

ORDINANCE NO. H-2-2011

AN ORDINANCE amending Sections 6 and 11 and Appendix A of Article IV of the Sanitary Code for Thurston County.

WHEREAS, the Board of Health adopts the following findings:

1. The rules and regulations governing on-site sewage systems in Thurston County are intended to limit the discharge of contaminants to surface and ground waters, and to establish standards for continued use of on-site sewage systems to prevent degradation of the County's water resources and protect public health.
2. Properties served by OSS are required to hook up to a public sewer system if an OSS fails or the on-site sewage system was repaired with a dispersal component that does not meet the vertical and horizontal separation requirements for new construction, and sewer is available within 200 feet of the property.
3. The 200 foot measurement should be modified to establish a clear and measurable standard that sewer connection is required where the public sewer is within 200 feet of the property line.
4. Where on-site sewage systems are contributing to ground or surface water pollution that is in excess of state, federal or county water quality limits, the OSS should be abandoned and the property connected to public sewer within a reasonable schedule if the sewer connection is allowed and the connection is necessary to protect the surface or ground water or public health.
5. Due to a typographical error, the minimum requirement for on-site sewage systems to employ pressure distribution if installed in soil types 1 through 5 in category 1 (coarse) soils in critical areas was omitted from Article IV, and the requirement should be readopted.

NOW, THEREFORE, THE THURSTON COUNTY BOARD OF HEALTH HEREBY ORDAINS AS FOLLOWS:

Section 1. Article IV, Section 6 of the Sanitary Code for Thurston County is amended to read as follows:

6.1 When adequate public sewer services are available within two hundred feet of the property line of property served by an OSS residence or facility, as measured along the usual or most economically feasible route of access, the Health Officer, upon the failure of an existing OSS, may:

6.1.1 Require hook-up to a public sewer system; or

6.1.2 Approve the repair of the OSS only if a conforming OSS can be designed and installed, and if repair of the OSS is acceptable to the sewer utility that would be providing sewer service.

6.2 Except as noted in subsection 6.1, the owner of a failure shall abandon the OSS under section 19 and connect the residence or other facility to a public sewer system when:

6.2.1 The distance between the property line of the property served by the OSS ~~residence or other facility~~ and an adequate public sewer is two hundred feet or less ~~as measured along the usual or most economically feasible route of access;~~ and

6.2.2 The sewer utility allows the sewer connection.

6.3 The owner of a ~~residence or other facility~~ property served by an OSS where horizontal separation between the dispersal component was reduced as allowed by Table VI shall abandon the OSS according to the requirements of section 19 and connect the residence or other facility to a public sewer system when:

6.3.1 Connection is deemed necessary by the Health Officer to protect public health; and

6.3.2 An adequate public sewer becomes available within two hundred feet of the ~~residence or other facility as measured along the usual or most economically feasible route of access~~ property line; and

6.3.3 The sewer utility allows the sewer connection.

6.4 Any property served by an OSS shall be connected to a public sewer system when the public sewer system is available within 200 feet of the property line and the following conditions are met:

~~Any dwelling unit or other premises where sewage originates within two hundred (200) feet of a public sewer system, as measured along the usual or most economically feasible route of access shall be connected to the public sewer system if all of the following conditions are met:~~

6.4.1 The public sewer system has the capacity to handle additional sewage; and

6.4.2 The public sewer lines are designed to accommodate the connection of building sewers; and

6.4.3 The connection is consistent with the Thurston County Sewerage General Plan and municipal comprehensive sewerage plans; and

6.4.4 Such connection is permitted by the sewer utility; and

6.4.5 The Health Officer determines the connection is necessary to protect surface water, ground water, or otherwise protect public health. This determination of necessity will be based on aquifer vulnerability, water quality correction, and water contamination prevention information.

6.5 The Board of Health may require the abandonment of OSS and connection to public sewer systems where the following conditions exist:

6.5.1 The area is within the an incorporated city, its urban growth area, or a public sewer system service area; and

6.5.2 The public sewer system has the capacity and the connection is permitted by the sewer utility; and

6.5.3 A groundwater or surface water pollution problem has been confirmed in excess of state or federal water quality limits or adopted county action levels; the pollutant of concern is associated with OSS; and the area is within the aquifer recharge area or the surface water drainage basin where the water quality problem exists.

6.5.4 The Health Officer determines the OSS are, more likely than not, significant contributors to the pollutant level based on the density, design or condition of the OSS and/or the geology where the OSS are located.

6.5.5 Where the above criteria are met and the Board of Health determines that connection to sewer is necessary to protect surface water, ground water, or otherwise protect public health based on aquifer vulnerability, water quality correction and water contamination prevention information, the Health Officer shall issue an order to the owners of properties served by OSS in the affected area to connect to sewer or abandon the existing OSS. The Health Officer shall establish a reasonable schedule for compliance. The Health Officer shall make a request to the Board of Health to impose a moratorium on all new OSS within the affected area, in conjunction with the order to abandon the OSS and connect to public sewer. The Health Officer shall notify property owners of the order where OSS permits have been approved but have not yet been constructed.

6.5-6 The Health Officer shall require a new development or a development with a failing OSS to connect to a public sewer system if it is required by the county Sewerage General Plan or a municipal comprehensive sewerage plan.

6.6-7 The Health Officer may require a new development to connect to a public sewer system to protect public health.

6.7-8 Upon connection of any building to a public sewer system, all sewage tanks shall immediately be abandoned in accordance with section 19.

Section 2. Article IV, Section 11, Table II of the Sanitary Code for Thurston County is amended to read as follows:

TABLE II
Treatment Component Performance Levels and Method of Distribution¹

Vertical Separation in inches	Soil Type		
	1	2	3-6
12 < 18	A – pressure distribution with timed dosing	B – pressure distribution with timed dosing	B – pressure distribution with timed dosing
≥18 < 24	B – pressure distribution with timed dosing	B – pressure distribution with timed dosing	B – pressure distribution with timed dosing
≥24 < 36	B – pressure distribution with timed dosing	C – pressure distribution	E – pressure distribution
≥36 < 60	B – pressure distribution with timed dosing	E – pressure distribution	E – gravity ²
≥60	C – pressure distribution	E - gravity ²	E - gravity ²

¹ The treatment component performance levels correspond with those established for treatment components under the product testing requirements in WAC 246-272A-0110.

² When an OSS is proposed to be installed in soil types 1 through 5 that are included in the list of Category I soil series in Chapter 17 of the Thurston County Code (Critical Areas Ordinance) pressure distribution is required at a minimum.

Section 3. Article IV, Appendix A, Section 5 of the Sanitary Code for Thurston County is amended to read as follows:

5. Conversion of OSS to public sewer. The Board of Health may require the abandonment of OSS and connection to public sewer systems where the following conditions exist:

- (a) The area is within the City of Lacey or Olympia or their urban growth areas; and
- (b) The public sewer system has the capacity and the connection is permitted by the sewer utility; and
- (c) Lot size is less than 0.5 acre in size; and
- (~~d~~) A groundwater or surface water pollution problem has been identified confirmed in excess of state or federal water quality limits or adopted county

action levels; the pollutant of concern is associated with OSS; and the area is (1) within the aquifer recharge area or the surface water drainage basin where the water quality problem exists, ~~or (2) the OSS failure or repair rate is greater than 20%.~~

(d) 6.5.4 The Health Officer determines the OSS are, more likely than not, significant contributors to the pollutant level based on the density, design or condition of the OSS and/or the geology where the OSS are located.

Where the above criteria are met and the Board of Health determines that connection to sewer is necessary to protect surface water, ground water, or otherwise protect public health based on aquifer vulnerability, water quality correction and water contamination prevention information, the Health Officer shall issue an order to the owners of properties served by OSS in the affected area to connect to sewer or abandon the existing OSS. The Health Officer shall establish a reasonable schedule for compliance, ~~with an allowance of not less than two years.~~ The Health Officer shall make a request to the Board of Health to impose a moratorium on all new OSS within the affected area, in conjunction with the order to abandon the OSS and connect to public sewer. The Health Officer shall notify property owners of the order where OSS permits have been approved but have not yet been constructed.

Section 4. This ordinance shall take effect immediately upon adoption.

Section 5. Severability. If any provision of this Ordinance or its application to any person or circumstance is held invalid, in whole or in part, for any reason, the remainder of this ordinance or the application of the provision to other persons or circumstances shall not be affected.

ADOPTED: March 22, 2011

ATTEST:

Laborato J. Boromero
Clerk of the Board

APPROVED AS TO FORM:
JON TUNHEIM
PROSECUTING ATTORNEY

Jane Futterman
Deputy Prosecuting Attorney

BOARD OF HEALTH
Thurston County, Washington

Cathy Wolfe
Cathy Wolfe, Chair

Sandra Romero
Sandra Romero, Vice-chair

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Karen Valenzuela, Commissioner



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**PUBLIC HEALTH AND
SOCIAL SERVICES DEPARTMENT**

Article IV

Effective: March 22, 2011

5.3.7.2 If the developer fails to comply with any requirements stipulated on the permit by the Health Officer.

5.3.8 The Health Officer may charge fees adequate to administer the PDP program.

5.4 OSSA and OSSP are required for the installation or use of a remediation technology. Procedures for permitting, use and installation of remediation shall comply with the RS&G for Remediation Technologies and Processes for On-site Wastewater Treatment Systems. Prior to issuing a permit, an assessment report from a designer shall be submitted to the Health Officer that identifies potential factors that may have contributed to the disorder or deterioration of the OSS and how the factors will be addressed, including construction permit, modification and maintenance records, component settings, a review of the monitoring and maintenance the OSS has received, actual sewage flows, a determination of the actual hydraulic and organic loading rates compared to actual design flows, an inspection and verification of the performance of all OSS components, a review of soils to verify that the soil descriptions in the design are accurate, and any other factors that may be contributing to poor OSS performance.

SECTION 6 CONNECTION TO PUBLIC SEWER SYSTEM.

6.1 When adequate public sewer services are available within two hundred feet of the property line of property served by an OSS, the Health Officer, upon the failure of an existing OSS, may:

6.1.1 Require hook-up to a public sewer system; or

6.1.2 Approve the repair of the OSS only if a conforming OSS can be designed and installed, and if repair of the OSS is acceptable to the sewer utility that would be providing sewer service.

6.2 Except as noted in subsection 6.1, the owner of a failure shall abandon the OSS under section 19 and connect the residence or other facility to a public sewer system when:

6.2.1 The distance between the property line of the property served by the OSS and an adequate public sewer is two hundred feet or less; and

6.2.2 The sewer utility allows the sewer connection.

6.3 The owner of a property served by an OSS where horizontal separation between the dispersal component was reduced as allowed by Table VI shall abandon the OSS according to the requirements of section 19 and connect the residence or other facility to a public sewer system when:

- 6.3.1 Connection is deemed necessary by the Health Officer to protect public health; and
 - 6.3.2 An adequate public sewer becomes available within two hundred feet of the property line; and
 - 6.3.3 The sewer utility allows the sewer connection.
- 6.4 Any property served by an OSS shall be connected to a public sewer system when the public sewer system is available within 200 feet of the property line and the following conditions are met:
 - 6.4.1 The public sewer system has the capacity to handle additional sewage; and
 - 6.4.2 The public sewer lines are designed to accommodate the connection of building sewers; and
 - 6.4.3 The connection is consistent with the Thurston County Sewerage General Plan and municipal comprehensive sewerage plans; and
 - 6.4.4 Such connection is permitted by the sewer utility; and
 - 6.4.5 The Health Officer determines the connection is necessary to protect surface water, ground water, or otherwise protect public health. This determination of necessity will be based on aquifer vulnerability, water quality correction and water contamination prevention information.
- 6.5 The Board of Health may require the abandonment of OSS and connection to public sewer systems where the following conditions exist:
 - 6.5.1 The area is within the an incorporated city, its urban growth area, or a public sewer system service area; and
 - 6.5.2 The public sewer system has the capacity and the connection is permitted by the sewer utility; and
 - 6.5.3 A groundwater or surface water pollution problem has been confirmed in excess of state or federal water quality limits or adopted county action levels; the pollutant of concern is associated with OSS; and the area is within the aquifer recharge area or the surface water drainage basin where the water quality problem exists.

- 6.5.4 The Health Officer determines the OSS are, more likely than not, significant contributors to the pollutant level based on the density, design or condition of the OSS and/or the geology where the OSS are located.
- 6.5.5 Where the above criteria are met and the Board of Health determines that connection to sewer is necessary to protect surface water, ground water, or otherwise protect public health based on aquifer vulnerability, water quality correction and water contamination prevention information, the Health Officer shall issue an order to the owners of properties served by OSS in the affected area to connect to sewer or abandon the existing OSS. The Health Officer shall establish a reasonable schedule for compliance. The Health Officer shall make a request to the Board of Health to impose a moratorium on all new OSS within the affected area, in conjunction with the order to abandon the OSS and connect to public sewer. The Health Officer shall notify property owners of the order where OSS permits have been approved but have not yet been constructed.
- 6.6 The Health Officer shall require a new development or a development with a failing OSS to connect to a public sewer system if it is required by the county Sewerage General Plan or a municipal comprehensive sewerage plan.
- 6.7 The Health Officer may require a new development to connect to a public sewer system to protect public health.
- 6.8 Upon connection of any building to a public sewer system, all sewage tanks shall immediately be abandoned in accordance with section 19.

SECTION 7 LARGE ON-SITE SEWAGE SYSTEMS (LOSS).

- 7.1 The jurisdictional authority between the Department and the Washington State Department of Health for the review and approval of LOSS shall be described in a contractual agreement between the departments. Lacking such an agreement, DOH shall retain jurisdictional authority for LOSS.
- 7.2 Persons proposing a new LOSS for which the Health Officer has jurisdiction by contractual agreement with DOH shall meet the requirements of this Article and requirements of chapter 246-272B WAC and design standards adopted by the Washington State Department of Health.

- 10.4.2.4 Soil loading rates for all soil textures within the soil profile.
- 10.4.2.5 A description of any soil compaction or expanding clays within the soil profile.
- 10.4.2.6 Any saturated soil conditions that appear to exist including restrictive layers and depths.
- 10.4.2.7 Any disturbed soil conditions that appear to exist including a description of the cause of the disturbance.
- 10.4.2.8 An evaluation of actual and anticipated water movement through the soil horizons that establishes the soil scientist's conclusion regarding whether or not presumption can be made that unsaturated sewage effluent flow will successfully be achieved.
- 10.4.2.9 An accompanying assessment from a designer, having the designer's signature and stamp, describing dispersal and subsurface treatment performance presumptions for the dispersal component proposed within the receiving soils that are analyzed in the soil scientist's report. The designer's assessment shall include the designer's result in a conclusion that effective vertical and horizontal separations are adequate so as to protect the ground water and surface water.

10.4.3 May require any other soil and site information affecting location, design, or installation.

SECTION 11 DESIGN.

11.1 OSS designs shall meet the requirements of the On-site Sewage System Construction Manual and the RS&G's as adopted by the Health Officer. In the event of any conflicting provisions of this Article, the On-site Sewage System Construction Manual or the RS&G's, the provisions shall apply in the following order of precedence: (1) this Article, (2) the On-site Sewage System Construction Manual, and (3) the RS&G's.

11.2 OSS may only be designed by designers.

11.3 The Health Officer shall require the following design criteria:

11.3.1 All the sewage from the building served shall be directed to the OSS;

- 11.3.2 Sewage tanks shall be on the registered list maintained by the Washington State Department of Health;
- 11.3.3 Sewage tanks shall be shown on the OSS design as having protection against ground water intrusion and surface water inflow in high ground water areas;
- 11.3.4 Drainage from the surface, footing drains, roof drains, subsurface stormwater infiltration systems and other non-sewage drains shall be prevented from entering sewage tanks and the areas where the dispersal component and the reserve area are located;
- 11.3.5 The OSS shall be designed to treat and disperse all sewage generated within the facility to be served by the OSS:
 - 11.3.5.1 For single-family or multiple family residences:
 - 11.3.5.1.1 The operating capacity shall be based on 45 gpd per capita with two people per bedroom;
 - 11.3.5.1.2 The minimum design flow per bedroom per day shall be the operating capacity of ninety gallons multiplied by 1.33 resulting in a minimum design flow of one hundred twenty gallons per bedroom per day;
 - 11.3.5.1.3 A factor greater than 0.33 to account for surge capacity may be required by the Health Officer;
 - 11.3.5.1.4 The Health Officer may require an increase of the design flow for dwellings with anticipated greater flows, such as larger dwellings;
 - 11.3.5.1.5 The minimum design flow shall be two hundred forty gallons per day per residence.
 - 11.3.5.1.6 The minimum design flow shall be one hundred twenty gallons per day per guest residence.
 - 11.3.5.2 For non-residential facilities the design flows noted in the On-site Sewage System Construction Manual United States Environmental Protection Agency, EPA-625/ R-00/008, February 2002, or later version shall be used. Sewage flows from other sources of information may be used in determining OSS design flows if they incorporate both an operating capacity and a surge capacity.

- 11.3.5.3 For non-residential development where a full set of water conservation methods for a facility can be documented, and where there is an adequate on-going guaranteed use of such methods, the Health Officer may permit a decreased flow with an associated decrease in soil dispersal component sizing.
- 11.3.5.4 An additional connection to an existing OSS shall not be allowed unless the design flow originally provided for an additional connection.

11.4 The OSS shall be designed to address sewage quality as follows:

11.4.1 For all OSS, the designer shall consider and address:

- 11.4.1.1 CBOD₅, TSS, and O&G;
- 11.4.1.2 Other parameters that can adversely affect treatment anywhere along the treatment sequence. Examples include pH, temperature and dissolved oxygen;
- 11.4.1.3 The sensitivity of the site where the OSS will be installed. Examples include areas where fecal coliform constituents can result in public health concerns, such as shellfish growing areas, designated swimming areas, and other areas identified by the Board of Health through management plan activities;
- 11.4.1.4 Nitrogen contributions. Where nitrogen has been identified as a contaminant of concern by the Board of Health, nitrogen contamination shall be addressed through lot size and/or treatment.

11.4.2 When proposing the use of OSS for nonresidential sewage, the design shall include:

- 11.4.2.1 Information to show the sewage is not industrial wastewater;
- 11.4.2.2 Information to establish the sewage strength and identify chemicals not found in similar levels in residential sewage; and
- 11.4.2.3 A design providing treatment equal to that required of residential sewage.

- 11.5 The vertical separation shall be used by the designer consistently throughout the design process to establish the treatment levels and loading rates. The designer shall use the following criteria when developing a design for an OSS:

11.5.1 Treatment levels:

11.5.1.1 Requirements for matching treatment component and method of distribution with soil conditions of the soil dispersal component are listed in Table II. The treatment levels correspond with those established for treatment components under the product performance testing requirements in WAC 246-272A-0110. The method of distribution applies to the soil dispersal component.

11.5.1.2 Disinfection may not be used to achieve the fecal coliform requirements to meet:

11.5.1.2.1 Treatment levels A or B in Type 1 soils; or

11.5.1.2.2 Treatment level C.

TABLE II
Treatment Component Performance Levels and Method of Distribution¹

Vertical Separation in inches	Soil Type		
	1	2	3-6
12 < 18	A – pressure distribution with timed dosing	B – pressure distribution with timed dosing	B – pressure distribution with timed dosing
≥ 18 < 24	B – pressure distribution with timed dosing	B – pressure distribution with timed dosing	B – pressure distribution with timed dosing
≥ 24 < 36	B – pressure distribution with timed dosing	C – pressure distribution	E – pressure distribution
≥ 36 < 60	B – pressure distribution with timed dosing	E – pressure distribution	E – gravity ²
≥ 60	C – pressure distribution	E - gravity ²	E - gravity ²

¹The treatment component performance levels correspond with those established for treatment components under the product testing requirements in WAC 246-272A-0110.

² When an OSS is proposed to be installed in soil types 1 through 5 that are included in the list of Category I soil series in Chapter 17 of the Thurston County Code (Critical Areas Ordinance) pressure distribution is required at a minimum.

TABLE III
Product Performance Requirements for Proprietary Treatment Products

Treatment Component/Sequence Category	Product Performance Requirements					
Category 1 Designed to treat sewage with strength typical of a residential source when sewage tank effluent is anticipated to be equal to or less than treatment level E.	Treatment System Performance Testing Levels					
	Level	Parameters				
		CBOD ₅ (mg/L)	TSS (mg/L)	O&G (mg/L)	FC (#/100 ml)	TN (mg/L)
	A	10	10	----	200	----
	B	15	15	----	1,000	----
	C	25	30	----	50,000	----
	D	25	30	----	----	----
	E	125	80	20	----	----
	N	----	----	----	----	20
	Values for Levels A - D are 30-day values (averages for CBOD ₅ , TSS, and geometric mean for FC.) All 30-day averages throughout the test period must meet these values in order to be registered at these levels. Values for Levels E and N are derived from full test averages.					
Category 2 Designed to treat high-strength sewage when sewage tank effluent is anticipated to be greater than treatment level E. (Such as at restaurants, grocery stores, mini-marts, group homes, medical clinics, residences, etc.)	All of the following requirements must be met: (1) All full test averages must meet Level E; and (2) Establish the treatment capacity of the product tested in pounds per day for CBOD ₅ .					
Category 3 Black water component of residential sewage (such as composting and incinerating toilets).	Test results must meet the performance requirements established in the NSF test protocol.					
Total Nitrogen Reduction in Categories 1 & 2 (Above)	Test results must establish product performance effluent quality meeting Level N, when presented as the full test average.					

11.5.2 The designer shall determine the minimum treatment level and method of distribution based on the coarsest textured soil within the vertical separation.

11.5.3 Septic tanks shall:

- 11.5.3.1 Be on the list of on-site sewage tanks maintained by the Washington State Department of Health;
- 11.5.3.2 Have at least two compartments with the first compartment liquid volume equal to two-thirds of the total liquid volume and configured in accordance with the On-site Sewage System Construction Manual;
- 11.5.3.3 Have the following minimum liquid volumes:
 - 11.5.3.3.1 For a single-family residence use Table IV, Required Minimum Liquid Volumes of Septic Tanks:

TABLE IV
Required Minimum Liquid Volumes of Septic Tanks

Number of bedrooms	Required minimum liquid tank volume in gallons
≤4	1000
Each additional bedroom	250

- 11.5.3.3.2 For OSS treating sewage from a residential source other than one single-family residence, or from a nonresidential source, three times the design flow.
 - 11.5.3.4 Have clean-out and inspection accesses at or above finished grade;
- 11.5.4 Pump chambers shall:
- 11.5.4.1 Be on the list of on-site sewage tanks maintained by the Washington State Department of Health;
 - 11.5.4.2 Be sized in accordance with the applicable RS&G and the On-site Sewage System Construction Manual;
 - 11.5.4.3 Have clean-out and inspection accesses at or above finished grade;
- 11.5.5 All soil dispersal components, except one using a subsurface dripline product, shall be designed to meet the following requirements:

11.5.5.1 Maximum hydraulic loading rates shall be based on the rates described in Table V.

TABLE V
Soil Type Descriptions and Maximum Hydraulic Loading Rate

Soil Type	Soil Textural Classification Description	Loading Rate for Residential Effluent Using Gravity or Pressure Distribution gal./sq. ft./day
1	Gravelly and very gravelly coarse sands, all extremely gravelly soils excluding Soil types 5 & 6, all soil types with greater than or equal to 90% rock fragments.	1.0
2	Coarse sands.	1.0
3	Medium sands, loamy coarse sands, loamy medium sands.	0.8
4	Fine sands, loamy fine sands, sandy loams, loams.	0.6
5	Very fine sands, loamy very fine sands; or silt loams, sandy clay loams, clay loams and silty clay loams with a moderate structure or strong structure (excluding a platy structure).	0.4
6	Other silt loams, sandy clay loams, clay loams, silty clay loams.	0.2
7 Unsuitable for treatment or dispersal	Sandy clay, clay, silty clay and strongly cemented firm soils, soil with a moderate or strong platy structure, any soil with a massive structure, any soil with appreciable amounts of expanding clays.	Not suitable

- 11.5.5.2 Calculation of the absorption area is based on:
 - 11.5.5.2.1 The design flow in section 11.3; and
 - 11.5.5.2.2 Loading rates equal to or less than those in Table V applied to the infiltrative surface of the soil dispersal component or the finest textured soil within the vertical separation selected by the designer, whichever has the finest texture.
- 11.5.5.3 SSAS beds are only designed in soil types 1, 2, 3 with a width not exceeding 10 feet.
- 11.5.5.4 Individual SSAS laterals greater than one hundred feet in length shall use pressure distribution.
- 11.5.5.5 Community OSS shall:
 - 11.5.5.5.1 Be located only in soil types 1 - 5;
 - 11.5.5.5.2 Be located on slopes of less than thirty percent (17 degrees); and
 - 11.5.5.5.3 Have pressure distribution with timed dosing.
- 11.5.5.6 The infiltrative surface shall not be deeper than three feet below the finished grade. This shall not preclude the use of deeper trenches that are designed per applicable RS&G's. The depth of such an OSS shall not exceed ten feet from the finished grade;
- 11.5.5.7 A minimum of six (6) inches of sidewall must be located in original, undisturbed soil;
- 11.5.5.8 When graveled, use clean gravel covered with a geotextile;
- 11.5.5.9 A spacing center-to-center of three times the trench width; and
- 11.5.5.10 An initial unsettled layer of cover material of between twelve and twenty-four inches, except that drip system cover shall conform to RS&G.
- 11.5.5.11 All soil dispersal components using a subsurface dripline product must be designed to meet the following requirements:

11.5.5.11.1 Calculation of the absorption area is based on the design flow in section 11.3 and loading rates that are dependent on the soil type, other soil and site characteristics, and the spacing of dripline and emitters.

11.5.5.11.1.1 The dripline must be installed a minimum of six inches into original, undisturbed soil;

11.5.5.11.1.2 The drip line shall require timed dosing.

11.5.5.12 Observation ports with caps shall be installed in each independent lateral of SSAS, in mounds, sand-lined trenches and beds, and in sand filters. The observation ports shall extend from the bottom of the gravel (also from the bottom of the sand in mounds and sand filters) to final grade and shall be adequately anchored. Observation ports shall be installed with non-perforated pipe in the gravel and sand portions of the trenches or mound or sand filter so that sewage is not allowed to bypass the treatment component. The portion of the observation ports in the gravel shall be slotted or perforated.

11.5.5.13 OSS shall conform with the On-site Sewage System Construction Manual and the United States Environmental Protection Agency, EPA-625/R-00/008 February 2002 or later version except where modified by, or in conflict with, this Article or other local regulations.

11.5.5.14 For SSAS with drainrock and distribution pipe:

11.5.5.14.1 A minimum of two inches of drainrock is required above the distribution pipe;

11.5.5.14.2 The sidewall below the invert of the distribution pipe is located in original undisturbed soil.

11.5.5.15 The Health Officer may increase the loading rate in Table V up to a factor of two for soil types 1-4 and up to a factor of 1.5 for soil types 5 and 6 if a product tested to meet treatment level C or greater is used. This reduction may not be combined with any other SSAS size reductions.

11.5.6 The primary and reserve areas:

11.5.6.1 The primary and reserve areas must be sized to at least one hundred percent of the loading rates listed in Table V.

11.5.6.2 The Health Officer may allow a legal lot of record created prior to the effective date of this Article that cannot meet this primary and reserve area requirement to be developed if all the following conditions are met:

11.5.6.2.1 The lot cannot meet the minimum primary and reserve area requirements due to the loading rates for medium sand, fine sand and very fine sand listed in Table V;

11.5.6.2.2 The primary and reserve areas are sufficient to allow installation of a SSAS using maximum loading rates of 1.0 gallons/square foot per day for medium sand, 0.8 gallons/square foot/day for fine sand, and 0.6 gallons/square foot/day for very fine sand; and

11.5.6.2.3 A treatment product meeting at least Treatment Level D and pressure distribution with timed-dosing is used.

11.5.7 The building sewer shall:

11.5.7.1 Consist of pipe that meets all standards of the On-site Sewage System Construction Manual and is a minimum of three (3) inches in diameter;

11.5.7.2 Be on a uniform, positive grade in conformance with the On-site Sewage System Construction Manual;

11.5.7.3 Have cleanouts installed per the On-site Sewage System Construction Manual including at intervals of not more than 100 feet with a minimum of one between the structure and the sewage tank.

11.5.8 All pipe in the OSS shall comply with standards specified in the On-site Sewage System Construction Manual, and RS&G's, or other applicable standards.

11.6 The Health Officer:

- 11.6.1 Shall approve only OSS designs meeting the requirements of this Article. OSS designs shall meet specifications of the On-site Sewage System Construction Manual and the RS&G's as implemented by the Health Officer, except where in conflict with or modified by this Article.
- 11.6.2 Shall not approve:
 - 11.6.2.1 Cesspools;
 - 11.6.2.2 Seepage pits; or
 - 11.6.2.3 Gravity OSS in soil type 1.
- 11.6.3 May approve a design for the reserve area different from the design approved for the initial OSS, if both designs meet the requirements of this Article for new construction.
- 11.7 Designs shall facilitate operation, monitoring and maintenance and shall include the following:
 - 11.7.1 Sewage tank, distribution box access, component service accesses, and effluent filter access, shall be at finished grade.
 - 11.7.2 The building sewers shall have a cleanout with a screw cap for service access.
 - 11.7.3 Sewage tanks must have service access manholes and monitoring ports for the inlet and outlet. Surge, flow equalization or other sewage tanks must have service access manholes.
 - 11.7.4 Other pretreatment units (such as aerobic treatment units and packed-bed filters) must have service access manholes and monitoring ports to all components.
 - 11.7.5 Pump chambers, tanks and vaults must have service access manholes.
 - 11.7.6 Disinfection units must have service access and be installed to facilitate complete maintenance and cleaning. UV disinfection units must have audible and visual alarms designed to alert a resident of a malfunction.
 - 11.7.7 Soil dispersal components shall have monitoring ports for both distribution devices and the infiltrative surface. Monitoring ports shall be at finished grade.

- 11.7.8 For OSS using pumps, clearly accessible controls and warning devices are required including:
- 11.7.8.1 Process controls such as float and pressure activated pump on/off switches, pump-run timers and process flow controls;
 - 11.7.8.2 Diagnostic tools including dose cycle counters and hour meters on the sewage stream, or flow meters on the sewage stream; and
 - 11.7.8.3 Audible and visual alarms designed to alert a resident of a malfunction. The alarm must be placed on a circuit independent of the pump circuit.
- 11.7.9 All accesses must be designed to allow for monitoring and maintenance and shall be secured to minimize injury or unauthorized access.

SECTION 12 HOLDING TANK SEWAGE SYSTEMS.

- 12.1 Persons shall not install or use holding tank OSS or vault privies for residential development or expansion of residences, whether seasonal or year-round, except as set forth under subsection 12.2.
- 12.2 The Health Officer may approve installation of holding tank sewage OSS only:
- 12.2.1 For permanent uses limited to commercial situations that are part-time, controlled through other governmental permitting and/or licensing either of which is specifically conditioned on continued compliance with holding tank monitoring and maintenance performance requirements, and where a drain field cannot be installed; or
 - 12.2.2 For interim uses limited to handling of emergency situations or repairs as permitted under section 17.
- 12.3 A person proposing to use a permanent holding tank shall:
- 12.3.1 Follow established design criteria established in the applicable RS&G;
 - 12.3.2 Submit a management program to the Health Officer assuring ongoing operation and maintenance before the Health Officer issues approval. Unless on-going management or back-up will be provided by a public entity, the person shall demonstrate an adequate financial guarantee. The financial guarantee may include

Article IV, Appendix A

Henderson Watershed Protection Area

1. **Creation of Area of Special Concern.** Pursuant to Article IV, the Sanitary Code for Thurston County, the Henderson Watershed Protection Area is established as an area of special concern.

2. **Henderson Watershed Protection Area Map.** The Henderson Watershed Protection Area includes all property where drainage flows toward Henderson Inlet within the area generally depicted on the map attached hereto as Appendix A-1. The official Henderson Watershed Protection Area Map is a parcel-specific map adopted as a part of this Article that shall be maintained by the Health Officer.

If any portion of a parcel is within the area, the entire parcel will be considered to be within the area.

The Health Officer shall review the Henderson Watershed Protection Area map annually to update the boundary based on any new information obtained regarding drainage flow and location of OSS and other improvements.

3. **On-site Sewage System Regulations.** Any property served by an OSS where any portion of the OSS (including a building and any collection, transport, treatment, and soil dispersal components) is within the Henderson Watershed Protection Area will be required to comply with operation and maintenance requirements established for the Area.

4. **Operation and Maintenance Requirements.** The following operation and maintenance requirements shall apply to all OSS within the Henderson Watershed Protection Area:

(a) **Operational Certificates**

All OSS within the Area are required to have renewable Operational Certificates in accordance with Section 16. The Operational Certificates must be kept current and renewed on prescribed schedules. The Operational Certificate requirements shall include routine inspections and submission of inspection reports to the Health Officer.

An Operational Certificate shall not be issued or renewed for a OSS that is failing.

The Health Officer shall establish a schedule to phase in implementation of the Operational Certificate requirements within the Area.

(b) **High and Low Risk OSS Designation**

The Health Officer shall establish policies and procedures adopting criteria for ranking OSS as low or high risk and setting minimum inspection and evaluation requirements for OSS within the Henderson Watershed Protection Area. The criteria to rank OSS shall be based on soil type, proximity to surface water and other appropriate criteria.

(i) A High Risk OSS is an OSS that, if failing, would pose a high risk to public health by contributing to water quality degradation.

(ii) A Low Risk OSS is an OSS that, if failing, would pose a lower risk to public health and would be less likely to contribute to water quality degradation.

(c) **Dye Test Evaluations**

For High Risk OSS, a dye test evaluation shall be required as a condition of the Operational Certificate to determine whether or not the OSS is failing. Dye test evaluations shall be required to be performed every other renewal cycle for the Operational Certificate.

Dye test evaluations shall be conducted in accordance with policies and procedures adopted by the Health Officer.

Dye test evaluations may be performed only by authorized Department staff or other persons approved by the Health Officer as having the necessary training and expertise. The Health Officer shall establish minimum qualifications for individuals to be approved to perform dye test evaluations. Before starting a dye test evaluation, private evaluators shall submit a dye test plan to the Health Officer for approval. Failure to follow adopted procedures will result in withdrawal of approval to perform these evaluations.

5. **Conversion of OSS to public sewer.** The Board of Health may require the abandonment of OSS and connection to public sewer systems where the following conditions exist:

(a) The area is within the City of Lacey or Olympia or their urban growth areas; and

(b) The public sewer system has the capacity and the connection is permitted by the sewer utility; and

(c) A groundwater or surface water pollution problem has been confirmed in excess of state or federal water quality limits or adopted county action levels; the pollutant of concern is associated with OSS; and the area is (1) within the aquifer recharge area or the surface water drainage basin where the water quality problem exists.

(d) 6.5.4 The Health Officer determines the OSS are, more likely than not, significant contributors to the pollutant level based on the density, design or condition of the OSS and/or the geology where the OSS are located.

Where the above criteria are met and the Board of Health determines that connection to sewer is necessary to protect surface water, ground water, or otherwise protect public health based on aquifer vulnerability, water quality correction and water contamination prevention information, the Health Officer shall issue an order to the owners of properties served by OSS in the affected area to connect to sewer or abandon the existing OSS. The Health Officer shall establish a reasonable schedule for compliance. The Health Officer shall make a request to the Board of Health to impose a moratorium on all new OSS within the affected area, in conjunction with the order to abandon the

OSS and connect to public sewer. The Health Officer shall notify property owners of the order where OSS permits have been approved but have not yet been constructed.

6. **Owner Request for Review.** Once a year there will be a review period for property owners to request review of whether Henderson Watershed Protection Area requirements apply to their properties.

- (a) Property owners may request review of the following:
 - (i) Whether their property is served by an OSS;
 - (ii) Whether their property drains toward Henderson Inlet;
 - (iii) Whether the location of any portion of their OSS is within the Henderson Watershed Protection Area;
 - (iv) Whether their OSS is a high-risk OSS or a low-risk OSS.

No other review or appeal will be allowed.

(b) Applications for review shall be submitted to the Environmental Health Division Director, or Director's designee, on a form provided by the Department. The applicant may submit any information (maps, photographs, details) to support the adjustment requested.

The burden of proof shall be on the applicant to show that the adjustment sought should be granted.

The Director will consider all information submitted by the applicant and any information on file with the Department regarding the property. The Director may request a meeting with the applicant and Department staff to consider available information regarding the review.

(c) Applications for review must be received by April 30th of each year.

For applications received by April 30th, the Director will issue a letter of determination by June 30th. If the Director determines that an adjustment is warranted, the adjustment shall be made effective for the next year after the date of the determination.

The determination is final and there shall be no further right of administrative appeal.

7. **Corrections and Adjustments.** As new information is obtained and, based on the adopted policies, procedures, and program criteria, the Health Officer may make appropriate adjustments and corrections to properties included in the Area, OSS risk rankings, conditions in Operational Certificates, and other appropriate adjustments; except for expansion of the Henderson Watershed Protection Area boundary which would require legislative action by the Board of Health. Property owners affected by any

corrections and adjustments shall be notified of such corrections and adjustments at least 30 days prior to the effective date of those changes.

8. **Fees.** The Operational Certificate renewal fee and Areas of Special Concern Annual Regulatory Fees set forth in Article I, Appendix A of this code shall not apply within the Henderson Inlet Shellfish Protection District. Parcels in the Henderson Watershed Protection Area are subject to rates and charges of the Henderson Inlet Shellfish Protection District On-site Sewage System Operation and Maintenance Program.

9. **Program Evaluation.** Five years after creation of the Henderson Watershed Protection Area, the Health Officer will conduct an evaluation of the program and activities and submit a report to the Board of Health.

Article IV, Appendix A-1

Henderson Watershed Protection Area Map

