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

SUBCHAPTER 1. GENERAL PROVISIONS

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; and
      (C) DEQ Form 641-581Cert "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 the 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 the on-site sewage treatment system, excluding service lines, are or will be located on property that is owned by a home owners association and/or dedicated to the home
owners association in a recorded easement for the installation and operation of the on-site sewage system. All users of the on-site sewage system must be members of the home owners association, which must:

(A) be established under the laws of the State of Oklahoma;

(B) have the legal authority to own, maintain, repair and operate the on-site sewage system;

(C) have by-laws providing that dissolution cannot occur until the system is either closed or transferred to another viable operating entity; and

(D) have the instrument creating the association on file in the office of the county clerk where the property is located; or

(3) all components of an 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.

(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 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.

SUBCHAPTER 3. SOIL TESTS

252:641-3-2. Percolation test method

(a) Use of percolation tests. A percolation test may only be used to identify dispersal sites for conventional subsurface absorption fields. Starting January 1, 2009, percolation tests, including pre-existing ones, may not be used to identify dispersal sites for on-site sewage systems in scenic river corridors, unless documentation that the site is not located within the scenic river watershed is provided to DEQ.

(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;
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 ft\(^2\)), then one additional test hole shall be used for each additional five thousand square feet (5,000 ft\(^2\)). 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 ft\(^2\)), then one additional test hole shall be used for each additional five thousand square feet (5,000 ft\(^2\)). 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:
   - **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").
   - **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").
   - **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").
   - **Shallow extended subsurface absorption fields.** The sizing range for shallow extended subsurface absorption fields is the three (3) six-inch intervals between ground level and eighteen inches (18").
   - **Drip irrigation fields.** The sizing range for drip irrigation fields is the three (3) six-inch intervals between ground level and eighteen inches (18").
   - **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.** 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 641-581Cert "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 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:
   - the test hole number used to determine the sizing range;
   - the soil group of the sizing range; and
   - 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; and
(15) The date the soil profile description was conducted.