(Effective until April 1, 2025)

WAC 246-272A-0230 Design requirements—General. (1) 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, except:

(a) If at the discretion of the local health officer, a resident owner of a single-family residence not adjacent to a marine shoreline is allowed to design a system for that residence; or

(b) If the local health officer performs the soil and site evaluation, the health officer is allowed to design a system.

(2) The designer shall use the following criteria when developing a design for an OSS:

(a) All sewage from the building served is directed to the OSS;

(b) Sewage tanks have been reviewed and approved by the department;

(c) Drainage from the surface, footing drains, roof drains, subsurface stormwater infiltration systems, and other nonsewage drains is prevented from entering the OSS, the area where the OSS is located, and the reserve area;

(d) The OSS is designed to treat and disperse the sewage volume as follows:

(i) For single-family residences:

(A) The operating capacity is based on 45 gpd per capita with two people per bedroom.

(B) 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.

(C) A factor greater than 0.33 to account for surge capacity may be required by the local health officer.

(D) The local health officer may require an increase of the design flow for dwellings with anticipated greater flows, such as larger dwellings.

(E) The minimum design flow is two hundred forty gallons per day.

(ii) For other facilities, the design flows noted in "*On-site Wastewater Treatment Systems Manual*," USEPA, EPA-625/R-00/008, February 2002 (available upon request to the department) 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.

(e) The OSS is designed to address sewage quality as follows:

(i) For all systems, the designer shall consider:

(A) $CBOD_5$, TSS, and O&G;

(B) Other parameters that can adversely affect treatment anywhere along the treatment sequence. Examples include pH, temperature and dissolved oxygen;

(C) 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 WAC 246-272A-0015.

(D) Nitrogen contributions. Where nitrogen has been identified as a contaminant of concern by the local management plan required in WAC 246-272A-0015, it shall be addressed through lot size and/or treatment.

(ii) For OSS treating sewage from a nonresidential source, the designer shall provide the following information:

(A) Information to show the sewage is not industrial wastewater;

(B) Information regarding the sewage quality and identifying chemicals found in the sewage that are not found in sewage from a residential source; and

(C) A site-specific design providing the treatment level equal to that required of sewage from a residential source;

(f) 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.

(g) Treatment levels:

(i) Requirements for matching treatment component and method of distribution with soil conditions of the soil dispersal component are listed in Table VI. The treatment levels correspond with those established for treatment components under the product performance testing requirements in Table III of 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:

(A) Treatment levels A or B in Type 1 soils; or

(B) Treatment level C.

TABLE VI

Treatment Component Performance Levels and Method of Distribution[1]

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	E - pressure
≥36 < 60	B - pressure with timed dosing	E - pressure	E - gravity
≥60	C - pressure	E - gravity	E - gravity

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

(3) The coarsest textured soil within the vertical separation selected by the designer shall determine the minimum treatment level and method of distribution.

(4) The local health officer shall not approve designs for:

(a) Cesspools; or

(b) Seepage pits.

(5) The local health officer 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.

[Statutory Authority: RCW 43.20.050. WSR 05-15-119, § 246-272A-0230, filed 7/18/05, effective 7/1/07.]

(Effective April 1, 2025)

WAC 246-272A-0230 Design requirements—General. (1) OSS must only be designed by a professional engineer, licensed under chapter 18.43 RCW, or an OSS designer, licensed under chapter 18.210 RCW, except:

(a) If at the discretion of the local health officer, a resident owner of a single-family residence not within 200 feet of a marine shoreline is allowed to design an OSS for that residence; or

(b) If the local health officer performs the soil and site evaluation, the health officer may design the OSS.

(2) The designer shall use the following criteria when developing a design for an OSS:

(a) All sewage from the building served is directed to the OSS;

(b) Sewage tanks are in compliance with chapter 246-272C WAC;

(c) Drainage from the surface, footing drains, roof drains, subsurface stormwater infiltration systems, and other nonsewage drains is prevented from entering the OSS, the area where the OSS is located, and the reserve area;

(d) The OSS is designed to treat and disperse the sewage volume as follows:

(i) For single-family residences:

(A) The operating capacity is based on 45 gpd per capita with two people per bedroom;

(B) The minimum design flow per bedroom per day is the operating capacity of 90 gallons multiplied by 1.33 to account for a 33 percent surge capacity. This results in a minimum design flow of 120 gallons per bedroom per day;

(C) The local health officer may require a factor greater than 33 percent to account for surge capacity;

(D) The minimum design flow of the OSS is 240 gpd; and

(E) The local health officer may require an increase of the design flow for dwellings with anticipated greater flows, such as larger dwellings; or

(ii) For single-family residences with one additional dwelling served by the same OSS:

(A) All requirements in (d)(i) of this subsection apply;

(B) The minimum design flow for one additional dwelling is 120 gallons per bedroom; and

(C) The local health officer may require an increase of the design flow for dwellings with anticipated greater flows; or

(iii) For three or more dwellings served by the same OSS:

(A) All requirements in (d)(i) of this subsection apply;

(B) The minimum design flow for the first dwelling is 240 gallons per day;

(C) The minimum design flow for each additional dwelling is 120 gallons per bedroom;

(D) The local health officer may require an increase of the design flow for dwellings with anticipated greater flows; and

(E) The local health officer shall require documentation including, but not limited to, an easement, covenant, contract, or other legal document authorizing access for construction, operation, maintenance, and repair; or

(iv) For other facilities, the design flows noted in "*On-site Wastewater Treatment Systems Manual*," USEPA, EPA-625/R-00/008, February 2002 must 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;

(e) The OSS is designed to address sewage quality as follows:

(i) For all systems, the designer shall consider:

(A) $CBOD_5$, TSS, and O&G;

(B) Other parameters that can adversely affect treatment anywhere along the treatment component sequence. Examples include pH, temperature, and dissolved oxygen;

(C) 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 WAC 246-272A-0015; and

(D) Nitrogen contributions. Where nitrogen has been identified as a contaminant of concern by the local management plan required in WAC 246-272A-0015, it must be addressed through lot size, treatment, or both.

(ii) For OSS treating sewage from a nonresidential source, the designer shall provide the following information showing:

(A) The sewage is not industrial wastewater;

(B) The sewage effluent quality and identifying chemicals found in the sewage effluent are not found in sewage effluent from a residential source; and

(C) A site-specific design providing the necessary treatment equaling required treatment of sewage effluent quality from a residential source;

(f) The vertical separation used to establish the treatment levels and application rates. The selected vertical separation must be used consistently throughout the design process; and

(g) Treatment levels:

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

(ii) Disinfection may not be used:

(A) To achieve BL1 or BL2 in type 1 soils; or

(B) BL3.

Table VI
Treatment Component Performance Levels and Method of Distribution[1]

Vertical Separation in inches	Soil Type		
	1	2	3-6
12 < 18	A & BL1 - pressure with timed dosing	B & BL2 - pressure with timed dosing	B & BL2 - pressure with timed dosing
≥18 < 24	B & BL2 - pressure with timed dosing	C & BL3 - pressure with timed dosing	C & BL3 - pressure with timed dosing
≥24 < 36	B & BL2 - pressure with timed dosing	C & BL3 - pressure with timed dosing	E - pressure with timed dosing

Vertical Separation in inches	Soil Type		
	1	2	3-6
≥36 < 60	B & BL2 - pressure with timed dosing	E - pressure	E - gravity
≥60	C & BL2 - pressure	E - gravity	E - gravity

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

(3) The coarsest textured soil within the vertical separation selected by the designer determines the minimum treatment level and method of distribution.

(4) The local health officer shall not approve designs for:

(a) Cesspools; or

(b) Seepage pits.

(5) The local health officer 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.

[Statutory Authority: RCW 43.20.050(3), 43.20.065, chapters 70A.105 and 70A.110 RCW. WSR 24-06-046, § 246-272A-0230, filed 3/1/24, effective 4/1/25. Statutory Authority: RCW 43.20.050. WSR 05-15-119, § 246-272A-0230, filed 7/18/05, effective 7/1/07.]