2008)
   (ii) $375.00 (Effective July 1, 2009)
   (iii) $400.00 (Effective July 1, 2010)
   (iv) $425.00 (Effective July 1, 2011)
   (v) $450.00 (Effective July 1, 2012)

(3) DEQ authorization to modify an existing on-site sewage treatment system when the installer is:

   (A) certified to self-inspect the system -
       (i) $60.00 (Effective July 1, 2008)
       (ii) $80.00 (Effective July 1, 2009)
       (iii) $100.00 (Effective July 1, 2010)
       (iv) $125.00 (Effective July 1, 2011)
       (v) $150.00 (Effective July 1, 2012)
   (B) not certified to self-inspect the system -
       (i) $160.00 (Effective July 1, 2008)
       (ii) $180.00 (Effective July 1, 2009)
       (iii) $200.00 (Effective July 1, 2010)
       (iv) $225.00 (Effective July 1, 2011)
       (v) $250.00 (Effective July 1, 2012)

(4) Plan review of an alternative on-site sewage treatment system -
   (A) $100.00 (Effective July 1, 2008)
   (B) $125.00 (Effective July 1, 2009)
   (C) $150.00 (Effective July 1, 2010)
   (D) $175.00 (Effective July 1, 2011)
   (E) $200.00 (Effective July 1, 2012)

(5) Existing system evaluation report -
   (A) $150.00 (Effective July 1, 2008)
   (B) $175.00 (Effective July 1, 2009)
   (C) $200.00 (Effective July 1, 2010)
   (D) $225.00 (Effective July 1, 2011)
   (E) $250.00 (Effective July 1, 2012)

(b) Waiver of fees.

   (1) Indigents and nonprofit organizations.  The DEQ may waive fees for indigents and nonprofit organizations.  Requests for a waiver of fees under this paragraph shall be decided by the Director of the Environmental Complaints and Local Services Division of the DEQ.

   (2) Investigation of complaints.  The DEQ may perform a soil profile description as a part of an investigation of a system known to be malfunctioning or a system which is the subject of a complaint filed by a third party.  No fee shall be charged as a part of this investigation.

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

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)(A) $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)(A) $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

252:641-23-3. Certified soil profiler fees
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)(A) $200.00 (Effective July 1, 2012)

(2) Examination fee -
   (A) $100.00 (Effective July 1, 2008)
   (B) $125.00 (Effective July 1, 2010)
   (C)(A) $150.00 (Effective July 1, 2012)

(3) Late fee - $50.00

(4) Reinstatement fee - $50.00

(5) Failure to notify fee - $50.00