State of Oregon
DEQ Department of Environmental Quality

Housekeeping

To: Onsite Program Rulemaking Advisory Committee, RAC

From: DEQ Onsite Program

Date: Jan. 30, 2025

Summary of Existing Rule & Description of the Issue

Oregon Administrative Rules (OARs) Chapter 340, Sections 71 and 73 contain outdated information, inconsistencies, grammatical errors, typos, and unclear points. Housekeeping updates are necessary to improve the rules for clarity, accuracy, and relevance. Minor changes are needed to address current practices and operational needs.

Revised Sections

Changes are proposed to section 340-071-0100, 0115, 0130, 0150, 0155, 0205, 0220, 0290, 0295, 0310, 0315, 0320, 0360, 0520, 0650; 340-073-0025, 0026, 0030, 0035, 0040, 0041, 0050, 0055, 0056, 0060, 0075.

Implications of Rule Changes

To provide clarification, the following additions and changes are proposed to the rules:

- A separate definition of “design flow” from “projected daily sewage flow” will be added and changes will be made to apply the appropriate definition in each context (340-071-0100, 0130, 205, 0220, 0220 Table 4 and 5, 0290, 0295, 0310, 0050, 0055); and
- The requirement to also have a sewage disposal service license to be qualified to conduct Existing System Evaluation Reports will be added for a person with a current NAWT inspector training and certification accreditation (340-071-0155).

To address accuracy, the following information will be added or changed:

- The undefined term “the department” will be changed to “DEQ,” which is a defined term (340-073-0025, 0035, 0050, 0055, 0056, 0075).
- The sieve size for cobbles will be added to Table 7, which was previously omitted in error (340-071-0100 Table 7).

To address relevance, the following outdated information will be removed:

- Automatic siphons as an approved dosing assembly. Automatic or dosing siphons are no longer used (340-071-0100, 0140 Table 9B, 0520; 340-073-0025, 0030, 0050, 0055);
- The specific edition of the Oregon State Plumbing Specialty Code. Citing the most recent edition of the rules quickly becomes outdated as OARs are updated much less frequently than plumbing code (340-071-0130, 0220);
- Filter fabric for use at the base of sand filters. The type of filter fabric specified is not commonly available any longer and the use of drain media with filter fabric in sand filters is no longer a preferred method (340-071-0295, 073-041);

- NSF/ANSI Standard No. 46 – 2012 because Standard No. 385 is specific to disinfection units, whereas Standard No. 46 pairs disinfection units with ATT models. NSF/ANSI 385 will be added to rule in place of NSF/ANSI 46 (340-071-0345);
- Geographic Area Special Considerations for River Road – Santa Clara Area, Lane County, because the area has been sewered (340-071-0400);
- The exception allowing DEQ installers certified before December 31, 2003, to skip the initial training examination, as it no longer applies to current DEQ installers (340-071-0650); and
- Steel tanks as an approved material, due to their compromised integrity over time, which poses a safety hazard. For that reason, steel tanks are no longer installed (340-073-0026).

To align with current practices and operational needs, the following minor changes will be made:

- Add distribution and drop boxes to the definition of Major Maintenance, allowing DEQ-certified maintenance providers and licensed installers to repair or replace them without a minor repair permit (340-071-0100);
- Add the definition of “Time Dosing”, a design feature used for facilities with irregular peak sewage flows, like churches operating one or two days a week (340-071-0100);
- Remove a private contractor as a person qualified to conduct a site evaluation for WPCF permits to be consistent with other rules (340-071-0150);
- Add language allowing an agent to require a new site evaluation if an existing site evaluation record does not have sufficient information to identify the approval area, reflecting current practice but not specified in rule (340-071-0150);
- Add seepage bed construction under absorption trenches following Sand Filters, which is currently done but is not explicitly allowed in rule (340-071-0290);
- Updated pipe specifications for pressure transport pipes, curtain drain outlet pipes, gravelless absorption method pipes, underdrain pipes, distribution pipes, and tile dewatering outlet tiles to reflect current practices and standards (340-071-0220, 0290; 340-073-0060); and
- Move header pipe specifications from Distribution Pipe and Fittings section to the Effluent Sewer Pipe section (340-073-0060).

Non-discrimination statement

DEQ does not discriminate on the basis of race, color, national origin, disability, age, sex, religion, sexual orientation, gender identity, or marital status in the administration of its programs and activities. Visit DEQ’s Civil Rights and Environmental Justice page.

Proposed Rule Changes Pertaining to Variances

Key to Identifying Changed Text:

~~**Deleted Text**~~
New/inserted text
~~Text deleted from one location~~ - and moved to another location

340-071-0100

Definitions

~~(17) Automatic Siphon" means a hydraulic device designed to rapidly discharge the contents of a dosing tank between predetermined liquid levels.~~

(41) "Design Capacity" means the ~~maximum daily~~ design flow a system is designed to treat and disperse.

(XX) “Design flow” means the maximum daily quantity of sewage for which a system is sized and designed. The design flow allows for a safety margin and reserve capacity for the system during heavy use.

(50) "Dosing Tank" means a watertight receptacle placed after a septic tank or other treatment facility equipped with a~~n automatic siphon or~~ pump.

(89) "Large System" means any onsite system with a ~~projected daily sewage~~ design flow greater than 2,500 gallons.

(91) "Maintenance" means taking the actions necessary to keep onsite system components properly functioning as designed. Maintenance is further defined as:

(a) Major Maintenance means ~~is cleaning~~, repairing or replacing a broken distribution or drop box or a broken or plugged effluent sewer pipe where:

(A) ~~The pipe is the same make and model~~ The box or pipe meets the requirements in this division and construction standards in division 073; ~~or~~ and

(B) ~~The pipe meets the requirements in this division; and~~ A certified maintenance provider with a sewage disposal service bond or certified licensed installer performs the work.

(C) ~~A certified maintenance provider or certified licensed installer performs the work.~~

(111) "Pressure Transport Piping" means piping that conveys sewage effluent from a septic tank or other treatment or distribution unit typically by means of a pump ~~or siphon~~.

(116) "Projected Daily Sewage Flow" ~~or "design flow"~~ means the anticipated peak daily quantity of sewage ~~production from a facility~~ an establishment produces. ~~for which a system is sized and designed. The projected daily sewage flow allows for a safety margin and reserve capacity for the system during periods of heavy use.~~

(126) "Sand Filter System" means an alternative system that combines a septic tank or other treatment unit; a dosing system with effluent pump and controls ~~or dosing siphon~~, piping and fittings; a sand filter; and an absorption facility to treat wastewater.

(XXX) "Time Dosing" means a method of pumping effluent where there is adequate effluent storage to manage surge flows within a time period, either daily or weekly, and meter the flow over an entire day or week. This method requires adequate storage in a dosing tank or similar container, a control panel with a timer, and floats to activate timer and disable pump in periods of low flows.

340-071-0130

General Standards, Prohibitions and Requirements

(5) Increased flows prohibited. Except where specifically allowed by this division, a person may not connect a dwelling or commercial facility to a system if the total projected daily sewage flow would be greater than that allowed under the original system construction-installation permit.

(6) System capacity. Each system must have adequate capacity to properly treat and disperse the maximum projected daily sewage flow. The projected ~~quantity of~~ daily sewage flow must be determined from OAR 340-071-0220 Table 2 or other information the agent determines to be valid.

(15) Permit requirements:

(b) The following systems must be constructed and operated under a renewable WPCF permit issued pursuant to OAR 340-071-0162:

(A) Any system or combination of systems located on the same property or serving the same facility and having a total ~~sewage flow~~ design capacity greater than 2,500 gpd. Flows from single family residences or equivalent flows on separate systems incidental to the purpose of the large system or combination of systems (e.g., caretaker residence for a mobile home park) need not be included;

(16) WPCF permits for existing facilities:

(d) Permittees of other existing systems or combination of systems constructed or operating under a WPCF permit may request DEQ terminate the permit if all of the following conditions are met:

(A) The system or combination of systems located on the same property or serving the same facility must have a total ~~sewage flow~~ design capacity of 2,500 gpd or less; and

(21) Sewer and water lines. Effluent sewer and water line piping constructed of materials that are approved for use within a building, as defined by ~~the 2000 Edition of~~ the Oregon State Plumbing Specialty Code, may be run in the same trench. Effluent sewer pipe of material not approved for use in a building must not be run or laid in the same trench as water pipe unless both of the following conditions are met:

340-071-0150

Site Evaluation Procedures

(3) Site evaluation report.

(a) The agent ~~or, for WPCF permits, an agent or a qualified private contractor,~~ must evaluate the site of the proposed system, consider all system options, and provide a report of such evaluation.

(4) Approval or denial:

(d) An agent may require a new site evaluation application if an existing site evaluation record does not include sufficient information for an agent to determine the approval area for a proposed system.

340-071-0155

Existing System Evaluation Report

(1) An evaluation of an existing onsite wastewater treatment system must meet the following requirements:

(a) An evaluation must be performed by a person with one or more of the qualifications listed below:

(E) A current NAWT inspector training and certification accreditation with a sewage disposal service license;

340-071-0205

Authorization to Use Existing Systems

(4) An agent may issue an Authorization Notice valid for up to one year to place into service or change the use of an existing onsite system when there is no increase in projected daily sewage flow ~~is projected~~ and the design flow is not exceeded, if:

340-071-0210

Alteration of Existing Onsite Wastewater Treatment Systems

(2) An agent may issue an alteration permit if the requirements of either subsections (a) or (b) of this section are met.

(a) Alterations do not increase the system's design capacity ~~above the original design flow~~ and:

340-071-0220

Standard Subsurface Systems

(1) Criteria For standard subsurface systems. Each site must meet all of the conditions in this section to be approved for a standard subsurface system.

(d) Sites may be approved with no separation between the bottom of absorption trenches and soil with rapid or very rapid permeability as defined in OAR 340-071-0100(148)(a) and (b) and absorption trenches may be placed into such soil if any of the following conditions occur.

(C) The ~~projected daily sewage flow~~ design flow does not exceed a loading rate of 450 gallons per acre per day.

(j) Setbacks in Table 1 except as modified by this subsection can be met.

(C) Water lines and sewer lines. Effluent sewer and water line piping constructed of materials that are approved for use within a building in the ~~2000 Edition of the~~ Oregon State Plumbing Specialty Code may be run in the same trench or may cross. Where the effluent sewer pipe material is not approved for use in a building, it may not be run or laid in the same trench as water pipe unless:

(E) Pressure transport pipe setback to well. Notwithstanding the setback distance in Table 1, the agent may allow the separation distance between a pressure transport pipe and a well to be less than 50 feet but no less than 25 feet when: [Table not included. See ED. NOTE.]

(i) The pressure transport pipe is ~~PVC~~ Schedule 40 or heavier pressure-rated piping ~~meeting ASTM Specification D-2241~~;

(ii) The pressure transport pipe is placed within a larger diameter ~~PVC or ABS~~ Schedule 40 or heavier encasement pipe, with the pipe ends located at least 50 feet away from the well; and

(iii) All pipe joints in the pressure transport pipe and encasement pipe are solvent-welded or heat welded in accordance with the manufacturer's specifications.

(3) Septic tank.

(a) Liquid capacity.

(A) The quantity of projected daily sewage flow and design flow ~~projected~~ for a facility must be estimated from Table 2. For establishments not listed in Table 2, the agent must determine the projected daily sewage flow and design flow ~~for establishments not listed in Table 2~~. [Table not included. See ED. NOTE.]

(B) A septic tank that serves a commercial facility must have a liquid capacity of at least two times the design flow or projected daily sewage flow, whichever is greater, unless the agent authorizes otherwise. In all cases the capacity must be at least 1,000 gallons.

(12) Curtain drain construction. Unless the agent authorizes otherwise, curtain drains must comply with the following requirements.

(g) Outlet pipe must be rigid, smooth-wall, solid ~~PVC~~ Schedule 40 pipe ~~meeting or exceeding ASTM Standard D-3034~~ with a ~~minimum~~ diameter of at least 4 inches. A flap gate or rodent guard must be installed.

340-071-0265

Capping Fills

(1) Criteria for approval. Each site approved for a capping fill system must meet all the following conditions:

(e) Sites may be approved with no separation between the bottom of the absorption trenches and soil with rapid or very rapid permeability (as defined in OAR 340-071- 0100(148)(a) or (b)), and absorption trenches may be placed into such soil if any of the following conditions occur.

(C) The ~~projected daily sewage~~ design flow does not exceed a loading rate of 450 gallons per acre per day.

340-071-0280

Seepage Trench System

(1) Criteria for approval. Construction permits may be issued for seepage trench systems on lots created before January 1, 1974, for sites that meet all the following conditions.

(b) Lot or parcel size will not accommodate standard subsurface system disposal trenches with a ~~projected~~ design flow of 450 gpd.

(1) Design criteria.

(c) The ~~projected daily sewage~~ design flow is limited to a maximum of 450 gallons.

340-071-0290

Conventional Sand Filter Systems

(2) Sites approved for sand filter systems. Sand filters may be permitted on any site meeting requirements for standard onsite systems in OAR 340-071-0220 or for pressurized distribution systems in OAR 340-071-0275 if site conditions in this section can be met.

(f) An absorption facility following a sand filter may be installed on slopes above 30 percent and up to 45 percent where:

(A) ~~Projected daily~~ Design flow does not exceed 450 gallons and the installation is sized under sand filter absorption area criteria;

(3) Absorption trenches. Absorption trenches for sand filter absorption facilities must satisfy the requirements in this section.

(a) The minimum length of a standard absorption trench per 150 gallons of ~~projected daily~~ sewage flow is:

(X) Seepage bed construction.

(A) Seepage beds may be used instead of absorption trenches in soil as defined in OAR 340-071-0100(134)(b).

(B) The effective seepage area must be based on the bottom area of the seepage bed. The area must be at least 70 square feet per 150

gallons per day waste flow.

(C) Materials and construction requirements from 340-071-0275(4)(c) apply, except as otherwise provided for in this section.

(4) Bottomless sand filter. Sites may use a bottomless sand filter if the site meets the criteria in this section and section (3) of this rule.

(c) The application rate is based on the design ~~sewage~~ flow in OAR 340-071-0220(2)(a) and the basal area of the sand.

(6) Gravelless absorption method.

(a) Absorption trenches following a sand filter may be constructed without using drain media if they meet the criteria in this section.

(B) Absorption trenches must be 12 inches wide by 10 inches deep and incorporate pressurized distribution and a chamber constructed of half sections of 12-inch diameter plastic irrigation pipes or an equivalent pipe material as determined by the agent. DEQ may consider deviations to the depth requirement in this rule for alternative drainfield products.

(F) The chambers must have an adequate footing to support the soil cover and all normal activity and at a minimum must be constructed of 12-inch plastic irrigation pipe ~~PIP~~ rated at 43 pounds per square inch and meeting the appendix standards of ASTM D-2241.The agent may allow other pipe materials that demonstrate equivalent durability and strength to 12-inch plastic irrigation pipe. Each line must be equipped with a minimum 6-inch diameter inspection port.

340-071-0295

Conventional Sand Filter Design and Construction

(2) Minimum filter area:

(a) A sand filter proposed to serve a single family dwelling must have an effective medium sand surface area of at least 360 square feet. If the design ~~sewage~~ flow exceeds 450 gallons per day, the medium sand surface area must be determined with the following equation: Area = ~~projected daily sewage~~ design flow divided by 1.25 gallons per square foot.

(b) A bottomless sand filter following an ATT system must have an effective medium sand surface area of at least 250 square feet. If the design ~~sewage~~ flow exceeds 450 gallons per day, the medium sand surface area must be determined with the following equation: Area = ~~projected daily sewage~~ design flow divided by 1.80 gallons per square foot.

(3) Design criteria.

(c) The base of the filter container with the underdrain piping in place must be covered with a minimum of 6 inches of ~~drain media or~~ underdrain media. Unless the agent waives it, the underdrain media proposed for a sand filter must be sieved to determine conformance with the criteria in OAR 340-071-0100(170) and a report of the analysis must be provided to the agent. ~~Where underdrain media is used,~~ The underdrain piping must be enveloped in an amount and depth of drain media to prevent migration of the underdrain media to the pipe perforations.

~~(d) Where drain media is used at the base of the filter, it must be covered by a layer of filter fabric meeting the specifications in OAR 340-073-0041. Where underdrain media is used, filter fabric is not required.~~

~~(h)~~ The top of the media in which the pressure distribution system is installed must be covered with filter fabric ~~meeting the specifications in OAR 340-073-0041~~.

340-071-0310

Steep Slope Systems

(2) Construction requirements.

(b) The system must be sized at a minimum of 75 linear feet per 150 gallons ~~projected daily~~ sewage flow.

340-071-0315

Tile Dewatering System

(2) Construction requirements.

(g) Outlet tile must be rigid, smooth-wall, solid ~~PVC~~ pipe ~~meeting or exceeding ASTM Standard D-3034~~ with an interior ~~minimum~~ diameter of at least 4 inches. The agent may require a flap gate or rodent guard.

340-071-0345

Alternative Treatment Technologies (ATTs)

(3) Performance testing and standards for listing ATTs.

(a) Product testing.

(A) For purposes of demonstrating performance to the fecal coliform concentration in treatment standard 2, the ATT shall be followed by a nonchlorinating disinfection device that has been tested according to NSF/ANSI Standard 385 ~~No. 46 – 2012~~, or the ATT must be tested by collecting and analyzing influent and effluent grab samples at a minimum frequency of 3 days per week and the same duration (26 consecutive weeks) and hydraulic loadings (design and stress loadings) as the NSF/ANSI sample collection requirements for the BOD5, CBOD5, and TSS parameters. The testing must be performed by an ANSI accredited, third-party testing and certification organization whose accreditation is specific to onsite wastewater treatment products, or have been studied under the La Pine National Demonstration Project.

(4) ATT model type and size selection. The model, type, and size of the ATT proposed for a system must be consistent with manufacturer recommendations and match the design capacity ~~daily design wastewater flow anticipated from the dwelling or facility~~.

340-071-0360

Absorption Trenches in Saprolite

(2) Construction Requirements.

(a) Standard absorption trenches must be installed where slope does not exceed 30 percent.

(B) The trenches must be sized at a minimum of 100 linear feet per 150 gallons ~~projected daily~~ sewage flow.

(b) Seepage trenches must be installed where slope exceeds 30 percent but not 45 percent.

(B) Seepage trenches must be sized at a minimum of 75 linear feet per 150 gallons of ~~projected daily~~ sewage flow.

340-071-0400

Geographic Area Special Considerations.

~~(1) River Road — Santa Clara Area, Lane County.~~

~~(a) Within the areas described in subsection (b) of this section, an agent may approve sites or issue construction-installation permits for new onsite wastewater treatment systems if both of the following conditions are met:~~

~~(A) The lot and proposed system comply with all rules in effect at the time the site is approved or the permit is issued.~~

~~(B) The system alone or in combination with other new sources will not contribute more than 16.7 pounds of nitrate-nitrogen per acre per year to the local groundwater. To ensure compliance, the applicant must own or control adequate land through easements or equivalent.~~

~~(b) Subsection (a) of this section applies to all of the following area generally known as River Road — Santa Clara and defined by the boundary submitted by the Board of County Commissioners for Lane County. The area is bounded on the south by the City of Eugene, on the west by the Southern Pacific Railroad, on the north by Beacon Drive, and on the east by the Willamette River and includes all or portions of T16S, R4W, Sections 33, 34, 35, 36; T17S, R4W, Sections 1, 2, 3, 4, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25; and T17S, R1E, Sections 6, 7, 18, Willamette Meridian.~~

~~(c) Appropriate local agencies within this area may petition the commission to repeal or modify this rule. Such petition must provide reasonable evidence either that development using onsite wastewater treatment systems will not cause unacceptable degradation of groundwater quality or surface water quality or that degradation of groundwater or surface water quality will not occur as a result of the modification or repeal requested.~~

~~(d) This section does not apply to any construction-installation permit application based on a site approval issued by the agent pursuant to ORS 454.755(1) (b) before March 20, 1981.~~

(3) Lands overlaying the Alsea Dunal Aquifer.

(a) Within the area set forth in subsection (c) of this section, the agent may approve a site or issue a permit to construct a single onsite system on lots that were lots of record before January 1, 1981, or on lots in partitions or subdivisions that have received preliminary planning, zoning, and onsite wastewater treatment system approval before January 1, 1981, if one of the following can be met:

(B) The site meets all of the following conditions when a pressurized seepage bed is used:

(iii) The seepage bed is sized on the basis of 200 square feet of bottom area per 150 gallons ~~projected daily~~ sewage flow.

(iv) ~~Projected daily sewage~~ Design flows are limited to 375 gallons per lot, except for lots approved in a site evaluation for a larger flow.

(C) The site meets all of the following conditions when a bottomless sand filter is used.

(ii) ~~sewage~~ Design flows are limited to 375 gallons per day per lot, except for lots approved in a site evaluation for larger flows.

(iii) The sand filter is sized at 1 square foot of bottom area for each gallon of ~~projected daily~~ sewage flow.

(5) Clatsop Plains Aquifer, Clatsop County. The Clatsop Plains Groundwater Protection Plan, prepared by R.W. Beck and Associates and adopted by Clatsop County, provides a basis for continued use of onsite wastewater treatment systems while protecting the quality of groundwater for future water supplies. For the plan to be successful, the following components must be accomplished.

(b) The agent may approve sites and issue construction permits for new onsite systems within the area generally known as the Clatsop Plains as described in subsection (c) of this section if the conditions in paragraph (A) and paragraph (B), (C), or (D) of this subsection are met.

(C) The lot or parcel does not violate DEQ's Water Quality Management Plan or any rule in this division, except that the projected maximum sewage loading rate may exceed the ratio of 450 gallons per 1/2 acre per day. In this case, the onsite system must be either a sand filter system or a pressurized distribution system with a design ~~sewage~~ flow not to exceed 450 gallons per day.

(6) Within areas east of the Cascade Range where the annual precipitation does not exceed 20 inches, the agent may issue a construction-installation permit authorizing installation of a standard system to serve a single family dwelling if the requirements in subsections (a) and (b) of this section are met.

(a) Minimum construction requirements.

(A)The system must contain at least 225 linear feet of absorption trench for ~~projected sewage~~ design flows not exceeding 450 gallons per day. Larger ~~sewage~~ design flows must be sized on the basis of 75 linear feet per each 150 gallons of sewage ~~projected~~ flow.

(e) The Agent may waive the site evaluation for a single family dwelling if the requirements in this subsection are met. These conditions are set forth in an addendum to the memorandum of agreement (contract) between the County and DEQ.

(B) Minimum construction requirements.

(i) Sizing requirements of Tables 4 and 5 must be followed as closely as possible. In all cases the system must contain at least 225 linear feet of absorption trench for ~~projected sewage~~ design flows not exceeding 450 gallons per day. Larger sewage flows must be sized on the basis of 75 linear feet per each 150 gallons of ~~projected~~ sewage flow.

340-071-0520

Large Systems

(1) Large system absorption facilities must be designed with distribution to the cells by means of pumps ~~or siphons~~.

(5) Each system must have at least two pumps ~~or siphons~~.

340-071-0650

Training and Certification Requirements for System Installers and Maintenance Providers

(4) Examinations and certification.

(a) The training provider must administer an open book examination to persons seeking certification. A person seeking initial certification in a discipline must complete the initial training and pass the examination for that discipline. ~~except that installers DEQ certified before December 31, 2003, are not required to take the examination.~~

TABLE 4
(OAR 340-071-0220)

Minimum length of absorption trench (linear feet) required per 150 gallons ~~projected daily~~ sewage flow determined from soil texture versus effective soil depth.

Effective Soil Depth	Soil Group		
	A	B	C
18" to Less than 24"	125	150	175
24" to Less than 36"	100	125	150
36" to Less than 48	75	100	125
48" or more	50	75	125

* Soil Group A — Sand, Loamy Sand, Sandy Loam.
  Soil Group B — Sandy Clay Loam, Loam, Silt Loam, Silt, Clay Loam.
  Soil Group C — Silty Clay Loam, Sandy Clay, Silty Clay, Clay.
* If sand grains are fine or very fine, site according to Group B soils.

TABLE 5
(OAR 340-071-0220)

Minimum length of absorption trench (linear feet) required per 150 gallons ~~projected daily~~ sewage flow determined from soil texture versus depth to temporary groundwater.

Depth to Temporary Groundwater	Soil Group		
	A	B	C
24" to Less than 48"	100	125	150
48" or More	50	75	125

* Soil Group A — Sand, Loamy Sand, Sandy Loam.

  Soil Group B — Sandy Clay Loam, Loam, Silt Loam, Silt, Clay Loam.

  Soil Group C — Silty Clay Loam, Sandy Clay, Silty Clay, Clay.

* If sand grains are fine or very fine, site according to Group B soils.

TABLE 7
USDA SOIL CLASSIFICATION SIZES OF SOIL SEPARATES
(OAR 340-071-0100)

	Sieve Sizes	Millimeters
Clay		.002
Silt	270	.050
Very Fine Sand	200 140	.075 .1
Fine Sand	60	.25
Medium Sand	35	.5
Coarse Sand	18	1.0
Very Coarse Sand	10	2.0

Fine Gravel	4 3/8” 1/2	4.75 9.5 12.5
Course Gravel	3”	76.2
Cobbles	10”	250

TABLE 9B: PERMITTING FEES FOR SYSTEMS NOT SUBJECT TO WPCF PERMITS (OAR 340-071-0140)

		System Type A	System Type B	System Type C	System Type D	System Type E	Plan Review fees for Commercial Facility Systems
Construction-Installation							
For systems with a design capacity of less than 600 gpd		$461	$890	$1,038	$1,272	$1,566	$0
For systems with a design capacity of 601-1,000 gpd		$461	$890	$1,038	$1,272	$1,566	$379
For systems with a design capacity of 1,001-1,500 gpd		$560	$989	$1,137	$1,352	$1,710	$445
For systems with a design capacity of 1,501-2,000 gpd		$659	$1,088	$1,236	$1,433	$1,776	$511
For systems with a design capacity of 2,001-2,500 gpd		$758	$1,187	$1,335	$1,513	$1,862	$577
Reinspection fee	$103						

Pump Evaluation fee. For all permits that specify the use of a pump ~~or dosing siphon~~ except for sand filter, Alternative treatment technologies, Recirculating gravel filter, and pressurized distribution systems	$66						

340-073-0025

Tank Construction

(7) Inlet and outlet Tee fittings.

(a) The inlet and outlet Tee fittings must be of Schedule 40 P.V.C. plastic, Schedule 40 ABS plastic, or other equally durable materials approved by ~~the department~~ DEQ with a minimum diameter of 4 inches.

(b) The inlet and outlet Tee fittings in a single compartment tank, where applicable, must be located at opposite ends of the tank. The inlet Tee fitting must be readily accessible by way of a watertight, 8-inch minimum diameter riser (with cover) and access hole positioned directly above the inlet Tee. The fittings must be attached in a watertight manner acceptable to DEQ ~~the department~~.

(e) The outlet Tee fitting, holes, or ports provided in a vault or outlet effluent filter must be positioned to withdraw effluent horizontally from the clear zone at an elevation measured from the inside bottom of the tank to 65 to 75 percent of the lowest operating liquid depth. The net area of the ports must be at least 6 square inches. The outlet fitting in single-compartment tanks and in each compartment of multiple-compartment tanks must extend at least 6 inches above the highest normal liquid depth to provide scum storage. When the single-compartment tank is used as a holding tank, dosing septic tank, or dosing tank, the outlet Tee fitting must be provided with a watertight plug or omitted. The outlet Tee fitting may also be plugged or omitted in the last compartment of a multiple-compartment tank when a pump ~~or siphon~~ is placed in that last compartment.

(9) Except as provided in OAR 340-073-0026, tanks shall be constructed of concrete, fiberglass, or other noncorrosive materials approved by DEQ ~~the department~~:

(10) All prefabricated tanks must be marked on the uppermost tank surface over the outlet with the liquid capacity of the tank, the burial depth limit, date of manufacture, and either the manufacturer's full business name or the number assigned by DEQ ~~the department~~.

(11) Each commercial manufacturer of prefabricated tanks must provide two complete sets of plans and specifications, prepared by a registered professional engineer licensed to practice in Oregon, to DEQ ~~the department~~ for review and approval. Plans submittal must include the structural analysis, calculation of total gallons, operating gallons, gallons per inch, and

buoyancy, including predetermined countermeasures.

(12) Each commercial manufacturer of pre-fabricated tanks must provide DEQ ~~the department~~ with written certification that tanks for use in onsite systems in the State of Oregon will comply with all requirements of this rule.

340-073-0026

Septic Tanks

(1) Septic tanks must be constructed of concrete, fiberglass, ~~steel,~~ or other non-corrosive materials approved by DEQ ~~the department~~.

~~(2) Steel septic tanks must be manufactured with 12-gauge or thicker steel. They must be coated inside and out with asphalt or other protective coatings that meet the American National Standards Institute UL 70 standard, Sections 25 through 43, or other coatings of equal or better performance approved by the department.~~

340-073-0030

Dosing Septic Tank

(1) A dosing septic tank may discharge effluent with a pump ~~or dosing siphon~~ from the clear zone at the outlet end of the tank. These may be considered for installations where the design flow does not exceed 600 gallons per day.

(2) Special Configuration:

(e) The installation manual described in OAR 340-073-0025(13) must include additional information about ~~siphon selection,~~ installation of the pump ~~or siphon~~ vault and screen, pump control and alarm levels, and the watertight pass-through methods for electrical wiring and pipe.

340-073-0035

Distribution Boxes

(1) Distribution boxes must be constructed of concrete, fiberglass, or other materials acceptable to DEQ ~~the department~~.

(4) Each distribution box must be provided with a sump extending at least 2 inches below the invert of the outlets unless otherwise authorized by DEQ ~~the department~~.

(5) Distribution box covers must be marked with the manufacturer's full business name or number assigned by DEQ ~~the department~~.

(6) Each manufacturer must provide DEQ ~~the department~~ with complete, detailed plans and specifications of the distribution box and must certify, in writing, that distribution boxes manufactured for use in onsite sewage systems in Oregon will comply with all requirements of this rule. Plans and specifications must be prepared under the supervision of and designed by a professional engineer licensed in accordance with ORS chapter 672.

340-073-0040

Drop Boxes

(1) Drop boxes must be constructed of concrete, fiberglass, or other materials acceptable to DEQ ~~the department~~.

(4) Drop box covers must be marked with the manufacturer's full business name or number assigned by DEQ ~~the department~~.

(5) Each manufacturer must provide DEQ ~~the department~~ with complete, detailed plans and specifications of the drop box and must certify, in writing, that drop boxes manufactured for use in onsite systems in Oregon will comply with all requirements of this rule. Plans and specifications must be prepared under the supervision of and designed by a professional engineer licensed in accordance with ORS Chapter 672.

~~**340-073-0041**~~

~~**Filter Fabric**~~

~~Except as otherwise allowed by the department, filter fabric used as a barrier between the lower lens of drain media and the medium sand in a conventional sand filter system must meet the following specifications:~~

~~(1) Material synthetic fabric, either spunbonded or woven.~~

~~(2) Burst strength not less than 25 psi.~~

~~(3) Air permeability not less than 500 cfm per sq. ft.~~

~~(4) Water flow rate not less than 500 gpm per sq. ft. at 3 inches of head.~~

~~(5) Hydrophilic surface reaction to water.~~

~~(6) Equivalent opening size of 70 to 100 sieve.~~

~~(7) Chemical properties:~~

~~(a) Nonbiodegradable.~~

~~(b) Resistant to acids and alkalies within a pH range of 4 to 10.~~

~~(c) Resistant to common solvents.~~

~~Stat. Auth.: ORS 454.625 & 468.020~~

~~Stats. Implemented: ORS 454.615~~

~~Hist.: DEQ 15-1986, f. & ef. 8-6-86; DEQ 11-2004, f. 12-22-04, cert. ef. 3-1-05~~

340-073-0050

Dosing Tanks

(2) Each dosing tank employing one or more pumps must have a minimum liquid capacity equal to the design flow ~~projected daily sewage flow~~ for flows up to 1,200 gallons per day. ~~The department~~ DEQ will determine tank sizing for dosing tanks with ~~projected daily sewage flows~~ design flows greater than 1,200 gallons per day. The liquid capacity of dosing tanks must be as measured from the invert elevation of the inlet fitting.

(4) Each dosing tank proposed to serve a commercial facility containing more than one pump ~~or~~

~~siphon~~ must be provided with at least one service access manhole that provides adequate space to construct, install, service, and operate the equipment in accordance with the requirements of OAR chapter 340, divisions 071 and 073.

(5) The installation manual described in OAR 340-073-0025(13) must include additional information about ~~siphon selection,~~ installation of the pump ~~or siphon~~ screen, pump control and alarm levels, and the watertight pass-through methods for electric wiring and pipe.

~~(6) Dosing tanks with siphons must be designed and sized for each specific project. The tank manufacturer must specify the type or model of siphon, screen, and related apparatus that are compatible with each dosing tank.~~

(7) The inlet fitting must extend below the lowest operating level of the pump ~~or siphon~~.

340-073-0055

Dosing Assemblies: Effluent Pumps, Controls and Alarms~~, and Dosing Siphons~~

(1) Design and equipment must emphasize ease of maintenance, longevity, and reliability of components and must be proven suitable by operational experience, test, or analysis acceptable to DEQ ~~the department~~.

(4) Pumps, ~~Siphons,~~ Controls, and Alarms. All pumps, ~~siphons,~~ controls and related apparatus must be field tested under working conditions and found to operate and perform satisfactorily. Electrical components used in onsite systems must comply with applicable requirements of the State of Oregon Electrical Code and the standards in this rule ~~section~~.

(b) Pumps must have durable impellers of bronze, cast iron, or other materials approved by DEQ ~~the department~~.

(c) Submersible pumps must be provided with an easy, readily accessible means of electrical and plumbing disconnect and a noncorrosive lifting device to remove the pump ~~as a means of removal~~ for servicing.

(d) Except where the agent specifically authorize~~d~~s it in writing by the agent, the pump ~~or siphon~~ must be placed within a corrosion-resistant screen or vault with a filtering device that extends into or above the tank's service access manhole. The screen or filtering device must have at least 12 square feet of surface area, with 1/8-inch openings. In lieu of the screen, the agent may allow other methods with equal or better performance ~~in~~ for preventing ~~the passage of~~ suspended solids from passing to the pump ~~or siphon~~.

(e) Pumps must be automatically controlled by float switches with a minimum rating of 12 amps at 115 volts A.C. or by a ~~department~~DEQ-approved, equally reliable switching mechanism. Except as otherwise required in this division, the switches must be installed so that no more than 20% of the design flow ~~projected daily sewage flow~~ is discharged each cycle. The pump "off" level must be set to maintain the liquid level above the top of the pump or to the designer and pump manufacturer's specifications.

(g) When a system has more than one pump, ~~the department~~ DEQ may require the pumps to be wired into the electrical control panel to function alternately after each pumping cycle. If either pump should fail, the other pump will continue to function while the high water level alarm activates. A cycle counter must be installed in the electrical control panel for each pump.

(i) All commercial systems with a design flow greater than 600 gallons must be constructed ~~in duplex (~~with two or more alternating pumps~~)~~ unless otherwise authorized in

writing by ~~the department~~DEQ. Controls must be provided such that an alarm will signal when one1 of the pumps malfunctions.

(j) All pumps serving commercial systems must be operated through a pre-manufactured electrical control panel. There must be a means of monitoring pump performance ~~through the use of~~ with elapsed-time meters and cycle counters ~~is required~~.

~~(5) Dosing Siphons. Dosing siphons used in onsite systems must comply with the following minimum requirements.~~

~~a. The siphon must be constructed of corrosion-resistant materials.~~

~~b. The siphon must be installed within a compatible tank in accordance with the siphon manufacturer's recommendations.~~

~~c. The siphon manufacturer must provide installation and maintenance instructions to the owner.~~

~~The installation must include a device that tracks the operation of the siphon by measuring cycle events and records them by means of an event counter mounted within the dwelling or structure served.~~

340-073-0056

Effluent Filters

(9) To obtain ~~department~~ DEQ approval, the manufacturer of an effluent filter must provide ~~the department~~ DEQ with the necessary technical data to show that the design and materials comply with this rule. The manufacturer must provide an operation and maintenance manual with each unit distributed.

340-073-0060

Pipe Materials and Construction

(1) Effluent Sewer Pipe: The effluent sewer and header must be constructed with materials ~~in conform~~to that conform to state building sewer standards. The effluent sewer and header pipe must have a ~~minimum~~ diameter of at least 3 inches. When the septic tank is fitted with an effluent filter, the ~~minimum~~ nominal diameter of effluent sewer piping may be reduced to at least 1-1/4 inches.

(2) Underdrain pipe. Underdrain pipe must meet or exceed Schedule 40 pipe ~~the requirements for Class 125 PVC pressure pipe as identified in **ASTM Specification D 2241**~~. The pipe and fittings must be marked as required by ASTM Specification D 2241. The underdrain pipe must be perforated in accordance with subsection (4)(d) of this rule or with 1/4-inch slots cut halfway through the pipe at 4 inches center to center.

~~(3) Polyvinyl chloride (PVC)~~ PPressure transport pipe, pressure manifolds, and pressure lateral pipe and fittings must meet or exceed Schedule 40 and be pressure rated ~~the current requirements for Class 160 PVC 1120 pressure pipe as identified in ASTM Specification D 2241~~. High density polyethylene pip must have a dimensional ratio of at least 17. Any transitional fittings between material must be manufacture for that purpose ~~The pipe and fittings must be marked as required by ASTM Specification D 2241~~. ~~For pipe diameters of 1 inch or less, the minimum~~

~~pressure rating is 200 pounds per square inch (psi). For pipe diameters greater than 1 inch, the minimum pressure rating is 160 psi.~~

(4) Distribution ~~and Header~~ Pipe and Fittings.

(a) Polyethylene distribution pipe in 10 foot lengths ~~and header pipe in lengths of 10 feet~~ or greater must meet the current ASTM Specification F 667 ~~405~~. Pipe and fittings must also pass a deflection test withstanding 350 pounds per foot without cracking or collapsing using the method in ASTM 2412. Pipe used in absorption facilities must be heavy duty. Markings must meet requirements in ASTM F 667 ~~405~~.

(b) Polyvinyl chloride (PVC) distribution ~~and header pipe~~ and fittings must ~~meet the most~~ current **ASTM Specification D 2729**. Pipe and fittings must pass a deflection test withstanding 350 pounds per foot without cracking or collapsing using the method found in ASTM 2412. Markings must meet requirements in ASTM Specification D 2729.

(c) Polyethylene smooth wall distribution ~~and header~~ pipe in 10-foot length and fittings must meet ~~the most current~~ ASTM Specification F 810. Pipe and fittings must also pass a deflection test of 350 pounds per foot without cracking or collapsing by using the method found in ASTM 2412. Markings shall meet the requirements in **ASTM Specification F 810**, **Section 9**.

340-073-0075

Self-Contained Nonwater-Carried Toilet Facilities

(1) General Standards. All self-contained, nonwater-carried toilet facilities must comply with the following requirements.

(a) They must have water-tight chambers constructed of reinforced concrete, plastic, fiberglass, metal, or other material of acceptable durability and corrosion resistance, approved by DEQ ~~the department~~, and designed to facilitate the removal of the wastes.

(3) Chemical Toilet Facilities.

(a) Toilet bowls must be constructed of stainless steel, plastic, fiberglass, ceramic, or other material approved by DEQ ~~the department~~.

(c) Biocides and oxidants must be added to waste detention chambers at rates and intervals recommended by the chemical manufacturer and approved by DEQ ~~the department~~.