



# Northeast Tri County Health District Environmental Health Division

## On-Site Sewage System Construction and Specification Sheet Effective May 1, 2008

### General Notes:

1. Shoot elevation grades and stake drainfield location prior to excavating. Start from the drainfield towards the structure to determine exact elevation to set tank and stub-out for plumbing.
2. Roof and surface water runoff or discharge must be directed away from or down slope from the sewage disposal system by means of footing and/or foundation drains, or surface diversion ditches.
3. For all tight lines, pipe sections must be bedded with ASTM ratings turned up for easy viewing. At a minimum, 4" pipe shall be used. This pipe must meet or exceed ASTM standard 3034. If pipe other than ASTM 3034 is used, written verification of standards must be provided by the system designer.
4. All pipe joints must be watertight with no exceptions. It is recommended that the bells be on the upgrade side when possible.
5. All or any portions of the sewage disposal system must be inspected and approved before it is covered with soil, otherwise uncovering will be required for visual verification that standards have been met.

### Building Sewer (pipe from structure to the septic tank):

1. The grade on all parts of the building sewer must be 1/4" minimum fall per foot unless otherwise approved.
2. If the building sewer exceeds 100 feet in length, a clean-out must be installed at minimum 100-foot intervals. Two-way clean-outs are recommended.
3. If elbows or bends are used, they cannot be greater than a 45-degree angle, but a sweep 90 degree may be used if a cleanout is installed.
4. Any pipe crossing under a drive/parking or vehicular encroachment area must be buried 36" deep or bedded and encased in 5 or 6" Sch 40 PVC, steel, or concrete pipe, or other traffic rated culvert or piping. The casing must exceed the drive width.
5. The building sewer must have a watertight connection (sealed/grouted) to the inlet side of the tank.

### Septic Tank:

1. The septic tank must be set on undisturbed soil or by manufacturer's standards if other than a concrete tank is used.
2. All pipe connections to the tank must be watertight with proper slope.
3. Access to the tank for inspection and maintenance at finished grade is required. However, on gravity flow systems, the Health Officer may allow access for these tanks 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, or be other means approved by the Health Officer.
4. If an effluent filter is used, access to the filter at finished grade is required.
5. All pipe entering and exiting the tank must be bedded on compacted soil.

### Line from Septic Tank to Drainfield or Distribution Box (D-Box):

1. The pipes must be bedded with ASTM rating facing up and have glued/watertight joints.
2. The drop in the line from the septic tank to the drainfield or d-box must be a minimum of 2" or 1" per 100', whichever is greater.

3. Crossing of the line with domestic or irrigation lines is to be avoided. If necessary, such crossings must comply with the requirements of the Washington State Department of Ecology Criteria for Sewage Works Design.
4. Any pipe crossing under a drive/parking or vehicular encroachment area must be buried 36" deep or bedded and encased in 5 or 6" Sch 40 PVC, steel, or concrete pipe, or other traffic rated culvert or piping. The casing must exceed the drive width.
5. When using a distribution box, the pipe must have a watertight connection (sealed, grouted, or manufactured fittings.)

**Distribution Box (D-Box):**

1. The d-box must be set on a concrete slab 3" thick and 3" wider than the box on all sides, in undisturbed soil.
2. All unused outlets must be watertight.
3. The d-box must be a minimum of 5' from the beginning of the drainfield area, property lines, easement lines, and driveways.
4. A method must be utilized to ensure inlet flow is equally directed into all outlets. Typically, this is done by the installation of a 90-degree sweep installed on the inlet to direct the effluent to the floor of the box.
5. The d-box must be equipped with a riser and secured lid for access at grade.

**Drainfields, Absorption Beds, Sub-Surface Absorption Systems (SSAS):**

1. Drainfields must run perpendicular to the slope (across/right angles or 90 degrees) and may need to be contoured or curved to accomplish this.
2. THE TRENCH BOTTOM MUST BE LEVEL.
3. The required maximum installation depth identified in the design is critical. This maximum installation depth is measured from the upslope side of the trench. This is one of most common installation mistakes and results in system failing to pass inspection.
4. The ends of all perforated pipes must be capped.
5. Gravel used in drainfields must be clean, washed, and ¾" to 2 ½" in diameter.
6. The soil barrier over the drainfield must be filter fabric that is spun-bound (non-woven), free of any chemical treatment or coating which reduces permeability, inert to chemicals commonly found in soil, free of petroleum products, and have a fabric weight 3 to 4 ounces per square yards, or an apparent opening size (AOS) of 0.212 to 0.300 millimeters.
7. Drainfields and replacement area must be protected from encroachment or damage by vehicular and equipment traffic, livestock, heavy weights or objects, impervious coverings (asphalt or concrete), or anything that can obstruct aeration of the system.
8. No cutting or filling with soil is allowed in the drainfield area (replacement area included.) The drainfield must be in original undisturbed soil, otherwise permit may be void unless alternative suitable location is found.