

**Eastgate Environmental Health Services**

14350 SE Eastgate Way  
Bellevue, WA 98007-6458

**206-296-9791** Fax 206-296-9792  
TTY Relay: 711

**MEMORANDUM**

Effective April 15, 2019

**TO: On-Site Sewage System (OSS) Designers and King County Certified Installers and Maintainers**

**FROM:** Lynn Schneider, Supervisor, On-site Sewage Program

**RE: Accessory Dwelling Units (ADUs)**

The purpose of this memo is to outline and clarify the construction of, and potential impacts of ADUs to on-site sewage systems (OSS). We have had many discussions with on-site wastewater industry professionals to identify the potential impacts of ADUs on existing OSS. [Board of Health Code \(BOH\) Title 13, section 13.28.030.M](#), addresses accessory living quarters (residences without kitchens) and medical hardship cases but does not directly address ADUs.

We discussed the potential impacts of increased waste strength (BOD, TSS, and FOG) from two families using the OSS, especially the kitchen and clothes washers associated with ADUs on the existing OSS. We determined that designing an ADU, in combination with a single-family resident, using the multi-family criteria meets the requirements of BOH Title 13.

- **13.08.460 Single-family dwelling.** "Single-family dwelling" means a detached building designed exclusively for occupancy of one (1) family. (R&R No. 99-01 § 2 (part), 3-19-99: R&R No. 3 Part 1 § 5 (part), 12-19-86).

The design of the OSS for an ADU may be permitted using three different scenarios:

- The single-family dwelling and ADU use independent OSS, each designed for a single family dwelling – Two applications and fees, one for each OSS type.
- The single-family dwelling and ADU are served by one OSS designed using the multi-family criteria – One fee per the OSS type.
- The permitted single-family dwelling OSS is expanded to meet the multi-family criteria to accommodate the ADU – One fee per the OSS type.

Please note, the ability to construct an ADU on any given property should be discussed with the local building official before construction to verify zoning requirements.

For each ADU scenario identified above, the OSS must be designed to accommodate the additional bedroom(s) in the ADU. To be consistent with the requirements of BOH Table 13.28-5 governing Multiple Family Dwellings, the OSS must be designed to accommodate 75 gallons per person per day, or 150 gallons per bedroom, regardless of the number of bedrooms in the ADU. For example, if the ADU contains 4 total bedrooms, the total gallons per day would be 600, and for 5 bedrooms, 750, etc.

Under the waiver request process of BOH Chapter 13.12 to waive the three bedroom minimum requirement for a single-family dwelling, the OSS design for the ADU may be designed for a minimum of 2 bedrooms at 300 gallons per day.

- **Example 1:** With an existing 3-bedroom main residence wishing to add a 1 or 2-bedroom ADU, the OSS must be sized for 5 bedrooms at 150 gallons/day/bedroom or 750 total gallons/day.
- **Example 2:** With an existing 3-bedroom main residence adding a 3-bedrooms ADU, the OSS must be sized for 6 bedrooms at 150 gallons/day/bedroom or 900 total gallons/day.
- **Example 3:** With an existing 3-bedroom main residence utilizing an OSS designed for 4 bedrooms wishing to add a 1 or 2-bedroom ADU, the OSS must be sized for 5 bedrooms or 750 total gallons/day as long as the main residence remains at 3 bedrooms and the existing OSS meets the criteria specified below.

## Existing OSS:

For older OSS there are at least 3 options (Critical Areas Designation reviews are required under each option):

- Design a separate OSS for the ADU, leave the existing OSS serving the main residence as is after verifying that it is functioning properly, and design a conforming reserve area for the main residence.
- Design a new OSS to serve both the main residence and the ADU.
- Modify the existing OSS to meet current requirements. This is the most complex option as the existing OSS is not likely to meet minimum treatment levels, vertical separation, or sewage tank and drainfield sizing. If you or your client wish to explore this option, all of these issues must be fully addressed. Other issues that must also be addressed include the following evaluations:
  - Condition of the trenches, percentage of trench in use, trenches sealed, tile condition, etc.
  - Soil type, depth, and amount of vertical separation
  - Water level or biomat levels in the trenches
  - Anticipated remaining useful life of the OSS (based on the age of system and remaining unused trench length and sidewall)
  - Condition of the sewage tank(s)
  - Condition of the d-box
  - Provide the results of a stress test
  - Determination of any site restrictive features (seasonal/surface water, cuts/banks, stormwater features, wells, landscaping features including irrigation water lines, driveways, etc.)

For newer OSS that meet current vertical separation and treatment levels:

- Adding an ADU may consist of increased sewage tank and drainfield sizing, and verification of a conforming reserve area.
- Where vertical separation/Treatment Levels may not be met, it may be possible to retro-fit the system with a pre-treatment component.

## Bedrooms

In many recent detached or connected by breezeway ADU applications, the ADU consists of only one or two bedrooms. If the option is to design a separate OSS to serve these ADUs, the OSS may be designed for 2-bedrooms as a minimum standard. The design requirements are as follows:

- Design at 150 gallons per day per bedroom (300 gpd)
- Minimum sewage tank size is 1000 gallons
- Provide a District Waiver Request for designing the OSS for 2 bedrooms
- Provide floor plans for the ADU

- Provide a DRAFT recorded covenant specifying that the OSS is designed for a maximum of 2 bedrooms (you may modify the detached structure covenant found in our website)
- Design a conforming reserve area for the main house

## **Kitchen Definition**

**13.08.218 Kitchen or kitchen facility.** "Kitchen" or "kitchen facility" means an area within a building intended for the preparation and storage of food and **containing a sink.**

(R&R No. 08-03 § 43, 2008; R&R No. 99-01 § 2 (part), 3-19-99)

### **Drinking Water Issues Private Well**

Many of you know about the ADU served by a private well policy. ADUs are allowed to be connected to existing private wells. A separate well site application shall be used for those scenarios. The application form can be found in the drinking water section of our website. The issues to be addressed include well head protection (minimum horizontal setbacks to potential sources of contamination) including current recorded covenants, current water quality analyses, and satisfactory completion of a current 2-hour pump test.

## **Group A Water Systems**

Provide a current water availability letter from the purveyor.

## **Group B Water Systems**

An ADU is considered a second water system connection to the property. In very few cases are Group B water systems designed for ADUs. Some of the newer systems reviewed by the [Washington State Department of Health Drinking Water Program](#) (DOH) are specifically designed for ADUs and the final DOH water system designer approval letter will state that information.

For most systems, the property owner will need to contract with a professional engineer to verify if the system is a candidate for expansion. There may be issues related to water rights permits based on the system size, water quality, water quantity, or well head protection problems. These issues must be addressed and satisfied prior to the design of the OSS.

We strongly suggest that you contact this office with the name of the water system to discuss potential issues at the outset of the process.

## **Individual wells**

If the ADU is proposed for an existing property, [please use this application](#) to propose the potable water source for the ADU. If the property is new construction, the review of the individual well will be included in the Site Design package.