GRANT COUNTY HEALTH DISTRICT

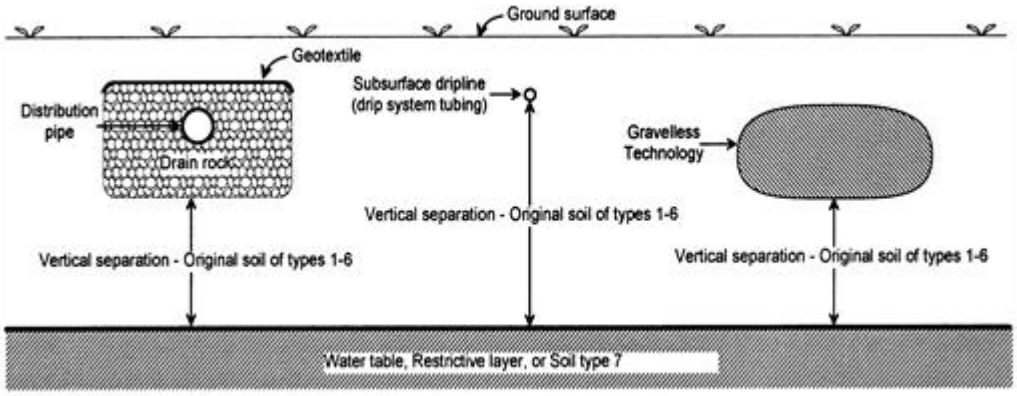
Onsite Septic Installer Study Guide

The intent of this study guide is for use in preparing for the installer exam.

Definitions to Know (adapted from WAC 246-272A)

- OSS – means on-site sewage system; commonly known as a septic system.
- Bed – means a soil dispersal component (drain field) consisting of an excavation with a width greater than three feet and less than or equal to ten feet wide.
- Drainrock – means clean washed gravel or crushed rock ranging in size from ¾ inch to 2 ½ inches. Gravel must be clean with no fines.
- Installer – means a person approved by GCHD to install on-site sewage systems or components.
- Record drawing or As-Built – means an accurate graphic and written record of the location and features of the OSS (septic system) that are needed to properly monitor, operate, locate and maintain that system.
- Reserve area – means an area of land approved for the installation of a conforming system that is protected and maintained for replacement of the OSS (septic system) upon its failure. Reserve area must meet all setback requirements.
- 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 type – means one of seven numbered classifications of soil described in GCHD septic ordinance.
- Subsurface drip system – means a pressurized wastewater distribution system that delivers small, precise doses of effluent (wastewater) to soil surrounding the drip distribution piping (dripline) that is installed underground. Installers must be experienced in the installation techniques of this type of system in order to install the subsurface drip system.
- 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, irrigation canals and tidal waters.
- Timed dosing – means delivery of discrete volumes of sewage at prescribed time intervals.
- Trench – means a soil dispersal component (drain field) consisting of an excavation with a width of three feet or less.
- Vertical separation – means the depth of unsaturated, original undisturbed soil of soil types 1-6 between the bottom of the infiltrative surface of a soil dispersal component

and the water table or restrictive layer such as basalt, hard caliche or very compacted silt type soil.



If there is a sand layer below the drain rock or gravelless product (chamber or EZ Flo), the sand layer does not count as part of the vertical separation since the sand is not original undisturbed soil.

Septic Tanks & Pump Tanks

- Washington State Department of Health (DOH) approves septic tanks and pump tanks. If you are substituting designer or engineer called out tanks, make sure the designer or engineer are OK with it and make sure the tank is on the DOH approved list.
- GCHD Septic Ordinance requires an effluent filter on the outflow of the septic tank and the filter handle must be brought up to within 6" of the septic tank lid.
- A riser or manhole shall be installed over the lid openings of septic tanks and pump chambers with a bolted lid extended to the level of final surface grade.
- A septic tank inlet baffle is required and must extend at least 8 inches downward below the liquid level and extends above the liquid surface at least to the crown of the inlet pipe.
- On pressurized systems a pump disconnect union access needs to be within 24" of the finished grade to allow easy removal of the pump.
- GCHD Septic Ordinance shall be used to size septic and pump tanks for residential projects.

Drain Field

Drain fields can be either:

- Trench
    - No more than 3' wide
    - Separation from edge to edge between active trenches shall be 4' minimum

    - A minimum of 2 inches of clean gravel, ¾" to 2 ½" diameter, above the distribution pipe is required (gravelless products, of course, do not require gravel)
    - Trench drain fields can be either gravity or pressure distribution design.
    - Backfill over the drain field shall not have rock particles greater than 6" in diameter
- Bed
    - No more than 10' wide
    - Can be installed only in soil types 1, 2, 3 and fine sand
    - Pressure distribution is required in bed drain fields
- Apply to both trench and bed
    - Soil dispersal unit (pipe & gravel or gravelless product) maximum depth from grade is 36". This is measured from the bottom of the dispersal unit.
    - A minimum of six (6) inches of sidewall must be located in original undisturbed soil.
    - Follow GCHD Septic Ordinance setback chart for details concerning horizontal separations.
    - A layer of between six and twenty-four (6-24) inches of cover material.

Drain Field Effluent Distribution

- Gravity distribution
    - Maximum trench length is 100'
    - Distribution box is required or if all laterals are on the same plane, they can be connected at the ends to form a continuous loop

Setbacks

- Know the setback chart in GCHD Septic Ordinance
- There can be modifications to setbacks; but they must be approved by GCHD. These modifications must be in the septic system design and approved by GCHD. Examples of modifications are: 75' setback from well to drain field, 2' setback from property line or building foundation and water line/sewer line crossing.

Septic System Installation

- Certified GCHD septic system installer must be always on site during construction.
- Unauthorized changes to the septic system design may void the installation start permit.
- Any changes to the septic system design must be approved by the designer/engineer and GCHD; this may require a revision application and fee.
- Certified GCHD septic system installer must be present during the final inspection.
- All septic system components must be uncovered for the final inspection.

- Pressure design systems require verification of drain field squirt height.
- Submit copies of the sand tickets and sieve report to the inspector for all drain fields that use ASTM C-33 sand.
- GCHD as-built record form must be completed and submitted to the inspector at the time of final inspection.
- Timed-dose pressure systems require verification of timer settings.
- Call the main GCHD office to schedule a final inspection at least 48 hours in advance.

Waivers

On Site Septic (OSS) designs may include a required waiver. The waiver has at least two parts, first the application form and second, the mitigation measures form. Identifying whether the design has a waiver requires simply reviewing the design and looking for the form and mitigation measures. Waivers may require an additional inspection by GCHD, contact the assigned inspector if you have questions about mitigation measures and inspection requirements.

Water Line/Sewer Line Crossing

- Sewer lines and septic components must be 10' away from any pressurized water supply line.
- Exceptions can be made when following WA Department of Ecology guidelines.

Additional Resources

- GCHD Ordinance 15-1: https://granthealth.org/wp-content/uploads/2016/01/Ordinance-15-1-Entire-Packet.pdf
- WAC 246-172A, Onsite Sewage Systems: https://app.leg.wa.gov/WAC/default.aspx?cite=246-272A
- WAC 246-272C, Onsite Sewage System Tanks: https://app.leg.wa.gov/wac/default.aspx?cite=246-272C