

WHATCOM COUNTY COUNCIL AGENDA BILL

NO. 2006-354

CLEARANCES	Initial	Date	Date Received in Council Office	Agenda Date	Assigned to:
Originator:	JW	10/09/06	RECEIVED OCT 31 2006 WHATCOM COUNTY COUNCIL	11/08/06	Introduction
Division Head:	JW	10/09/06		11/21/06	Hearing
Dept. Head:	RAD	10/26/06			
Prosecutor:	KNF	10/27/06			
Purchasing/Budget:					
Executive:	JW/PA	10-31-06			

TITLE OF DOCUMENT:
 Ordinance amending WCC 24.05, *On Site Sewage Rules and Regulations*

ATTACHMENTS:
 Ordinance Form
 Proposed amendments to WCC 24.05, *On Site Sewage Rules and Regulations*

SEPA review required? (X) Yes () NO SEPA review completed? (X) Yes () NO [SEPA Official has issued a Determination of Non-Significance for the amendments]	Should Clerk schedule a hearing? (X) Yes () NO Requested Date: Introduction on November 8, 2006 for Public Hearing on November 21, 2006
--	---

SUMMARY STATEMENT OR LEGAL NOTICE LANGUAGE: *(If this item is an ordinance or requires a public hearing, you must provide the language for use in the required public notice. Be specific and cite RCW or WCC as appropriate. Be clear in explaining the intent of the action.)*

The proposed amendments to WCC 24.05 On Site Sewage regulations comply with Washington Administrative Code 246-272A Rules and Regulations of the State Board of Health for On Site Sewage Systems effective July 1, 2007. Local Boards of Health are required to adopt by reference or develop as stringent local regulations.

COMMITTEE ACTION:	COUNCIL ACTION: 11/08/2006: Introduced 11/21/2006: Amended & Adopted 6-1 Crawford opposed Ord. 2006-056
--------------------------	--

Related County Contract #:	Related File Numbers:	Ordinance or Resolution Number: Ord. 2006-056
-----------------------------------	------------------------------	---

Please Note: Once adopted and signed, ordinances and resolutions are available for viewing and printing on the County's website at: www.co.whatcom.wa.us/council.

SPONSORED BY: Consent

PROPOSED BY: Health Department

INTRODUCTION DATE: 11/08/2006

ORDINANCE NO. 2006-056

AMENDING WHATCOM COUNTY HEALTH CODE
WCC 24.05, ON SITE SEWAGE REGULATIONS

WHEREAS, the State Board of Health enacted Washington Administrative Code section 246-272A Rules and Regulations for On Site Sewage Systems effective July 1, 2007; and

WHEREAS, local Boards of Health are required to adopt the WAC by reference or local regulations that are as stringent; and

WHEREAS, those regulations include additional operations and maintenance requirements for local management and regulation; and

WHEREAS, Whatcom County desires to protect public health and valuable natural resources including Lake Whatcom and shellfish resources in Drayton Harbor and Portage Bay from the effects of improperly maintained or failing on site sewage systems; and

WHEREAS, the proposed amendments to WCC 24.05, as outlined in Exhibit A of this ordinance, meet the intent of WAC 246.272A; and

WHEREAS, on September 19, 2006 the Whatcom County Council, acting as the Whatcom County Board of Health, reviewed and approved the proposed amendments to WCC 24.05; and

WHEREAS, on April 27, 2006 the SEPA official issued a Determination of Non-Significance for the proposed amendments to WCC 24.05.

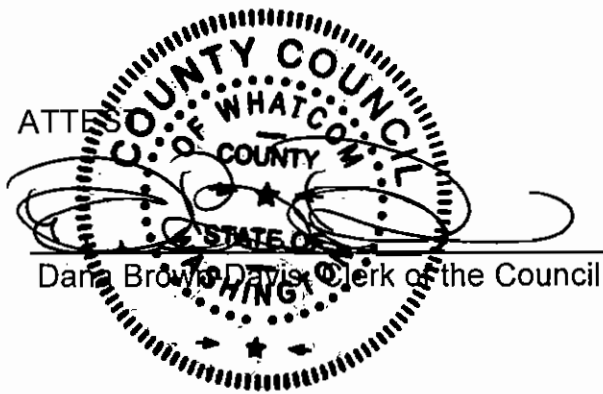
NOW, THEREFORE, BE IT ORDAINED by the Whatcom County Council, acting as the Whatcom County Board of Health, that WCC 24.05 On Site Sewage Regulations, be amended as outlined in Exhibit A , and

BE IT FURTHER ORDAINED that if any section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be invalid or unconstitutional, and such decision shall not affect the validity of the remaining portions of this ordinance. Council

hereby declares that it would have passed this code and each section, subsection, sentence, clause and phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases has been declared invalid or unconstitutional, and the original ordinance or ordinances shall be in full force and effect.

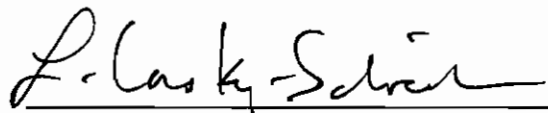
BE IT FURTHER ORDAINED that the amended WCC 24.05 set forth in Exhibit A shall be effective April 2, 2007.

ADOPTED this 21 day of November, 2006.



ATTEST
Dana Brown Davis, Clerk of the Council

WHATCOM COUNTY BOARD OF HEALTH
WHATCOM COUNTY, WASHINGTON


Laurie Casky-Schreiber, Chair

APPROVED AS TO FORM:


Karen Frakes, Civil Deputy Prosecutor

Approved Denied


Pete Kremen, County Executive

Date: 12-8-06

Chapter 24.05 WCC

**On-Site Sewage System Rules and Regulations
of the Whatcom County Health Department**

Effective April 2, 2007

**For more information or
Additional copies of these regulations contact:**

**Whatcom County Health Department
Environmental Health Division
509 Girard Street
Bellingham, WA 98225
(360) 676-6724**

**Also available on line at:
www.whatcomcounty.us**

Chapter WCC 24.05
ON-SITE SEWAGE SYSTEM REGULATIONS

Sections:

Chapter WCC 24.05
ON-SITE SEWAGE SYSTEM REGULATIONS

Sections:	Page number
24.05.010 Purpose, objectives, and authority.	3
24.05.020 Administration.	3
24.05.030 Adoption by reference.	3
24.05.040 Definitions.	3
24.05.050 Local management and regulation.	12
24.05.060 Applicability.	12
24.05.070 Connection to public sewer system.	13
24.05.080 Product development permits.	13
24.05.090 Permits.	14
24.05.100 Location.	16
24.05.110 Soil and site evaluation.	18
24.05.120 Design.	20
24.05.130 Holding tank sewage systems.	28
24.05.140 Installation.	28
24.05.150 Inspection and record drawing.	29
24.05.160 Operation and maintenance.	30
24.05.170 Repair of failures.	31
24.05.180 Expansions.	33
24.05.190 Abandonment.	33
24.05.200 Septage management.	33
24.05.210 Developments, subdivisions, and minimum land area requirements.	34
24.05.220 Licensing.	37
24.05.230 Waivers.	39
24.05.240 Enforcement.	39
24.05.250 Appeals.	40
24.05.260 Severability.	40
24.05.270 Fees.	40

24.05.010 Purpose, objectives, and authority.

- A. The purpose of Chapter 24.05 WCC is to protect the public health by minimizing:
 - 1. The potential for public exposure to sewage from on-site sewage systems; and
 - 2. Adverse effects to public health that discharges from on-site sewage systems may have on ground and surface waters.
- B. Chapter 24.05 WCC regulates the location, design, installation, operation, maintenance, and monitoring of on-site sewage systems to:
 - 1. Achieve long-term sewage treatment and effluent dispersal; and
 - 2. Limit the discharge of contaminants to waters of the state.
- C. Chapter 24.05 WCC provides for the issuance of permits, establishment of fees, licensing and bonding of installers, pumpers, and operation and maintenance specialists of sewage disposal systems and an appeals procedure.
- D. Chapter 24.05 WCC is intended to coordinate with other applicable statutes and rules for the design of on-site sewage systems under Chapter 18.210 RCW, Chapter 196-33 WAC, and Chapter 246-272A WAC.
- E. Chapter 24.05 WCC is intended to coordinate with the land use planning regulation of Whatcom County.

24.05.020 Administration.

The health officer shall administer Chapter 24.05 under the authority and requirements of Chapters 70.05, 70.08, 70.46, and 43.70 RCW. Under Chapter 70.05.060(7) RCW, fees may be charged for this administration.

24.05.030 Adoption by reference.

Chapter 246-272A WAC, On-Site Sewage System Rules and Regulations, is hereby adopted by reference. If a conflict arises between Chapter 246-272A WAC and this Chapter, the more restrictive regulation shall prevail. Any subsequent amendment to Chapter 246-272A WAC shall be considered to have been incorporated into Chapter 24.05 WCC without the need for further amendment.

24.05.040 Definitions.

“Additive” means a commercial product added to an on-site sewage system intended to affect performance or aesthetics of an on-site sewage system.

“Aerobic treatment unit (ATU)” means a container which provides enhanced aerobic biodegradation or decomposition of sewage by bringing the sewage into contact with air by some mechanical or nonmechanical means, e.g., air pumps, air injectors, fabric, grids, gravel, pipes or rotating disks.

“Alternative system” means an on-site sewage system other than a conventional gravity system or conventional pressure distribution system. Properly operated and maintained alternative systems provide equivalent or enhanced treatment performance as compared to conventional gravity systems.

“Approved” means a written statement of acceptability issued by the health officer or WDOH.

"Bed" means a soil dispersal component consisting of an excavation with a width greater than three feet.

"Bedroom" means any enclosed room of 70 square feet or more that is not designated as a kitchen, living/family room, utility room, office, bathroom, or dining room adjacent to the kitchen.

"BOD" means biochemical oxygen demand, typically expressed in mg/L.

"Building sewer" means that part of the horizontal piping of a drainage system extending from the building drain, which collects sewage from all the drainage pipes inside a building, to an on-site sewage system. It begins two feet outside the building wall and conveys sewage from the building drain to the remaining portions of the on-site sewage system.

"CBOD₅" means carbonaceous biochemical oxygen demand, typically expressed in mg/L.

"Cesspool" means a pit receiving untreated sewage and allowing the liquid to seep into the surrounding soil or rock.

"Common point" as it refers to OSS means any interconnection of sewerage piping systems whether inside or outside of a building or structure.

"Conforming system" means any on-site sewage system meeting any of the following criteria:

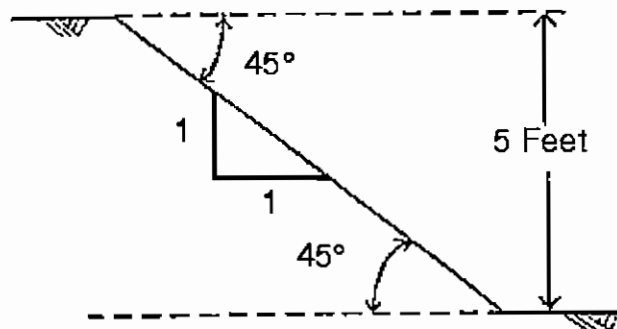
1. In full compliance with new construction requirements under Chapter 24.05; or
2. Approved, installed and operating in accordance with requirements of previous editions of Chapter 24.05; or
3. Permitted through the waiver process which assures public health protection by higher treatment performance or other mitigation methods.

"Covenant" means a recorded agreement outlining certain activities and/or practices that are required or prohibited by a property owner.

"Conventional gravity system" means an on-site sewage system consisting of a septic tank and a subsurface soil absorption system with gravity distribution of the effluent.

"Cover material" means soil placed over a soil dispersal component composed predominately of mineral material with no greater than ten percent organic content. Cover material is permeable soil that may contain an organic surface layer for establishing a vegetative landscape to reduce soil erosion.

"Cuts and/or banks" means any naturally occurring or artificially formed slope greater than 100 percent (45 degrees) and extending vertically at least five feet from the toe of the slope to the top of the slope as follows:



"Designer" means a person who matches site and soil characteristics with appropriate on-site sewage technology licensed under Chapter 18.210 RCW and professional engineers licensed under Chapter 18.43 RCW.

“Design flow” means the maximum volume of sewage a residence, structure, or other facility is estimated to generate in a twenty-four-hour period. It incorporates both an operating capacity and a surge capacity for the system during periodic heavy use events. The sizing and design of the on-site sewage system components are based on the design flow.

“Development” means the creation of a residence, structure, facility, subdivision, planned unit development, site, area, or any activity resulting in the production of sewage.

“Disinfection” means the process of destroying pathogenic microorganisms in sewage through the application of ultraviolet light, chlorination, or ozonation.

“Distribution technology” means any arrangement of equipment and/or materials that distributes sewage within an on-site sewage system.

“Drain field” see subsurface soil absorption system (SSAS) and soil dispersal component.

“Drainage ditch” means a linear excavation or depression constructed for the purpose of conveying surface runoff or groundwater from one area to another.

“Drainrock” means clean washed gravel or crushed rock ranging in size from three-quarters inch to two and one-half inches, and containing no more than two percent by weight passing a US No. 8 sieve and no more than one percent by weight passing a US No. 200 sieve.

“Effluent” means liquid discharged from a septic tank or other on-site sewage system component.

“Expanding clay” means a clay soil with the mineralogy of clay particles, such as those found in the Montmorillonite/Smectite Group, which causes the clay particles to expand when they absorb water, closing the soil pores, and contract when they dry out.

“Expansion” means a change in a residence, facility, site, or use that:

1. Causes an on-site sewage system to exceed its existing treatment or disposal dispersal capability, for example, when a residence is increased from two to three bedrooms or a change in use from an office to a restaurant; or
2. Results in an increase of more than 50 percent of the existing floor space; or
3. Reduces the treatment or dispersal capability of the existing on-site sewage system or the reserve area, for example, when a building is placed over a reserve area.

“Extremely gravelly” means soil with sixty percent or more, but less than ninety percent rock fragments by volume.

“Failure” means a condition of an on-site sewage system that threatens the public health by inadequately treating sewage or by creating a potential for direct or indirect contact between sewage and the public. Examples of failure include:

1. Sewage on the surface of the ground;
2. Sewage backing up into a structure caused by slow soil absorption of septic tank effluent;
3. Sewage leaking from a septic tank, pump chamber, holding tank, or collection system;
4. Cesspools or seepage pits where evidence of ground water or surface water quality degradation exists;
5. Inadequately treated effluent contaminating ground water or surface water.
6. Noncompliance with standards stipulated on the permit.

“Fecal coliform” means bacteria common to the digestive systems of warm-blooded animals that are cultured in standard tests. Counts of these organisms are typically used to indicate potential contamination from sewage or to describe a level of needed disinfection. Generally expressed as colonies per 100 ml.

“Geotextile” means barrier material covering the gravel trench or bed. The geotextile shall be nonwoven. The fabric shall be free of any chemical treatment or coating which reduces permeability and shall be inert to chemicals commonly found in soil.

“Gravelly” means soils with fifteen percent or more, but less than thirty-five percent rock fragments by volume.

“Gray water” means sewage from bathtubs, showers, bathroom sinks, washing machines, dishwashers, and kitchen sinks. It includes sewage from any source in a residence or structure that has not come into contact with toilet wastes.

“Ground water” means subsurface water occupying the zone of saturated soil, permanently, seasonally, or as the result of the tides. Indications of ground water may include:

1. Water seeping into or standing in an open excavation from the soil surrounding the excavation.
2. Spots or blotches of different color or shades of color interspersed with a dominant color in soil caused by reduction and oxidation of iron. These color patterns are redoximorphic features, commonly referred to as mottling. Redoximorphic features often indicate the intermittent presence of ground water and may indicate poor aeration and impeded drainage. Also see “water table.

“Health officer” means the health officer of Whatcom County, or a representative authorized by and under the direct supervision of the health officer as defined in RCW 70.05.

“Holding tank sewage system” means an on-site sewage system which incorporates a holding tank, the services of a sewage pumper/hauler, and the off-site treatment and disposal for the sewage generated.

“Hydraulic loading rate” means the amount of effluent applied to a given treatment step, in this regulation expressed as gallons per square foot per day (gal/sq.ft./day).

“Industrial wastewater” means the water or liquid carried waste from an industrial process. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feedlots, poultry houses, or dairies. The term includes contaminated storm water and leachate from solid waste facilities.

“Infiltrative surface” means the surface within a treatment component or soil dispersal component to which effluent is applied and through which effluent moves into original, undisturbed soil or other porous treatment media.

“Installer” means a qualified person approved by a health officer to install or repair on-site sewage systems or components.

“Intermediate septage holding tank” means a septage holding tank used by a licensed pumper intended for intermediate storage of septage prior to final disposal at a permitted facility.

“Large on-site sewage system (LOSS)” means any on-site sewage system with design flows, at any common point, greater than 3,500 gallons per day.

“Lot” means the entire parcel of land with fixed boundaries in single or joint ownership, which area is for the use of the occupants of the building to be served by the proposed sewage disposal system. Easements may be included in determining the boundaries of the lot.

“Maintenance” means the actions necessary to keep the on-site sewage system components functioning as designed.

“Massive structure” means the condition of a soil layer in which the layer appears as a coherent or solid mass not separated into peds of any kind.

“May” means discretionary, permissive, or allowed.

“Mobile home park” means a plot of ground in which three or more sites are intended for permanent occupancy by mobile homes.

“Moderate structure” means well-formed distinct peds evident in undisturbed soil. When disturbed, soil material parts into a mixture of whole peds, broken peds, and material that is not in peds.

“Monitoring” means periodic or continuous checking of an on-site sewage system, which is performed by observations and measurements, to determine if the system is functioning as intended and if system maintenance is needed. Monitoring also includes maintaining accurate records that document monitoring activities.

“O&G” means oil and grease, a component of sewage typically originating from food stuffs (animal fats or vegetable oils) or consisting of compounds of alcohol or glycerol with fatty acids (soaps and lotions). Typically expressed in mg/L.

“On-site sewage system (OSS)” means an integrated system of components located on or nearby the property it serves, that conveys, stores, treats, and/or provides subsurface soil treatment and dispersal of sewage. It consists of a collection system, a treatment component or treatment sequence, and a soil dispersal component. An on-site sewage system also refers to a holding tank sewage system or other system that does not have a soil dispersal component.

“Operating capacity” means the average daily volume of sewage an OSS can treat and disperse on a sustained basis. The operating capacity, which is lower than the design flow, is an integral part of the design and is used as an index in OSS monitoring.

“Operation and maintenance specialist” means a qualified person approved by the health officer to perform operation and maintenance inspections on on-site sewage systems or components.

“Ordinary high-water mark” means the mark on lakes, streams, and tidal waters, found by examining the beds and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland with respect to vegetation, as that condition exists on the effective date of the regulation codified in Chapter 24.05, or as it may naturally change thereafter. The following definitions apply where the ordinary high-water mark cannot be found:

1. The ordinary high-water mark adjoining marine water is the elevation at mean higher high tide; and
2. The ordinary high-water mark adjoining freshwater is the line of mean high water.

“Ped” means a unit of soil structure such as blocks, column, granule, plate or prism formed by natural processes.

“Permit” means a written document issued by the health officer authorizing the construction, installation, or alteration of a sewage disposal system.

“Person” means any individual, corporation, company, association, society, firm, partnership, joint stock company, or any governmental agency, or the authorized agents of any such entities. Employees of persons holding a valid license under this Chapter are included in and covered by the license and a company may designate an employee as a qualified professional representing the company.

“Planned unit development” means a development characterized by a unified site design, clustered residential units and/or commercial units, and areas of common open space.

“Platy structure” means soil that contains flat peds that lie horizontally and often overlap. This type of structure will impede the vertical movement of water.

“Premises” means any building or structure and the property on which it is located and surrounding area utilized by persons as a residence, a place of business or place of sponsored public assembly and includes established picnic or camp grounds.

“Pressure distribution” means a system of small diameter pipes equally distributing effluent throughout a SSAS, as described in the WDOH “RS&G for Pressure Distribution Systems,” latest version. A subsurface drip system may be used wherever the regulation requires pressure distribution.

“Professional engineer” means a person who is currently licensed as an engineer under the provisions of Chapter 18.43 RCW.

“Proprietary product” means a sewage treatment and distribution technology, method or material subject to a patent or trademark.

“Public domain technology” means a sewage treatment and distribution technology, method, or material not subject to a patent or trademark.

“Public sewer system” means a sewerage system:

1. Owned or operated by a city, town, municipal corporation, county, or other approved ownership consisting of a collection system and necessary trunks, pumping facilities and a means of final treatment and disposal; and
2. Approved by or under permit from WDOE, WDOH and/or the health officer.

“Pumper” means a person approved by the health officer to remove and transport wastewater or septage from on-site sewage systems.

“Record drawing” means an accurate graphic and written record of the location and features of the OSS that are needed to properly monitor, operate, and maintain that system.

“Recreational vehicle” means a vehicular-type unit as defined by the Department of Labor and Industries, designed for temporary living quarters for recreational, camping or travel use, which either has its own motor power or is mounted on or drawn by another vehicle.

“Recreational vehicle park” means a plot of land in which three or more sites are occupied or intended for occupancy by recreational vehicles for travel, recreational or vacation uses.

“Repair” means restoration, by reconstruction or relocation, or replacement of a failed on-site sewage system.

“Report of System Status” means a WCHD operations and maintenance report filed by a WCHD licensed O&M specialist completed at intervals outlined in 24.05.160(A)(4).

“Reserve area” means an area of land approved for the installation of a conforming system and dedicated for replacement of the OSS upon its failure.

“Residential sewage” means sewage having the constituency and strength typical of wastewater from domestic households.

“Restrictive layer” means a stratum impeding the vertical movement of water, air, and growth of plant roots, such as hardpan, claypan, fragipan, caliche, some compacted soils, bedrock and unstructured clay soils.

“Rock fragment” means rock or mineral fragments having a diameter of two millimeters or more; for example, gravel, cobbles, stones, and boulders.

“RS&G” means Recommended Standards and Guidance documents published and updated by WDOH.

“Seepage pit” means an excavation more than three feet deep where the sidewall of the excavation is designed to dispose of septic tank effluent. Seepage pits may also be called “dry wells”.

"Septage" means the mixture of solid wastes, scum, sludge, and liquids pumped from within septic tanks, pump chambers, holding tanks, and other OSS components.

"Septic system" see on-site sewage system or OSS.

"Septic tank" means a watertight pretreatment receptacle receiving the discharge of sewage from a building sewer or sewers, designed and constructed to permit separation of settleable and floating solids from the liquid, detention and anaerobic digestion of the organic matter, prior to discharge of the liquid.

"Sewage" means any urine, feces, and the water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments or other places. Also see "residential sewage."

"Sewage quality" means contents in sewage that include:

1. CBOD₅, TSS, and O&G;
2. Other parameters that can adversely affect treatment. Examples include pH, temperature, and dissolved oxygen;
3. Other constituents that create concerns due to specific site sensitivity. Examples include fecal coliform and nitrogen.

"Sewage tank" means a prefabricated or cast-in-place septic tank, pump tank/dosing chamber, holding tank, grease interceptor, recirculating filter tank or any other tanks as they relate to on-site sewage systems including tanks for use with proprietary products.

"Shall" means mandatory.

"Significant periods of the year " means six months or longer.

"Soil dispersal component" means a technology that releases effluent from a treatment component into the soil for dispersal, final treatment and recycling.

"Soil log" means a detailed description of soil characteristics providing information on the soil's capacity to act as an acceptable treatment and dispersal medium for sewage.

"Soil scientist" means a person certified by the American Society of Agronomy as a Certified Professional Soil Scientist.

"Soil type" means a numerical classification of fine earth particles and coarse fragments as described in WCC 24.05.110(B) (5), Table II.

"SSAS" Subsurface soil absorption system means a soil dispersal component of trenches or beds containing either a distribution pipe within a layer of drainrock covered with a geotextile, or an approved gravelless distribution technology, designed and installed in original, undisturbed, unsaturated soil providing at least minimal vertical separation as established in this regulation, with either gravity or pressure distribution of the treatment component effluent.

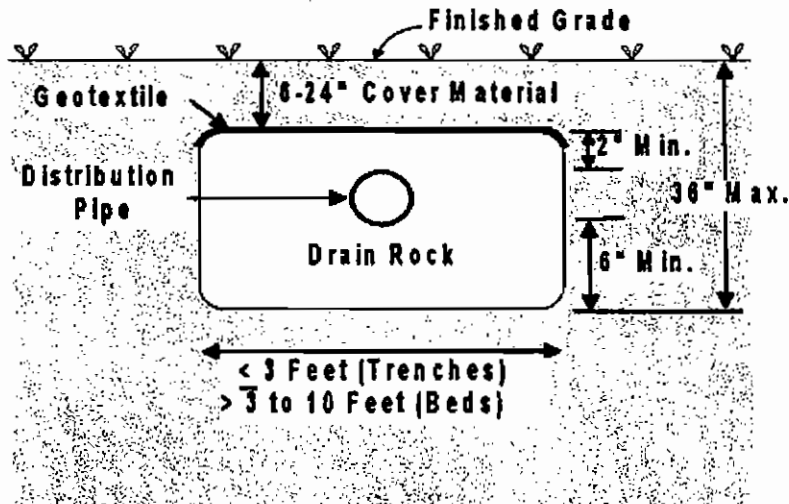
"Standard methods" means the *20th Edition of Standard Methods for the Examination of Water and Wastewater*, prepared and published jointly by the American Public Health Association, the American Water Works Association and the Water Environment Federation.

"Strong structure" means peds are distinct in undisturbed soil. They separate cleanly when soil is disturbed, and the soil material separates mainly into whole peds when removed.

"Subdivision" means a division of land or creation of lots or parcels, described under Chapter 58.17 RCW, now or as hereafter amended, including both long and short subdivisions, planned unit developments, and mobile home parks.

"Subsurface drip system" means an efficient pressurized wastewater distribution system that can deliver small, precise doses of effluent to soil surrounding the drip distribution piping (called dripline) as described in the WDOH "RS&G for Subsurface Drip Systems."

"Subsurface soil absorption system" (SSAS) means a soil dispersal component of trenches or beds containing either a distribution pipe within a layer of drainrock covered with a geotextile, or an approved gravelless distribution technology, designed and installed in original, undisturbed, unsaturated soil providing at least minimal vertical separation as established in this regulation, with either gravity or pressure distribution of the treatment component effluent.



"Surface water" means any body of water, whether fresh or marine, flowing or contained in natural or artificial unlined depressions for significant periods of the year, including natural and artificial lakes, ponds, springs, rivers, streams, swamps, marshes, and tidal waters.

"Timed dosing" means delivery of discrete volumes of sewage at prescribed time intervals.

"Treatment component" means a technology that treats sewage in preparation for further treatment and/or dispersal into the soil environment. Some treatment components, such as mound systems, incorporate a soil dispersal component in lieu of separate treatment and soil dispersal components.

"Treatment level" means one of six levels (A, B, C, D, E, & N) used in these rules to:

1. Identify treatment component performance demonstrated through requirements specified in WAC 246-272A-0110; and
2. Match site conditions of vertical separation and soil type with treatment components. Treatment levels used in these rules are not intended to be applied as field compliance standards. Their intended use is for establishing treatment product performance in a product testing setting under established protocols by qualified testing entities.

"Treatment sequence" means any series of treatment components that discharges treated sewage to the soil dispersal component.

"Trench" means a soil dispersal component consisting of an excavation with a width of three feet or less.

"TSS" means total suspended solids, a measure of all suspended solids in a liquid, typically expressed in mg/L.

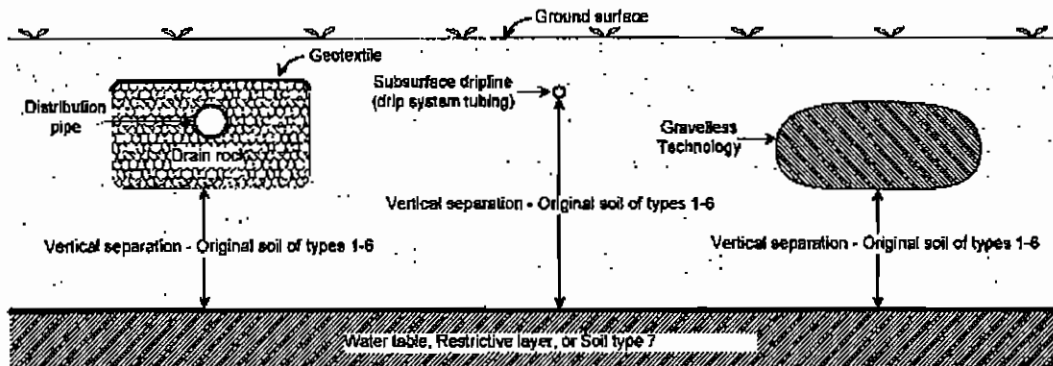
"Unit volume of sewage" means:

1. Flow from a single-family residence;

2. Flow from a mobile home site in a mobile home park; or
3. Four hundred fifty gallons of sewage per day where the proposed development is not single-family residences or a mobile home park.

“USEPA” means United States Environmental Protection Agency.

“Vertical separation” means the depth of unsaturated, original, undisturbed soil of soil types 1-6 between the bottom infiltrative surface of a soil dispersal component and the highest seasonal water table, a restrictive layer, or soil type 7 as illustrated below by the profile drawing of subsurface soil absorption systems:



“Very gravelly” means soil containing thirty-five percent or more, but less than sixty percent rock fragments by volume.

“Water table” means the upper surface of the ground water, whether permanent or seasonal. Also see “ground water.”

“WCHD” means the Whatcom County Health Department.

“WDOE” means the Washington State Department of Ecology.

“WDOH” means the Washington State Department of Health.

“Well” means any excavation that is constructed when the intended use of the well is for the location, diversion, artificial recharge, observation, monitoring, dewatering or withdrawal of ground water for agricultural, municipal, industrial, domestic, or commercial use. Excluded are:

1. A temporary observation or monitoring well used to determine the depth to a water table for locating an OSS;
2. An observation or monitoring well used to measure the effect of an OSS on a water table; and
3. An interceptor or curtain drain constructed to lower a water table.

“Wet season” means the period of year from December 1st to May 1st.

24.05.050 Local management and regulation.

- A. The health officer shall develop and maintain a written plan regarding development and management activities for all OSS within Whatcom County in accordance with WAC 246-272A-0015. The plan and management activities shall include:
1. Progressive development and maintenance of an inventory of all known OSS in operation within Whatcom County,
 2. Identification of any areas where OSS could pose an increased public health risk,
 3. Identification of operation, maintenance and monitoring requirements commensurate with risks posed by OSS within areas posing an increased public health risk,
 4. Facilitating education of homeowners regarding their responsibilities to properly use and maintain their onsite sewage systems, and provide operation and maintenance information for all types of systems in use within Whatcom County;
 5. Remind and encourage homeowners to complete the operation and maintenance inspections required by Chapter 24.05,
 6. Maintain records required under Chapter 24.05, including of all operation and maintenance activities as identified; and
 7. Enforce OSS owner permit application, operation, monitoring and maintenance and failure repair requirements defined in Chapter 24.05;
 8. Describe the capacity of WCHD to adequately fund the OSS plan, including the ability to find failing and unknown systems; and
 9. Develop and maintain the plan to coordinate with the comprehensive land use plans within Whatcom County.
- B. After being approved by the board of health following a public hearing, the health officer shall develop a written plan under subsection (A) and shall:
1. Supply a copy of the plan to the WDOH,
 2. Supply a copy of the plan to the entities responsible for land use planning and development regulations within Whatcom County; and
 3. Implement the approved plan.

24.05.060 Applicability.

- A. The health officer:
1. Shall apply Chapter 24.05 to OSS treating sewage and dispersing effluent from residential sewage sources with design flows up to three thousand five hundred gallons per day;
 2. May apply Chapter 24.05 to OSS for nonresidential sources of sewage if treatment, siting, design, installation, and operation and maintenance measures provide treatment and effluent dispersal equal to that required of residential sources.
 3. May not apply this chapter to industrial wastewater.
- B. A valid sewage system design approval, or construction permit issued prior to the effective date of this chapter:
1. Shall be acted upon in accordance with regulations in force at the time of issuance;

2. Shall have a maximum validity period of five years from the date of issuance or remain valid for an additional year beyond the effective date of this chapter, whichever assures the most lenient expiration date; and
 3. May be modified to include additional requirements if the health officer determines that a serious threat to public health exists.
- C. WDOE has authority and approval over:
1. Domestic or industrial wastewater under Chapter 173-240 WAC; and
 2. Sewage systems using mechanical treatment, or lagoons, with ultimate design flows above 14,500 gallons per day.
- D. WDOH has authority and approval over:
1. Systems with design flows through any common point between 3,500 to 14,500 gallons per day; and
 2. Any large on-site sewage system "LOSS" for which jurisdiction has been transferred to WDOH under conditions of memorandum of agreement.
- E. The health officer has authority and approval over:
1. Systems with design flows through any common point up to 3,500 gallons per day;
 2. Any large on-site sewage system "LOSS" for which jurisdiction has been transferred to the WCHD from WDOH by contract.
- F. Where Chapter 24.05 conflicts with Chapter 90.486 RCW, Water Pollution Control, the requirements under those statutes apply.

24.05.070 Connection to public sewer system.

- A. When adequate public sewer services are available within 200 feet of the residence or facility, the health officer, upon the failure of an existing on-site sewage system, shall require hook-up to the public sewer system. The distance shall be measured along the usual or most feasible route of access.
- B. The owner of a residence or other facility served by a Table VII repair, as described in WCC 24.05.170, shall abandon the OSS according to the requirements specified in WCC 24.05.190, and connect the residence or other facility to a public sewer system when:
1. Connection is deemed necessary to protect public health by the health officer;
 2. An adequate public sewer becomes available within 200 feet of the residence or other facility as measured along the usual or most economically feasible route of access; and
 3. The sewer utility allows the sewer connection.
- C. The health officer may require a new development to connect to a public sewer system to protect public health.
- D. The health officer shall require new development or a development with a failing system to connect to a public sewer system if it is required by the comprehensive land use plan or development regulations.

24.05.080 Product development permits.

- A. The health officer may issue a product development permit (PDP) for any single component or sequence in accordance with WAC 246-272A-0170.

24.05.090 Permits.

A. Prior to beginning the construction process, a designer proposing the installation, repair, modification, connection to, or expansion of an OSS, shall develop and submit the following to the health officer and obtain approval:

1. General information including:
 - a. Name and address of the property owner and the applicant at the head of each page of submission;
 - b. Parcel number and address, if available, of the site;
 - c. Source of drinking water supply;
 - d. Identification if the property is within the boundaries of a recognized sewer utility;
 - e. Size of the parcel;
 - f. Type of permit for which application is being made, for example, new installation, repair, expansion, alteration, or operational;
 - g. Source of sewage, for example, residential, restaurant, or other type of business;
 - h. Location of utilities;
 - i. Name of the designer, signature and stamp;
 - j. Date of application; and
 - k. Name and signature of the fee simple owner, the contract purchaser of the property or the owner's authorized agent.
2. The soil and site evaluation as specified under WCC 24.05.110.
3. A detailed system design meeting the requirements under WCC 24.05.120 including:
 - a. A dimensional drawing showing the location of components of the proposed OSS, and the system designed for the reserve area if reserve site characteristics differ significantly from the initial area;
 - b. Vertical cross-section drawings showing:
 - i. The depth of the disposal component, the vertical separation, and depth of soil cover; and
 - ii. Other OSS components constructed at the site;
 - c. Calculations and assumptions supporting the proposed design, including:
 - i. Soil type;
 - ii. Hydraulic loading rate in the disposal component; and
 - iii. System's maximum daily flow capacity.
4. Such additional information as deemed necessary by the health officer.

B. The health officer shall:

1. Issue a permit when the information submitted under subsection (A) of this section meets the requirements contained in this chapter;
2. Identify the permit as a new installation, repair, expansion, modification, or operational permit;
3. Include a reminder on the permit application of the applicant's right of appeal;

4. State the period of validity and the date and conditions of renewal when requiring operational permits to be obtained and retained;
 5. Specify the expiration date on the permit.
 6. Respond to an application within thirty days as required in RCW 70.05.074.
 7. Permit only public domain technologies that have WDOH RS&G. Permit only proprietary products that are registered by the WDOH. During the period of transition from the list of approved systems and products to the registered list, the health officer may permit products on the list of approved systems and products.
- C. A permit is not required for replacement, addition, or modification of broken or malfunctioning building sewers, risers and lids, sewage tank lids, sewage tank baffles, sewage tank pumps, pump control floats, pipes connecting multiple sewage tanks, and OSS inspection boxes and ports where a sewage tank, treatment component, or soil dispersal component does not need to be replaced. The health officer may require the owner to submit information regarding these activities for recordkeeping purposes.
- D. The health officer may revoke or deny a permit for just cause. Examples include, but are not limited to:
1. Construction or continued use of an OSS that threatens the public health;
 2. Misrepresentation or concealment of material fact in information submitted to the health officer; or
 3. Failure to meet conditions of the permit or the regulations.
- E. Before the health officer issues a permit for the installation of an OSS to serve more than one unit volume of sewage, or more than one development, the applicant shall show:
1. An approved public entity owning or managing the OSS in perpetuity; or
 2. A management arrangement acceptable to the health officer, recorded in covenant, lasting until the on-site system is no longer needed, and containing, but not limited to:
 - a. A recorded easement allowing access for construction, operation, monitoring maintenance, and repair of the OSS; and
 - b. Identification of an adequate financing mechanism to assure the funding of operation, maintenance, and repair of the OSS.
- F. The health officer shall not delegate the authority to issue permits.
- G. The health officer may stipulate additional requirements for a particular permit if necessary for public health protection.
- H. The health officer shall notify any water district, sewer district or city in which the development or premises is to be located, a copy of the application for new construction or repair provided the district or city has requested said notice. The permit shall not be issued for at least 15 calendar days in order that the district or city be given opportunity to provide public sewer services. Upon notice by the district or city that they have no objection to issuance of permit, it may be issued before the 15-day waiting period.
- I. A permit shall expire three years from the date of issuance. A permit may be renewed for one year upon review by the health officer.
- J. After the permit is issued, any alteration of the approved design shall be approved by the health officer in writing prior to the OSS installation.

24.05.100 Location.

A. Persons shall design and install OSS to meet the minimum horizontal separations shown in Table I, Minimum Horizontal Separations:

Table I – Minimum Horizontal Separations

Items requiring setback	From edge of disposal component reserve area and	From sewage tank and distribution box	From building sewer, collection, and non-perforated distribution ¹
Nonpublic well or suction line	100 ft.	50 ft.	50 ft.
Public drinking water well	100 ft.	100 ft.	100 ft.
Public drinking water spring measured from the ordinary high-water mark ²	200 ft.	200 ft.	100 ft.
Spring or surface water used as drinking water source measured from the ordinary high-water mark ²	100 ft.	50 ft.	50 ft.
Pressurized water supply line ³	10 ft.	10 ft.	10 ft.
Decommissioned well (decommissioned in accordance with 173-160 WAC) ⁴	10 ft.	N/A	N/A
Surface water measured from the ordinary high-water mark:			
Marine water	100 ft.	50 ft.	10 ft.
Fresh water	100 ft.	50 ft.	10 ft.
Building foundation/in-ground swimming pool	10 ft. ⁵	5 ft. ⁵	2 ft.
Property or easement line ⁵	5 ft.	5 ft.	N/A
Interceptor/curtain drains/drainage ditches:			
Down-gradient ⁶	30 ft.	5 ft.	N/A
Up-gradient ⁶	10 ft.	N/A	N/A
Other site features that may allow effluent to surface:			
Down-gradient ⁶	30 ft.	5 ft.	N/A
Up-gradient ⁶	10 ft.	N/A	N/A
Down-gradient cuts or banks with at least 5 ft. of original, undisturbed soil above a restrictive layer due to a structural or textural change	25 ft.	N/A	N/A
Down-gradient cuts or banks with less than 5 ft. of original, undisturbed, soil above a restrictive layer due to a structural or textural change	50 ft.	N/A	N/A
Other adjacent soil dispersal components /subsurface storm water infiltration systems	10 ft.	N/A	N/A

1. "Building sewer" as defined by the most current edition of the Uniform Plumbing Code. "Nonperforated distribution" includes pressure sewer transport lines.

2. If surface water is used as a public drinking water supply, the designer shall locate the OSS outside of the required source water protection area.

3. The health officer may approve a sewer transport line within 10 feet of a water supply line if the sewer line is constructed in accordance with Section 2.4 of WDOE 's "Criteria For Sewage Works Design," revised October 1985, or equivalent.
 4. Before any dispersal component can be placed within 100 feet of a well, the designer shall submit a "decommissioned water well report" provided by a licensed well driller, which verifies that appropriate decommissioning procedures noted in Chapter 173-160 WAC were followed. Once the well is properly decommissioned, it no longer provides a potential conduit to ground water, but septic tanks, pump chambers, containment vessels or distribution boxes should not be placed directly over the site.
 5. The health officer may allow a reduced horizontal separation to not less than two feet where the property line, easement line, or building foundation is up-gradient.
 6. The item is down-gradient when liquid will flow toward it upon encountering a water table or a restrictive layer. The item is up-gradient when liquid will flow away from it upon encountering a water table or restrictive layer.
- B. Where any condition indicates a greater potential for contamination or pollution, the health officer may increase the minimum horizontal separations. Examples of such conditions include excessively permeable soils, unconfined aquifers, shallow or saturated soils, dug wells, and improperly abandoned wells.
- C. The horizontal separation between an OSS dispersal component and an individual water well, spring, or surface water may be reduced to a minimum of 75 feet, by the health officer, and be described as a "conforming" system upon signed approval by the health officer if the applicant demonstrates:
1. Adequate protective site specific conditions, such as physical settings with low hydro-geologic susceptibility from contaminant infiltration. Examples of such conditions include evidence of confining layers and or aquatards separating potable water from the OSS treatment zone, excessive depth to ground water, down-gradient contaminant source, or outside the zone of influence; or
 2. Design and proper operation of an OSS system assuring enhanced treatment performance beyond that accomplished by meeting the vertical separation and effluent distribution requirements described in WCC 24.05.120(B), Table III; or
 3. Evidence of protective conditions involving both subsections (1) and (2) of this section; and
 4. The well conforms to Chapter 173-160 WAC, Minimum Standards for Construction and Maintenance of Wells, if applicable.
- D. Persons shall design and/or install disposal components only where:
1. The slope is less than 45 percent (24 degrees);
 2. The area is not subject to:
 - a. Encroachment by buildings or construction such as placement of swimming pools, power poles and underground utilities;
 - b. Cover by impervious material;
 - c. Vehicular traffic; or
 - d. Other activities adversely affecting the soil or the performance of the OSS;
 3. Sufficient reserve area for replacement exists to treat and dispose of 100 percent of the design flow;
 4. The land is stable; and
 5. Surface drainage is directed away from the site.

- E. New OSS shall be located on the same lot as the buildings they are designed to serve, or on a separate lot if a permanent easement for access, maintenance and repair is obtained and recorded.
- F. The health officer may approve a sewer transport line within ten feet of a water supply line if the sewer line is constructed in accordance with section C1-9 of the WDOE "Criteria For Sewage Works Design," December 1998.

24.05.110 Soil and site evaluation.

- A. Only professional engineers, designers, or the health officer may perform soil and site evaluations. Soil scientists may only perform soil evaluations.
- B. The person evaluating the soil and site shall:
 - 1. Report:
 - a. A sufficient number of soil logs to evaluate conditions within:
 - i. The initial disposal component; and
 - ii. The reserve area;
 - b. The ground water conditions, the date of the observation, and the probable maximum height;
 - c. The topography of the proposed initial system, the reserve area, and those areas immediately adjacent that contain characteristics impacting the design;
 - d. The drainage characteristics of the proposed initial system, the reserve area and those areas immediately adjacent that contain characteristics impacting the design;
 - e. The existence of structurally deficient soils subject to major wind or water erosion events such as slide zones and dunes;
 - f. The existence of designated flood plains and other areas identified in the local management plan required in Chapter 24.05.050 WCC; and
 - g. The location of existing features affecting system placement, such as, but not limited to:
 - i. Wells and suction lines;
 - ii. Water sources and supply lines;
 - iii. Surface water and stormwater infiltration areas;
 - iv. Abandoned wells;
 - v. Outcrops of bedrock and restrictive layers;
 - vi. Buildings;
 - vii. Property lines and lines of easement;
 - viii. Interceptors such as footing drains, curtain drains and drainage ditches;
 - ix. Cuts, banks, and fills;
 - x. Driveways and parking areas;
 - xi. Existing OSS; and
 - xii. Underground utilities;

2. Use the soil and site evaluation procedures and terminology in accordance with Chapter 5 of the On-site Wastewater Treatment Systems Manual, EPA 625/R-00/008, February 2002 or later version except where modified by, or in conflict, with this chapter;
3. Use the soil names and particle size limits of the United States Department of Agriculture Soil Conservation Service classification system;
4. Determine texture, structure, compaction and other soil characteristics that affect the treatment and water movement potential of the soil by using normal field and/or laboratory procedures such as particle size analysis; and
5. Classify the soil as in Table II, Soil Type Descriptions:

Table II – Soil Type Descriptions

Soil Type	Soil Textural Classifications
1	Gravelly and very gravelly coarse sands, all extremely gravelly soils excluding soil types 5 and 6, all soil types with greater than or equal to 90% rock fragments.
2	Coarse sands.
3	Medium sands, loamy coarse sands, loamy medium sands.
4	Fine sands, loamy fine sands, sandy loams, loams.
5	Very fine sands, loamy very fine sands; or silt loams, sandy clay loams, clay loams and silty clay loams with a moderate or strong structure (excluding platy structure).
6	Other silt loams, sandy clay loams, clay loams, silty clay loams.
7 Unsuitable for treatment or dispersal	Sandy clay, clay, silty clay, strongly cemented or firm soils, soil with a moderate or strong platy structure, any soil with a massive structure, any soil with appreciable amounts of expanding clays.

- C. The owner of the property or his agent shall:
1. Prepare the soil log excavation to:
 - a. Allow examination of the soil profile in its original position by:
 - i. Excavating pits of sufficient dimensions to enable observation of soil characteristics by visual and tactile means to a depth three feet deeper than the anticipated bottom of the disposal component; or
 - ii. Stopping at a shallower depth if a water table or restrictive layer is encountered; and
 - b. Allow determination of the soil's texture, structure, color, bulk density or compaction, water absorption capabilities or permeability, and elevation of the highest seasonal water table; and
 2. Assume responsibility for constructing and maintaining the soil log excavation in a manner to reduce potential for physical injury as required by WAC 296-155.
 - a. Placing excavated soil no closer than two feet of the excavation;

- b. Providing a ladder, earth ramp or steps for safe egress to a depth of four feet, then scoop out a portion from the floor to gain the additional two-foot depth necessary to observe the six feet of soil face, however the scooped portion is not to be entered;
 - c. Provide a physical warning barrier around the excavation's perimeter; and
 - d. Fill the excavation after the health officer has approved or denied the application.
- D. The health officer:
- 1. Shall render a decision on the height of the water table within 12 months of receiving the application under precipitation conditions typical for the region;
 - 2. May require water table measurements to be recorded during the wet season, if insufficient information is available to determine the highest seasonal water table;
 - 3. May require any other soil and site information affecting location, design, or installation; and
 - 4. May reduce the required number of soil logs for OSS serving a single-family residence if adequate soils information has previously been developed.

24.05.120 Design.

- A. On-site sewage systems may only be designed by professional engineers, licensed under Chapter 18.43 RCW or on-site sewage treatment system designers, licensed under Chapter 18.210 RCW.
- B. The designer shall use the following criteria when developing a design for an OSS:
 - 1. All the sewage from the building served is directed to the OSS;
 - 2. Sewage tanks have been reviewed and approved by WDOH;
 - 3. Drainage from the surface, footing drains, roof drains, and other nonsewage drains is prevented from entering the OSS and the area where the OSS and the reserve area are located;
 - 4. The OSS is designed to treat and disperse the sewage volume as follows:
 - a. For single-family residences, the operating capacity is based on 45 gpd per capita with two people per bedroom. The minimum design flow per bedroom per day is the operating capacity of ninety gallons multiplied by 1.33. This results in a minimum design flow of one hundred twenty gallons per bedroom per day. A factor greater than 0.33 to account for surge capacity may be required by the health officer. The health officer may require an increase of the design flow for dwellings with anticipated greater flows, such as larger dwellings. The minimum design flow is two hundred forty gallons per day.
 - b. For other facilities, the design flows noted in the On-site Wastewater Treatment Systems Manual, EPA 625/R-00/008, February 2002, or later version. If the type of facility is not listed in the EPA design manual, design flows from one of the following documents are used "On-site Wastewater Treatment Systems Manual," USEPA, EPA-625/R-00/008, February 2002 shall be used. Sewage flows from other sources of information may be used in determining system design flows if they incorporate both an operating capacity and a surge capacity.

5. The OSS is designed to address sewage quality as follows:
 - a. For all systems, the designer shall consider:
 - i. CBOD₅, TSS, and O&G;
 - ii. Other parameters that can adversely affect treatment anywhere along the treatment sequence. Examples include pH, temperature and dissolved oxygen;
 - iii. 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 local management plan required in WCC 24.05.050.
 - iv. Nitrogen contributions. Where nitrogen has been identified as a contaminant of concern by the local management plan required in WCC 24.05.050, it shall be addressed through lot size and/or treatment.
 - b. When proposing the use of OSS for nonresidential sewage, the designer shall provide to the health officer:
 - i. Information to show the sewage is not industrial wastewater;
 - ii. Information to establish the sewage's strength and identify chemicals found in the sewage that are not found in residential sewage; and
 - iii. A design providing treatment equal to that required of residential sewage.
 - c. The vertical separation to be used to establish the treatment levels and application rates. The selected vertical separation shall be used consistently throughout the design process.
 - d. Treatment levels:
 - i. Requirements for matching treatment component and method of distribution with soil conditions of the soil dispersal component are listed in Table III. 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.
 - ii. Disinfection may not be used to achieve the fecal coliform requirements to meet:
 1. Treatment levels A or B in Type 1 soils; or
 2. Treatment level C.

TABLE III –Treatment Component Performance Levels and Method of Distribution¹

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

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

- C. The coarsest textured soil within the vertical separation selected by the designer shall determine the minimum treatment level and method of distribution
- D. The health officer:
 - 1. Shall approve only OSS designs meeting the requirements of this chapter;
 - 2. Shall not approve designs for:
 - a. Cesspools; or
 - b. Seepage pits.
 - 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 chapter for new construction
- E. Septic tanks shall:
 - 1. Have at least two compartments with the first compartment liquid volume equal to one-half to two-thirds of the total liquid volume. This standard may be met by one tank with two compartments or by two single compartment tanks in series.
 - 2. Be equipped with an approved effluent filter at the outlet.
 - 3. Be designed with protection against floatation and ground water intrusion in high ground water areas.
 - 4. Have the following minimum liquid capacities:
 - a. 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
≤3	900
4	1,000
Each additional bedroom	250

- b. For OSS treating sewage from a residential source, other than one single-family residence, two hundred fifty gallons per bedroom with a minimum of one thousand gallons;
- c. For OSS treating sewage from a nonresidential source, three times the design flow.

F. Pump chambers shall:

- 1. Have clean-out and inspection accesses at or above finished grade; and
- 2. Be designed with protection against floatation, ground water intrusion, and surface water inflow in high ground water areas.
- 3. Be designed with a pump screen, unless an approved effluent filter is designed at the outlet of the septic tank.

G. Design requirements - Soil dispersal components.

- 1. All soil dispersal components, except one using a subsurface dripline product, shall be designed to meet the following requirements:
 - a. Maximum hydraulic loading rates shall be based on the rates described in Table V.

TABLE V – 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	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

- b. Calculation of the absorption area is based on:
 - i. The design flow in WCC 24.05.120 (B); and
 - ii. 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. The installer shall submit documentation that fill material conforms to required sieve specifications.
 - c. Requirements for the method of distribution shall correspond to those in Table III.
 - d. Soil dispersal components having daily design flow between 1000 and 3500 gallons of sewage per day shall:
 - i. Only be located in soil types 1-5;
 - ii. Only be located on slopes of less than thirty percent, or seventeen degrees; and
 - iii. Have pressure distribution including time dosing.
2. All soil dispersal components using a subsurface dripline product must be designed to meet the following requirements:
- a. Calculation of the absorption area is based on:
 - i. The design flow in WAC 246-272A-0230(2);
 - ii. Loading rates that are dependent on the soil type, other soil and site characteristics, and the spacing of dripline and emitters;
 - b. The dripline must be installed a minimum of six inches into original, undisturbed soil;
 - c. Timed dosing; and
 - d. OSS having daily design flows greater than 1000 gallons of sewage per day:
 - i. May only be located in soil types 1-5;
 - ii. May only be located on slopes of less than thirty percent, or seventeen degrees.
 - iii. Shall have pressure distribution.
3. All SSAS shall meet the following requirements:
- a. The infiltrative surface may not be deeper than three feet below the finished grade, except under special conditions approved by the health officer. The depth of such system shall not exceed ten feet from the finished grade;
 - b. A minimum of six inches of sidewall must be located in original undisturbed soil;
 - c. SSAS beds are only designed in soil types 1, 2, 3 or in fine sands with a width not exceeding ten feet;
 - d. Individual SSAS laterals greater than 100 feet in length are to use pressure distribution;
 - e. Other features shall conform with the "On-site Wastewater Treatment Systems Manual," USEPA, EPA-625/R-00/008 February 2002 or later version except where modified by, or in conflict with this section or local regulations.
4. For SSAS with drainrock and distribution pipe:
- a. Twelve inches of 3/4" – 2-1/2" washed, clean gravel, covered with a layer of geotextile for conventional gravity distribution;

- b. Nine inches of 3/4" – 2-1/2" washed, clean gravel, covered with a layer of geotextile for conventional pressure distribution;
 - c. A minimum of 2" of drainrock is required above the distribution pipe; and
 - d. The sidewall below the invert of the distribution pipe is located in original undisturbed soil.
5. 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 D is used. This reduction may not be combined with any other SSAS size reductions.
6. The primary and reserve areas:
- a. The primary and reserve areas must be sized to at least one hundred percent of the loading rates listed in Table V.
 - b. The health officer may allow a legal lot of record created prior to the effective date of Chapter 24.05 that cannot meet this primary and reserve area requirement to be developed if all the following conditions are met:
 - i. 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 of Chapter 24.05;
 - ii. 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
 - iii. A treatment product meeting at least Treatment Level D and pressure distribution with timed-dosing is used.
7. Designs must conform to and include the following:

The drawing paper size shall be 8½ inches X 11 inches and the scale 1 inch = 20 feet, 30 feet or 40 feet. On larger parcels, a scale may be used up to 1 inch = 60 feet for the project, provided that an inset of the OSS is shown at a 1 inch = 20 feet, 30 feet or 40 feet, and (a) the inset's distances to at least two intersecting property lines are labeled, and (b) the inset's distance to major setback distances are labeled (i.e., wells, creeks, lakes, etc.). Very large parcels may show remaining features up to a 1"=100' scale.

- a. An arrow indicating north.
- b. Buildings, when the location is known, shall be accurately shown. When a precise proposed building location is unknown, a prescribed building boundary line, or building envelope, that designates the area within which buildings will be placed, and within which OSS components may not be placed, shall be shown in lieu of precise building locations.
- c. Septic tanks, pump chambers, sewage tanks, any existing OSS.
- d. Vertical cross-section drawings showing the depth of the disposal component, the vertical separation, the depth of soil cover; and other OSS components constructed at the site.
- e. Pump specification and pump curve.
- f. Elevations of pump and floats.
- g. Sewer lines.
- h. Initial system and reserve area.

- i. Soil log locations.
 - j. Wells, water lines, other utility lines, any abandoned wells.
 - k. Buildings, driveways, parking areas.
 - l. Surface water and/or known wetland buffers as shown by wetland delineation.
 - m. Property lines, lines of easement and buffers.
 - n. The location of existing and proposed encumbrances affecting system placement, including legal access documents if any component of the OSS is not on the lot where the sewage is generated.
 - o. Ditches, interceptor drains, footing drains, roof drain conveyance pipes.
 - p. Location and percent of slopes such as cuts, banks or fills.
 - q. General topography and/or slope of the site shown in sufficient detail that accurately represents simple and complex slope configurations.
8. SSAS area must be staked for design review. Reserve area staking may be required by the health officer if needed.
- E. Design requirements—Facilitate operation, monitoring and maintenance.
- 1. The OSS must be designed to facilitate operation, monitoring and maintenance according to the following criteria:
 - a. For gravity systems, septic tank access for maintenance and inspection at finished grade is required. If effluent filters are used, access to the filter at finished grade is required. The health officer may allow access for maintenance and inspection of a system consisting of a septic tank and gravity flow SSAS to be a maximum of six inches below finished grade provided a marker showing the location of the tank access is installed at finished grade.
 - b. For all other systems, service access and monitoring ports at finished grade are required for all system components. Specific component requirements include:
 - i. The building sewer must have a cleanout with a screw cap for service access.
 - ii. Septic tanks must have service access manholes and monitoring ports for the inlet and outlet. Effluent filters must have access to finished grade.
 - iii. Surge, flow equalization or other sewage tanks must have service access manholes;
 - iv. Other pretreatment units (such as aerobic treatment units and packed-bed filters) must have service access manholes and monitoring ports;
 - v. Pump chambers, tanks and vaults must have service access manholes;
 - vi. Disinfection units must have service access and be installed to facilitate complete maintenance and cleaning; and
 - vii. Soil dispersal components shall have monitoring ports for both distribution devices and the infiltrative surface.
 - c. For systems using pumps, clearly accessible controls and warning devices are required including:
 - i. Process controls such as float and pressure activated pump on/off switches, pump-run timers and process flow controls;
 - ii. Diagnostic tools including dose cycle counters and hour meters on the sewage stream, or flow meters on either the water supply or sewage stream; and

- iii. 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.
2. All accesses must be designed to allow for monitoring and maintenance and shall be secured to minimize injury or unauthorized access in a manner approved by the health officer.

24.05.130 Holding tank sewage systems.

- A. Persons shall not install or use holding tank sewage systems for residential development or expansion of residences, whether seasonal or year-round, except as set forth under subsection (B) of this section.
- B. The health officer may approve installation of holding tank sewage systems only:
 1. For permanent uses limited to controlled, part-time, commercial usage situations, such as recreational vehicle parks and trailer dump stations.
 2. For interim uses limited to handling of emergency situations.
 3. For repairs as permitted under WCC 24.05.170(A)(3)(a).
- C. A person proposing to use a holding tank sewage system shall:
 1. Follow established design criteria established by WDOH;
 2. Submit a management program to the health officer assuring ongoing operation and maintenance before the health officer issues the installation permit; and
 3. Use a holding tank reviewed and approved by WDOH.

24.05.140 Installation.

- A. The health officer shall require approved installers to construct OSS, except as noted under subsection (B) of this section. Licensed installers shall meet all requirements of Section 24.05.220(A).
- B. The health officer may allow the resident owner of a single-family residence not adjacent to a marine shoreline to install the OSS for that single-family residence if they meet all the following: (1) The OSS installer owns or has a beneficial interest as a contract purchaser of the land on which the OSS is to be installed; and (2) The OSS is either located on the same lot as the residence or situated on adjoining property controlled by the owner and legally listed as an encumbrance; and (3) The OSS installer will reside in or use the building served by the OSS. Persons engaged in the business of buying, selling and constructing homes or land shall not qualify. The health officer may require written examination of resident owners when considering applications for self-installation.
- C. All persons employed to construct, install or alter a sewage disposal system shall be employees of a licensed installer.
- D. The installer described by either subsection (A) or (B) of this section shall:
 1. Follow the approved design;
 2. Have the approved design in possession during installation;
 3. Make no changes to the approved design without the prior authorization of the designer and the health officer;
 4. Only install septic tanks, pump chambers, and holding tanks approved by WDOH;
 5. Be on the site at all times during the excavation and construction of the OSS;

6. Install the OSS to be watertight, except for the soil dispersal component;
7. Cover the installation only after the health officer has given approval to cover; and
8. Back fill with six to twenty-four inches of cover material and grade the site to prevent surface water from accumulating over any component of the OSS.

24.05.150 Inspection and record drawing.

A. For all activities requiring a permit, the health officer shall:

1. Visit the OSS site during the site evaluation, construction, or final construction inspection.
2. Either inspect the OSS before cover or allow the licensed designer or licensed engineer of the OSS to perform the inspection before cover if the designer is not also named as installer of the system.
3. Keep the record drawings on file with the approved design documents.

The person responsible for the final construction inspection shall assure the OSS meets the approved design.

B. Prior to covering the newly installed OSS, the installer shall notify the health officer and the designer that the system is ready to be inspected. If any portion of the work is covered before it is inspected and approved, the same shall, when ordered, be uncovered by the installer prior to inspection.

C. All record drawings shall be prepared by licensed designers or licensed engineers. Record drawings shall be submitted no later than thirty (30) days after the final construction inspection and covering of the OSS, and must be received by WCHD prior to final approval and occupancy. The OSS will not be approved unless the record drawing has been submitted to the WCHD by the designer. The designer, upon completion of the OSS, shall develop and submit a complete and detailed record drawing to both the health officer and the OSS owner that include:

1. Measurements and directions accurate to +/- 1/2 foot, unless otherwise determined by the health officer, to assure the following parts of the OSS can be easily located:
 - i. All sewage tank openings requiring access;
 - ii. The ends, and all changes in direction, of installed and found buried pipes and electrical cables that are part of the OSS; and
 - iii. Any other OSS component which, in the judgment of the health officer or the designer, must be accessed for observation, maintenance, or operation;
2. Location and dimensions of reserve area;
3. Record that materials and equipment meet the specifications contained in the design;
4. Initial settings of electrical or mechanical devices that must be known to operate the system in the manner intended by the designer or installer; and
5. For proprietary products, manufacturer's standard product literature, including performance specifications and maintenance recommendations needed for operation, monitoring, maintenance or repair of the OSS.

24.05.160 Operation and maintenance.

- A. The OSS owner is responsible for properly operating, monitoring and maintaining the OSS to minimize the risk of failure, and to accomplish this purpose, shall:
1. Obtain approval from the health officer before repairing, altering or expanding an OSS;
 2. Secure and renew contracts for periodic maintenance where required by the WCHD;
 3. Obtain and renew operation permits if required by the WCHD;
 4. Assure a complete evaluation of the system components and/or property by a licensed O&M Specialist to determine functionality, maintenance needs and compliance with this chapter and any permits. A report of system status shall be completed at the time of the evaluation and submitted to the WCHD.
 - i. At least once every three years for all systems consisting solely of a septic tank and gravity SSAS;
 - ii. Annually for all other systems unless more frequent inspections are specified by the health officer;
 5. Employ an approved pumper to remove the septage from the tank when the level of solids and scum indicates that removal is necessary;
 6. Provide maintenance and needed repairs to promptly return the system to a proper operating condition;
 7. Protect the OSS area and the reserve area from:
 - i. Cover by structures or impervious material;
 - ii. Surface drainage and direct drains, such as footing or roof drains. The drainage must be directed away from the area where the OSS is located;
 - iii. Soil compaction, for example by vehicular traffic or livestock; and
 - iv. Damage by soil removal and grade alteration.
 8. Keep the flow of sewage to the OSS at or below the approved operating capacity and sewage quality;
 9. Operate and maintain systems as directed by the health officer;
 10. Request assistance from the health officer upon occurrence of a system failure or suspected system failure;
 11. At the time of property transfer, provide to the buyer, a copy of the current report of system status on file with the Whatcom County Health Department, and any available maintenance records, in addition to the completed seller disclosure statement in accordance with Chapter 64.06 RCW for residential real property transfers.
 12. Ensure that a current Report of System Status is on file with WCHD when a residence is offered for sale.
- B. Persons shall not:
1. Use or introduce strong bases, acids or chlorinated organic solvents into an OSS for the purpose of system cleaning;
 2. Use a sewage system additive unless it is specifically approved by WDOH; or
 3. Use an OSS to dispose of waste components atypical of residential wastewater.
- C. The health officer shall require annual inspections of OSS serving food service establishments and may require pumping as needed.

24.05.170 Repair of failures.

- A. When an OSS failure occurs, the OSS owner shall:
 - 1. Repair or replace the OSS with a permitted conforming system or component, or a system meeting the requirements of Table VII either on the:
 - a. Property served; or
 - b. Nearby or adjacent property if easements are obtained; or
 - 2. Connect the residence or facility to a:
 - a. Publicly owned LOSS; or
 - b. Privately owned LOSS where it is deemed economically feasible; or
 - c. Public sewer; or
 - 3. Perform one of the following when requirements in subsections (A)(1) or (A)(2) of this section are not feasible:
 - a. Use a holding tank for an interim period prior to installing a permitted repair; or
 - b. Obtain a National Pollution Discharge Elimination System or state discharge permit from the WDOE issued to a public entity or jointly to a public entity and the system owner only when the health officer determines:
 - i. An OSS is not feasible; and
 - ii. The only realistic method of final disposal of treated effluent is discharge to the surface of the land or into surface water; or
 - c. Abandon the property.
- B. Prior to replacing or repairing the soil dispersal component, the OSS owner shall develop and submit information required under WCC 24.05.090(A).
- C. The health officer shall permit a Table VII repair only when:
 - 1. Installation of a conforming system is not possible; and
 - 2. Connection to either an approved LOSS or a public sewer is not feasible.
- D. The person responsible for the design shall locate and design repairs to:
 - 1. Meet the requirements of Table VII if the effluent treatment and soil dispersal component to be repaired or replaced is closer to any surface water, well, or spring than prescribed by the minimum separation required in WCC 24.05.100 Table 1. Pressure distribution with timed dosing in the soil dispersal component is required in all cases where a conforming system is not feasible.

TABLE VII – Treatment Component Performance Levels for Repair of OSS Not Meeting Vertical and Horizontal Separations¹

<u>Vertical Separation (inches)</u>	<u>Horizontal Separation²</u>											
	<u>< 25 feet</u>			<u>25 < 50 feet</u>			<u>50 < 100 feet³</u>			<u>≥ 100 feet</u>		
	<u>Soil Type</u>			<u>Soil Type</u>			<u>Soil Type</u>			<u>Soil Type</u>		
	<u>1</u>	<u>2</u>	<u>3-6</u>	<u>1</u>	<u>2</u>	<u>3-6</u>	<u>1</u>	<u>2</u>	<u>3-6</u>	<u>1</u>	<u>2</u>	<u>3-6</u>
<u>< 12</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>B</u>	<u>B</u>	<u>B</u>	<u>B</u>
<u>≥ 12 < 18</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>B</u>	<u>B</u>	<u>A</u>	<u>B</u>	<u>B</u>			
<u>≥ 18 < 24</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>B</u>	<u>B</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Conforming</u>		
<u>≥ 24 < 36</u>	<u>A</u>	<u>B</u>	<u>B</u>	<u>B</u>	<u>C</u>	<u>C</u>	<u>B</u>	<u>C</u>	<u>C</u>	<u>Systems</u>		
<u>≥ 36</u>	<u>A</u>	<u>B</u>	<u>B</u>	<u>B</u>	<u>C</u>	<u>C</u>	<u>B</u>	<u>C</u>	<u>E</u>			

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

² The horizontal separation indicated in Table VII is the distance between the soil dispersal component and the surface water, well, or spring. If the soil dispersal component is up-gradient of a surface water, well, or spring to be used as a potable water source, or beach where shellfish are harvested, the next higher treatment level shall apply unless treatment level A is already required.

³On a site where there is a horizontal setback of 75 - 100 feet between an OSS dispersal component and an individual water well, individual spring, nonmarine surface water or surface water that is not a public water source and a vertical separation of greater than twelve inches, a conforming system that complies with chapter 24.05.100(C) shall be installed if feasible.

2. Protect drinking water sources and shellfish harvesting areas;
 3. Minimize nitrogen discharge in areas where nitrogen has been identified as a contaminant of concern in the local plan under WCC 24.05.050;
 4. Prevent the direct discharge of sewage to ground water, surface water, or upon the surface of the ground;
 5. Meet the horizontal separations under WCC 24.05.100(A) to public drinking water sources;
 6. Meet other requirements of this chapter to the maximum extent permitted by the site;
 7. Maximize the:
 - a. Vertical separation;
 - b. Distance from a well, spring, or suction line; and
 - c. Distance to surface water.
- E. Prior to designing the repair system, the designer shall consider the contributing factors of the failure to enable the repair to address identified causes.
- F. If the vertical separation is less than twelve inches, the health officer may permit ASTM C-33 sand or coarser to be used as fill to prevent direct discharge of treated effluent to ground water, surface water, or upon the surface of the ground.

- G. For a repair using the requirements of Table VII, disinfection may not be used to achieve the fecal coliform requirements to meet:
 - 1. Treatment levels A or B where there is less than eighteen inches of vertical separation;
 - 2. Treatment levels A or B in type 1 soils; or
 - 3. Treatment level C.
- H. The health officer shall identify Table VII repair permits for the purpose of tracking future performance.
- I. An OSS owner receiving a Table VII repair permit from the health officer shall:
 - 1. Immediately report any failure to the health officer;
 - 2. Comply with all local and state requirements stipulated on the permit.

24.05.180 Expansions.

- A. The health officer shall require an on-site sewage system and a reserve area in full compliance with the new system construction standards specified in this regulation for an expansion of a residence or other facility.
- B. Any necessary permits for the sewage disposal system repair or construction must be issued prior to final building plan approval.
- C. The health officer may allow expansion of an existing on-site sewage system adjacent to a marine shoreline that does not meet the minimum horizontal separation between the soil dispersal component and the ordinary high-water mark required by WCC 24.05.100, Table I, provided that:
 - 1. The system meets all requirements of WCC 24.05.120,
 - 2. The system complies with all other requirements of WCC 24.05.100 and this section;
 - 3. Horizontal separation between the soil dispersal component and the ordinary high-water mark is fifty feet or greater; and
 - 4. Vertical separation is two feet or greater.

24.05.190 Abandonment.

Persons permanently abandoning a septic tank, seepage pit, cesspool, or other sewage container from service shall:

- A. Have the septage removed by an approved pumper;
- B. Remove or destroy the lid; and
- C. Fill the void with soil or gravel.

24.05.200 Septage management.

- A. An individual shall be approved by the health officer as a qualified pumper before removing septage from an OSS. Licensed pumpers shall meet all requirements of WCC 24.05.220(B).

B. Persons removing septage from an OSS shall:

1. Assure that the truck septage tank will be fully closed and water-tight. The tank outlet device shall have a locking device properly placed to ensure sanitary dumping and to prevent any spillage or leakage of sewage. The suction hose shall be constructed of readily cleanable material and shall be kept in a clean and sanitary condition.
2. Assure that each vehicle used by a licensed pumper for servicing OSS systems shall be identified with a sign reading, "Whatcom County Health Department license #_____." The letters and numbers of said sign shall be affixed on both sides of each vehicle, at least one inch in height and in a contrasting color to the vehicle color.
3. Record and report septage removal to the health officer. Septage removal records shall be made available to the health officer upon request to verify volumes of septage pumped in Whatcom County.
4. Dispose of septage at permitted facilities, or apply septage biosolids to land at permitted facilities, only in a manner consistent with applicable laws.
5. Intermediate septage holding tanks shall meet the permit requirements of WCC 24.05.100 WCC.
6. Annual operational permits shall be required for intermediate septage holding tanks.

24.05.210 Developments, subdivisions, and minimum land area requirements.

- A. A person proposing the development shall obtain approval from the health officer prior to any development where the use of OSS is proposed.
- B. The health officer shall require the following prior to approving any development:
 1. Site evaluations as required under WCC 24.05.110;
 2. Where a subdivision with individual wells is proposed:
 - a. Configuration of each lot to allow a 100-foot radius water supply protection zone to fit within the lot lines; or
 - b. Establishment of a 100-foot protection zone around each existing and proposed well site;
 3. Where preliminary approval of a subdivision is requested, provision of at least one soil log per proposed lot, unless the health officer determines existing soils information allows fewer soil logs;
 4. Determination of the minimum lot size or minimum land area required for the development using Method I and/or Method II:
 - a. Method I. Table VIII, Single-Family Residence Minimum Lot Size or Minimum Land Area Required Per Unit Volume of Sewage, shows the minimum lot size required per single-family residence. For developments other than single-family residences, the minimum land areas shown are required for each unit volume of sewage. The health officer may require larger lot sizes where the health officer has identified nitrogen as a concern either through planning activities described in WCC 24.05.065 or another process.

Table VIII

Minimum Land Area Requirement, Single-Family Residence or Unit Volume of Sewage

<u>Type of Water Supply</u>	<u>Soil Type (defined by WCC 24.05.110)</u>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
<u>Public</u>	<u>0.5 acre</u>	<u>12,500 sq. ft.</u>	<u>15,000 sq. ft.</u>	<u>18,000 sq. ft.</u>	<u>20,000 sq. ft.</u>	<u>22,000 sq. ft.</u>
<u>Individual, on each lot</u>	<u>1 acre</u>	<u>1 acre</u>	<u>1 acre</u>	<u>1 acre</u>	<u>2 acres</u>	<u>2 acres</u>

b. Method II. A minimum land area proposal using Method II is acceptable only when the designer:

1. Justifies the proposal through a written analysis of the:
 - a. Soil type and depth;
 - b. Area drainage, and/or lot drainage;
 - c. Public health impact on ground and surface water quality;
 - d. Setbacks from property lines, water supplies, etc.;
 - e. Source of domestic water;
 - f. Topography, geology, and ground cover;
 - g. Climatic conditions;
 - h. Availability of public sewers;
 - i. Activity or land use, present, and anticipated;
 - j. Growth patterns;
 - k. Reserve areas for additional subsurface treatment and disposal;
 - l. Anticipated sewage volume;
 - m. Compliance with current planning and zoning requirements;
 - n. Possible use of alternative systems or designs including the use of systems designed for removal of nitrogen;
 - o. Existing encumbrances, such as listed in WCC 24.05.120(6)(7)(n) and 24.05.110 (B)(1)(g);
 - p. Estimated nitrogen loading from OSS effluent to existing ground and surface water; and
 - q. Any other information required by the health officer.
2. Shows development with public water supplies having:
 - a. At least 12,500 square feet lot sizes per single-family residence;
 - b. No more than 3.5 unit volumes of sewage per day per acre for developments other than single-family residences; and
 - c. Shows development with individual water supplies having at least one acre per unit volume of sewage; and

- d. Shows land area under surface water is not included in the minimum land area calculation; and
 - 5. Regardless of which method is used for determining required minimum lot sizes or minimum land area, submittal to the health officer of information consisting of field data, plans, and reports supporting a conclusion the land area provided is sufficient to:
 - a. Install conforming OSS;
 - b. Assure preservation of reserve areas for proposed and existing OSS;
 - c. Properly treat and dispose of the sewage; and
 - d. Minimize public health effects from the accumulation of contaminants in surface and ground water.
- C. The health officer shall require lot areas of 12,500 square feet or larger except when a person proposes:
- 1. OSS within the boundaries of a recognized sewer utility having a finalized assessment roll; or
 - 2. A planned unit development with:
 - a. A signed, notarized, and recorded deed covenant restricting any development of lots or parcels above the approved density with the density meeting the minimum land area requirements of subsection (B)(4) of this section;
 - b. A public entity responsible for operation and maintenance of the OSS, or a single individual owning the OSS;
 - c. Management requirements under WAC 246-272B when installing a LOSS; and
 - d. Extinguishment of the deed covenant and higher density development allowed only when the development connects to public sewers.
- D. The health officer may:
- 1. Allow inclusion of the area to the centerline of a road or street right-of-way in a Method II determination under WCC 24.05.220(B)(4)(b) to be included in the minimum land area calculation if:
 - a. The dedicated road or street rights-of-way are along the perimeter of the development;
 - b. The road or street rights-of-way are dedicated as part of the proposed development; and
 - c. Lots are at least 12,500 square feet in size;
 - 2. Require detailed plot plans and OSS designs prior to final approval of subdivision proposals;
 - 3. Require larger land areas or lot sizes to achieve public health protection;
 - 4. Prohibit development on individual lots within the boundaries of an approved subdivision if the proposed OSS design does not protect public health by meeting requirements of these regulations; and
 - 5. Permit the installation of an OSS, where the minimum land area requirements or lot sizes cannot be met, only when all of the following criteria are met:
 - a. The lot is registered as a legal lot of record created prior to the effective date this Chapter.
 - b. The lot is outside an area identified by the local plan developed under WCC 24.05.050 where minimum land area has been listed as a design parameter necessary for public health protection; and

- c. The proposed system meets all requirements of this chapter other than minimum land area.
- E. The use of a reduced-sized SSAS does not provide for a reduction in the minimum land area requirements. Site development incorporating reduced-sized SSAS must meet the minimum land area requirements established this Chapter.

24.05.220 Licensing.

- A. The applicant for a installer's license shall provide the following:
1. Application for an installer's license shall be made on forms provided by the health officer. Application fees shall be paid at the time of application.
 2. The health officer shall determine by written and/or oral examination the applicant's knowledge of public health problems involved in the treatment and dispersal of sewage and necessary standards of design, construction and installation. If the applicant does not receive a passing mark of 70 percent in any such examination, the applicant shall be denied a license.
 3. The installer's license shall expire on December 31. Fees are not prorated. The applicant shall apply for renewal on forms provided by the health officer.
 4. Three continuing education units shall be required every three years for license renewal. The applicant shall provide proof to the health officer that continuing education courses were attended either by the license holder or a designated qualified professional employee.
 5. Before the issuance of a installer's license, the applicant shall file with the health officer satisfactory evidence demonstrating that said installer is a registered contractor as provided by Chapter 18.27 RCW and has the required surety bond. In the event the installer's contractor registration shall lapse for any reason or the contractor's bond shall become impaired, then licensing by the health officer of said installer shall be suspended until the installer's registration as a contractor is reinstated and the contractor's bond is unimpaired.
 6. The health officer may suspend or revoke any installer's license if there has been a finding of incompetency, negligence, wilful misrepresentation, or failure to comply with this chapter or other applicable laws, rules and regulations. The installation of a sewage disposal system for which a permit has not been obtained shall be cause for the suspension or revocation of an installer's license.
 7. An installer whose license has been revoked shall be ineligible to reapply for recertification until 60 days have passed from the date of revocation of the certificate.
- B. The applicant for a pumper's license shall provide the following:
1. Application for a pumper's license shall be made on forms provided by the health officer. Application fees shall be paid at the time of application.
 2. The health officer shall determine by written and/or oral examination the applicant's knowledge of public health problems arising from the handling of sewage and the safe disposal of the cleanings of sewage disposal systems. If the applicant does not receive a passing mark of 70 percent, the applicant shall be denied a license.
 3. Before the issuance of a pumper's license, the applicant shall file with the WCHD a surety bond issued by a surety insurer in a form acceptable to the health officer running to WCHD. Said bond shall be conditioned that the applicant will pay all amounts that may be adjudged against applicant by reason of negligent or improper work or breach of contract. The bond shall be conditioned that the holder of the license and his or her agents in performing work shall exercise reasonable care and skill and comply with this chapter. The surety upon the bond shall not be liable in an aggregate amount in excess

of the amount named in the bond. The bond shall be kept in effect during the period of time for which the license is issued. In the event the bond is cancelled or any final judgment shall impair the liability of the surety upon the bond so furnished so that there shall not be in effect a bond undertaking in the full amount of \$2,000, the health officer shall suspend the license of such pumper until the full bond liability has been restored.

4. The applicant's equipment shall meet the requirements of subsections WCC 24.05.200 (B) (1) and (2) before a license may be issued.
 5. The pumper's license shall expire on December 31. Fees are not prorated. Application for renewal shall be made on forms provided by the health officer.
 6. The health officer may suspend or revoke any pumper's license if there has been finding of incompetency, negligence, wilful misrepresentation or failure to comply with this chapter or other applicable laws, rules and regulations.
 7. A pumper whose license has been revoked shall be ineligible to reapply for a license until 60 calendar days shall have passed from the date of this license revocation.
 8. Three continuing education units shall be required per every three years for license renewal. The applicant shall provide proof to the health officer that continuing education courses were attended either by the license holder or a designated qualified professional employee.
- C. The applicant for an operation and maintenance special license shall provide the following:
1. Application for a operation and maintenance specialist license shall be made on forms provided by the health officer. Application fees shall be paid at the time of application.
 2. The health officer shall determine by written and/or oral examination the applicant's knowledge of the operation and maintenance of on-site sewage systems. If the applicant does not receive a passing mark of 70 percent, the applicant shall be denied a license.
 3. The operation and maintenance specialist license shall expire on December 31. Fees are not prorated. The operation and maintenance license is not transferable. Application for renewal shall be made on forms provided by the health officer.
 4. The applicant must provide verifiable evidence of a minimum of two years' continuous experience in the OSS industry.
 5. Before the issuance of an operation and maintenance specialist license, the applicant shall file with the WCHD a surety bond issued by a surety insurer in a form acceptable to the health officer running to WCHD. Said bond shall be conditioned that the applicant will pay all amounts that may be adjudged against applicant by reason of negligent or improper work or breach of contract. The bond shall be conditioned that the holder of the license shall exercise reasonable care and skill and comply with this chapter. The surety upon the bond shall not be liable in an aggregate amount in excess of the amount named in the bond. The bond shall be kept in effect during the period of time for which the license is issued. In the event the bond is cancelled or any final judgment shall impair the liability of the surety upon the bond so furnished so that there shall not be in effect a bond undertaking in the full amount of \$2,000, the health officer shall suspend the license of such operation and maintenance specialist until the full bond liability has been furnished.
 6. Three continuing education units shall be required every three years for license renewal. The applicant shall provide proof to the health officer that continuing education courses were attended.

24.05.230 Waivers.

- A. The health officer may grant a waiver from specific requirements in this chapter if:
 - 1. The waiver request is evaluated by the health officer on an individual site-by-site basis.
 - 2. The health officer determines that the waiver is consistent with the standards in and the intent of this chapter.
 - 3. On a quarterly basis, the health officer will forward to the Department any approved or denied waivers for their records.

24.05.240 Enforcement.

- A. The health officer:
 - 1. Shall enforce Chapter 24.05;
 - 2. May refer cases within their jurisdiction to the prosecutor's office.
- B. When a person violates the provisions under Chapter 24.05, the health officer, or prosecutor's office, may initiate enforcement or disciplinary actions, or any other legal proceeding authorized by law, including but not limited to any one or a combination of the following:
 - 1. Informal administrative conferences, convened at the request of the health officer or owner, to explore facts and resolve problems;
 - 2. Orders directed to the owner and/or operator of the OSS and/or person causing or responsible for the violation of the rules of Chapter 24.05;
 - 3. Denial, suspension, modification, or revocation of permits, approvals, or certification; and
 - 4. Civil action as per 24.07 WCC or criminal action.
- C. Orders authorized under this section include the following:
 - 1. Orders requiring corrective measures necessary to effect compliance with Chapter 24.05 which may include a compliance schedule; and
 - 2. Orders to stop work and/or refrain from using any OSS or portion of the OSS or improvements to the OSS until all permits, certifications, and approvals required by rule or statute are obtained.
- D. Enforcement orders issued under this section shall:
 - 1. Be in writing;
 - 2. Name the person or persons to whom the order is directed;
 - 3. Briefly describe each action or inaction constituting a violation of the rules of Chapter 24.05;
 - 4. Specify any required corrective action, if applicable;
 - 5. Specify the effective date of the order and a period of 30 days for correction of the violation;
 - 6. Provide notice of the consequences of failure to comply or repeated violation, as appropriate. Such notices may include a statement that continued or repeated violation may subject the violator to:
 - a. Denial, suspension, or revocation of a permit approval, or certification if violations are not corrected within 90 days; and/or
 - b. Referral to the office of the county prosecutor; and/or
 - c. Other appropriate remedies;
 - 7. Provide the name, business address, and phone number of an appropriate staff person who may be contacted regarding an order.

- E. Enforcement orders shall be personally served in the manner of service of a summons in a civil action or in a manner showing proof of receipt.
- F. The health officer shall have cause to deny the application or reapplication for an operational permit or to revoke, suspend, or modify a required operational permit of any person who has:
 - 1. Failed or refused to comply with the provisions of Chapter 24.05, or any other statutory provision or rule regulating the operation of an OSS; or
 - 2. Obtained or attempted to obtain a permit or any other required certificate or approval by misrepresentation.
- G. For the purposes of subsection (F) of this section, a person is defined to include:
 - 1. Applicant;
 - 2. Re-applicant;
 - 3. Permit holder; or
 - 4. Any individual associated with subsection (G)(1), (2) or (3) of this section including, but not limited to:
 - a. Board members;
 - b. Officers;
 - c. Managers;
 - d. Partners;
 - e. Association members;
 - f. Agents;
 - g. Third persons acting with the knowledge of such persons.
- H. Should any person refuse to allow the health officer to enter onto property for the purpose of enforcing these rules and regulations, the health officer may, with the assistance of the prosecuting attorney, present an affidavit, naming the person so refusing, the property involved and the reason entry is necessary, to the Whatcom County District Court, from which an authorizing warrant may issue.
- I. Any violation of Chapter 24.05, or as amended, is a misdemeanor as defined by RCW 9A.04.040.
- J. The health officer shall have the right of entry to inspect any sewage disposal system.

24.05.250 Appeals.

An aggrieved party may appeal any permit decision, including approval, modification, waiver, decisions, denial, suspension or revocation in accordance with WCC 24.07.090, Hearing and appeals.

24.05.260 Severability.

If any provision of Chapter 24.05 or its application to any person or circumstances is held invalid, the remainder of Chapter 24.05, or the application of the provision to other persons or circumstances shall not be affected.

24.05.270 Fees.

Fees shall be set and renewed annually by the county council and posted in a fee schedule.