INSTALLATION GUIDELINES FOR HOMEOWNERS

NOTE: OAR 340-071-0160 (1) No person shall cause or allow construction, alteration, or repair of a system, or any part thereof, without first applying for and obtaining a permit.

A sewage disposal system **must** be installed by either the owner of the property or a DEQ licensed, bonded sewage disposal system installer.

1. **Serial Distribution** is on *sloping ground* with a **slope of approx. 3% or more.** If the *ground is level,* (less than 3% slope), the system is **Equal Distribution.** See diagrams.

2. **Septic Tank**: must be from an approved manufacturer, a min. of 1000 gal., watertight with a watertight manhole riser diameter of 20 inches brought to grade with no more than 18 inches of soil cover. The site must be a stable, level base free of protruding rocks or sharp debris. If located in a high groundwater area, an anti-buoyancy device will be needed to prevent flotation. Stay 5 feet from any building or property line. Stay 50 feet from any well, spring, or surface water.

3. **Effluent Sewer Pipe (located between the septic tank and the distribution box)**: must be *at least 5 feet* of solid pipe with *a minimum two (2) inch fall* or 4 inches per 100 feet. There must be a 8 inch fall from the septic tank outlet and the invert of the header to the distribution pipe of the highest lateral. See approved material list.

4. **Drop Boxes**: must be watertight and corrosion resistant with at least a 2 inch sump and an outlet 2 inches below the inlet. The boxes must accommodate watertight connections. The box covers must be marked with a manufacture name or DEQ #. **Note**: Drop boxes have outlets to the next box that are the *same height* as the inlet.

5. **Header Pipe**: shall be watertight with a minimum diameter of 3 inches and be bedded on undisturbed earth. Header pipes *shall be at least 4 feet* in length.

6. **Disposal Trenches**: A minimum depth of 24 inches and 24 inches wide. There must be 8 feet of undisturbed soil between trenches. The bottom of the trenches *shall be level* within a tolerance of plus or minus one inch. Rake sidewalls of the trench to insure permeability- *sidewalls should not be smeared* or compacted. There shall be at least 6 inches of media under the distribution pipe and 2 inches of drain media over the distribution pipe. Cover the drain media with filter fabric or other approved material before backfilling. Note: A Pre-cover inspection is required before backfilling. There must be at least 12 inches of soil cover over the filter fabric. There is no minimum or maximum length, but lines shorter than 30 feet are not recommended. All disposal trenches must be at least 100' from any well, year round springs, creeks, rivers and ponds. **Note**: *Maximum depth of trench is specified on the permit.*

7. **As-Built Drawing**: submit a drawing with measurements of the drainfield to locate all parts of the septic system. Include setbacks from buildings, wells, or property lines.

Effluent Sewer Pipe

The effluent sewer pipe is the distribution pipe that extends from the septic tank or gravity discharge point of a sand filter to the distribution box at the beginning of the first absorption trench in the absorption field

- Minimum inside pipe diameter: **Three (3) inches. Four (4) inch diameter pipe is typically installed.**
- Pipe minimum fall or gradient: **Two (2) inches for pipe runs up to but not exceeding ninety-nine (99) feet.**
  Four (4) inches for each additional one-hundred feet of pipe run thereafter.

PIPE MATERIAL	TYPE	SPECIFICATION	JOINT
Cast Iron	Soil	CISPI 301-68T	No Hub Connector Lead Joint
ABS	Sch 40	ASTM F-628 ASTM D-2661 ASTM D-2751	Solvent Weld Solvent Weld Solvent Weld
PVC	Sch 40	ASTM D-2665 ASTM D-2672	Solvent Weld Solvent Weld
PVC	PSM	ASTM 3033 ASTM 3034	Solvent Weld or Gasket Solvent Weld or Gasket
PVC	PSP	ASTM 3033 ASTM 3034	Solvent Weld or Gasket Solvent Weld or Gasket

Note: A minimum elevation difference of eight (8) inches between the invert of the septic tank outlet and the invert of the solid header pipe extending from the distribution box to the perforated pipe in the first absorption trench is required.

Absorption Field Pipe

The distribution pipe and the perforated pipe that is found in the absorption field area of the septic system.

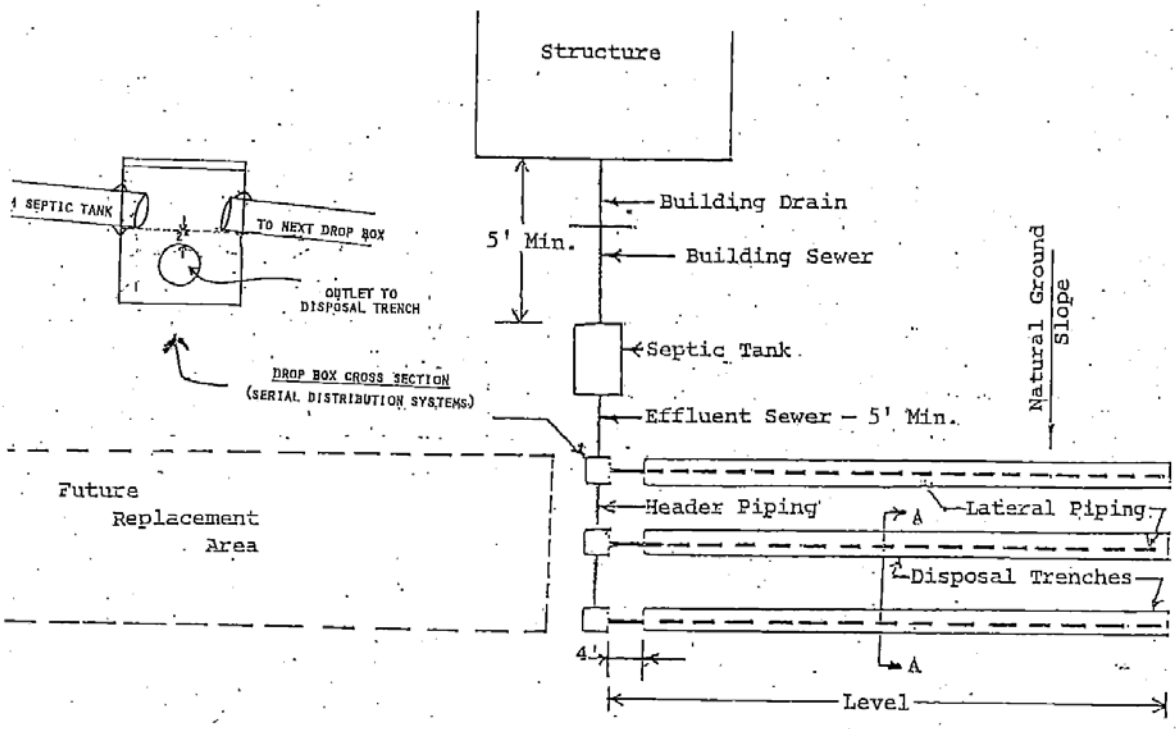
- Minimum inside pipe diameter: **Three (3) inches. Four (4) inch diameter pipe is typically installed.**
- Pipe minimum fall or gradient:
- From distribution box to absorption trench perforated pipe: **+/ - one (1) inch**
- Absorption trench perforated pipe: **+/ - one (1) inch**

Note: The perforated pipe in the absorption trench is required to have perforations that are one-half (1/2) inch diameter in size. The perforations must be separated by a minimum separation distance of five (5) inches and configured on the pipe in two (2) rows that are pointed downward and oriented sixty (60) degrees on either side of the pipe centerline.

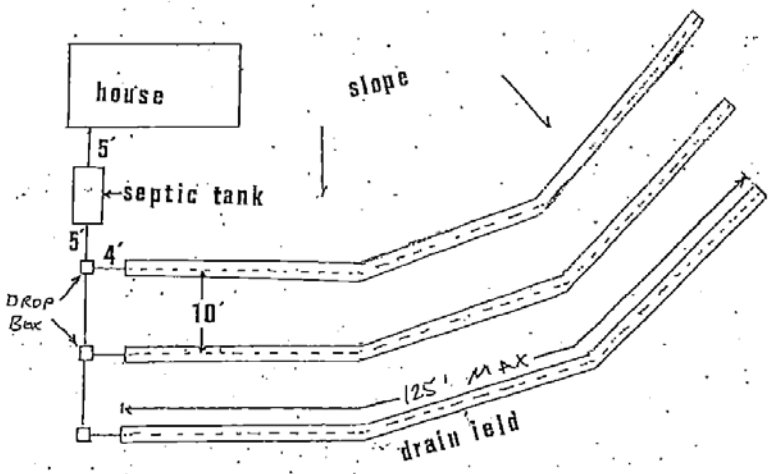
PIPE MATERIAL	LENGTH	SPECIFICAITON	CONFIGURAITON
Styrene Rubber	10’	ASTM D-2852	Solid Pipe Perforated Pipe
Polyethylene (Corrugated)	10’	ASTM F-405	Solid Pipe Perforated Pipe
Polyethylene (smooth)	10’	ASTM F-810	Solid Pipe Perforated Pipe
PVC	10’	ASTM D-2729	Solid Pipe Perforated Pipe

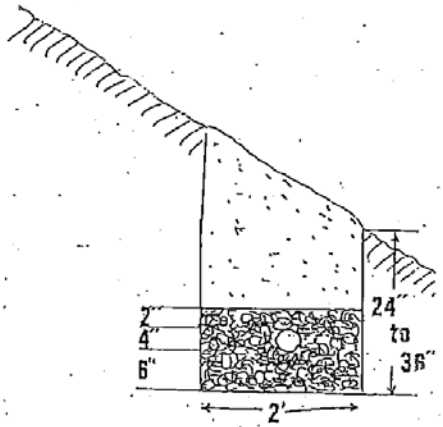
TYPICAL SERIAL DISTRIBUTION SYSTEM
(With Drop Boxes)

SLOPING GROUND



Laterals must be level from the outlet of each drop box to the end of each trench.



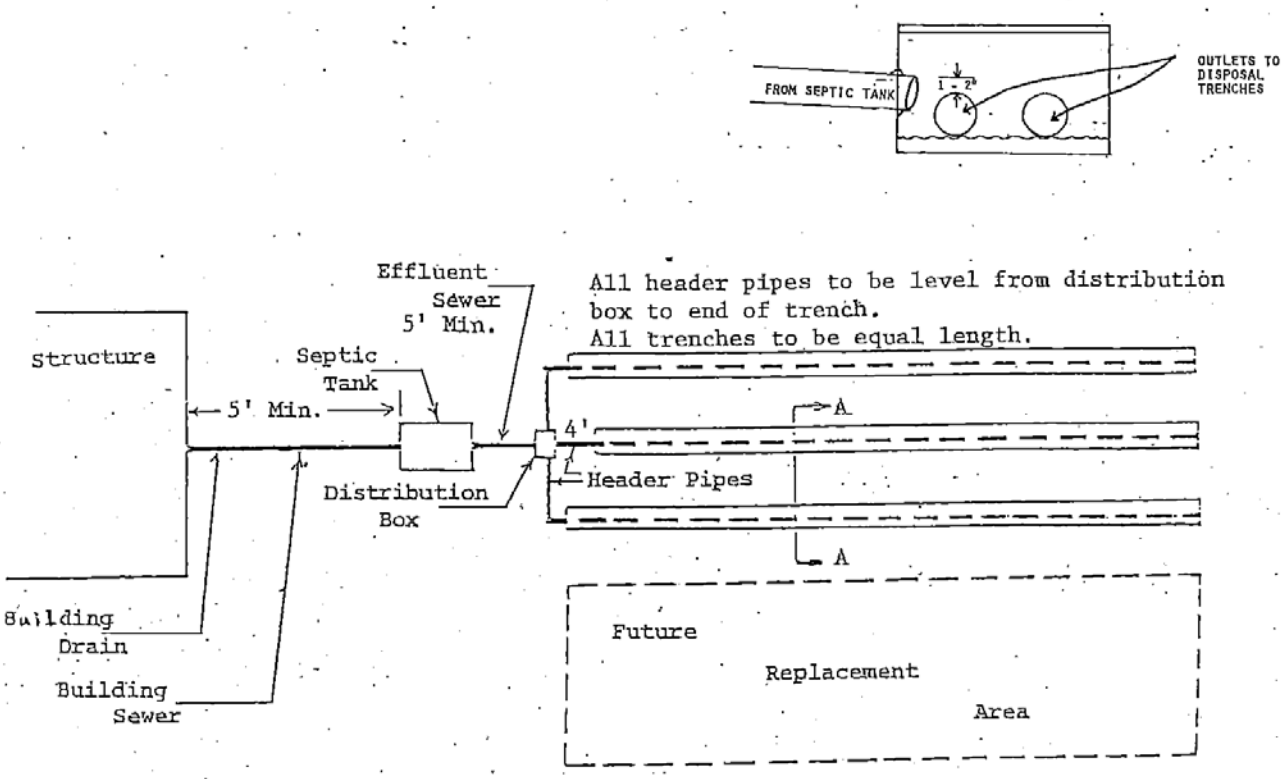


DRAINFIELD GRAVEL:

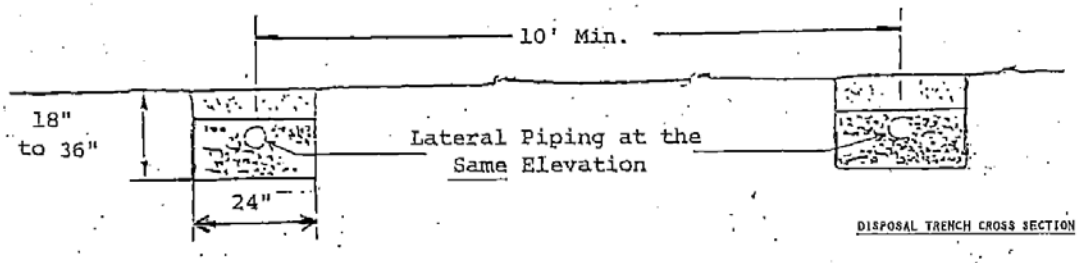
3/4" – 2½" WASHED RIVER ROCK
OR

TYPICAL EQUAL DISTRIBUTION SYSTEM
(With Distribution Box)

LEVEL GROUND



DISTRIBUTION BOX CROSS SECTION
(EQUAL DISTRIBUTION SYSTEMS)

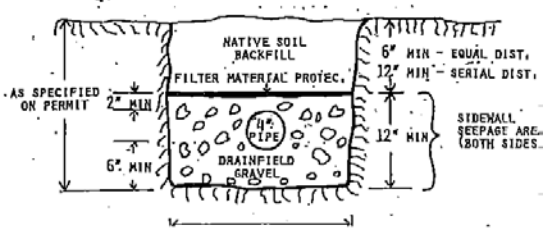


DISPOSAL TRENCH CROSS SECTION

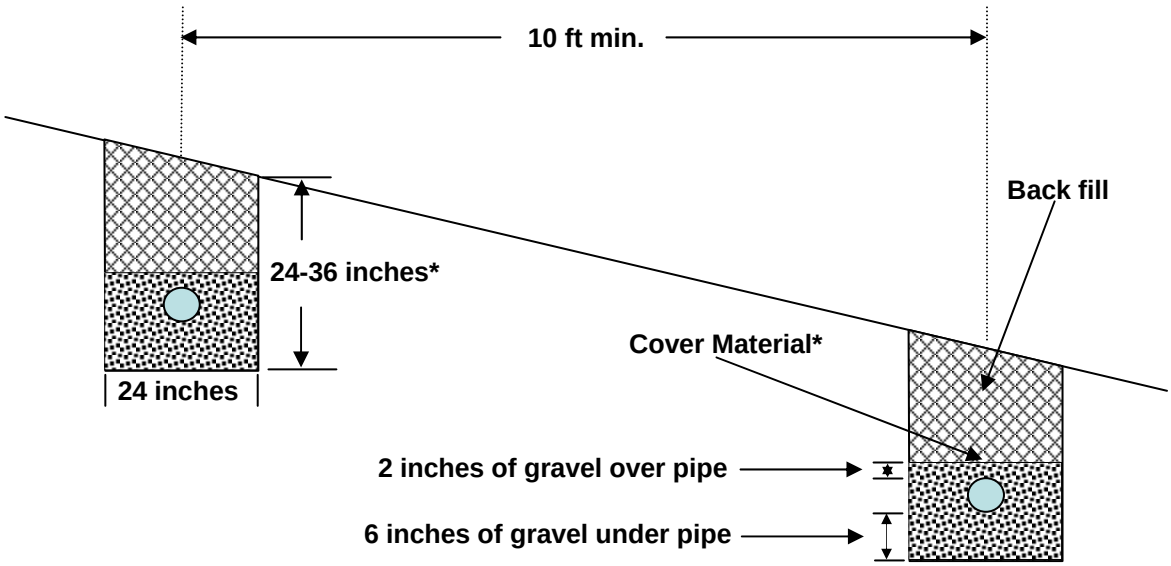
Section A - A

DRAINFIELD GRAVEL:

3/4" - 2½" WASHED RIVER ROCK
OR
1½" - 2½" WASHED CRUSHED ROCK

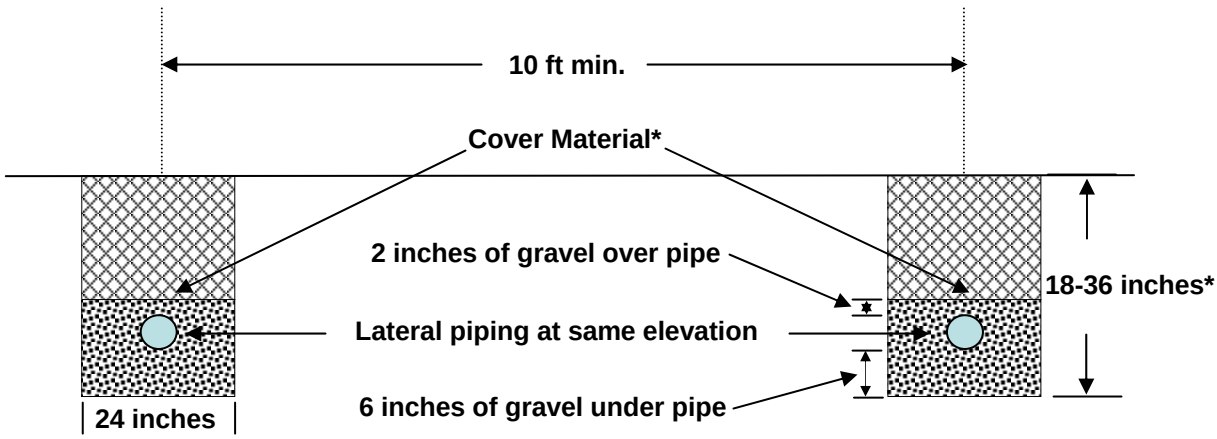


SERIAL DISTRIBUTION



** See permit conditions for trench depth and cover material specifications*

EQUAL DISTRIBUTION



** See permit conditions for trench depth and cover material specifications*

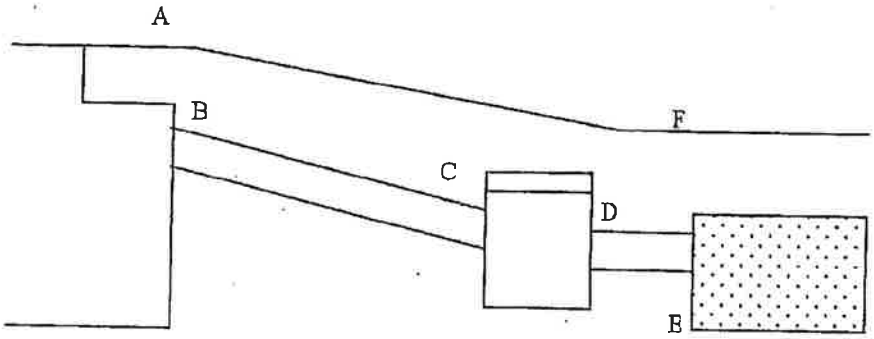
Example

Sample Elevation Profiles

(Not all possible configurations shown)

Submit an elevation profile along with your Application Plot Plan and Application System Plan. Below are several examples of elevation profiles and the required elevation readings. If your system requires a pump, a Float Settings Worksheet is also required.

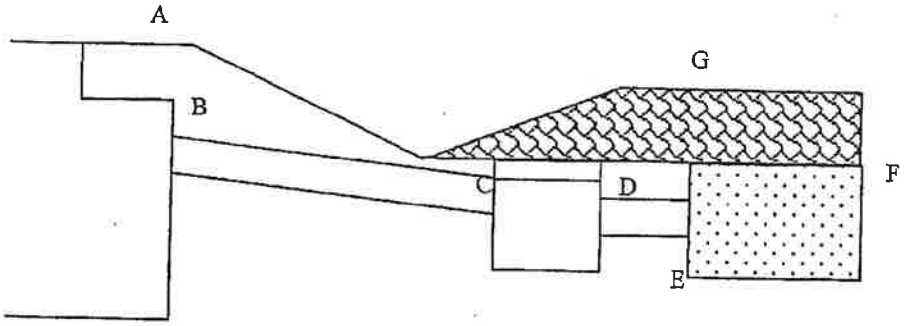
1. Standard Gravity System



Required Elevations

A – Ground surface above tank
B – Tank outlet
C – Inlet into box
D – Header pipe
E – Bottom of disposal trench
F – Ground surface above first disposal trench

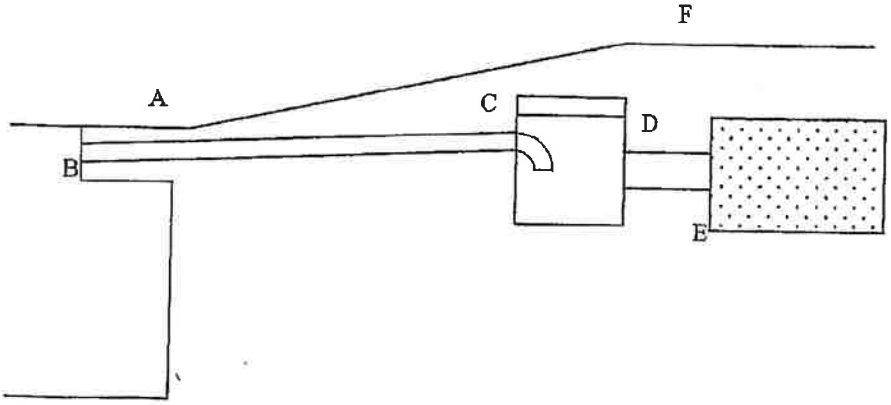
2. Capping Fill



Required Elevations

A – Ground surface above tank
B – Tank outlet
C – Inlet into box
D – Header pipe
E – Bottom of disposal trench
F – Original ground surface above first disposal trench
G – Ground surface after placement of cap

3. Standard Pump System



Required Elevations

A – Ground surface above tank
B – Pressure line outlet
C – Pressure line into box
D – Header pipe
E – Bottom of disposal trench
F – Ground surface above first disposal trench

PRE-COVER INSPECTION

REQUIREMENTS & CHECKLIST

The following items must be provided to complete the pre-cover inspection.
Prior to requesting the inspection, please check the following;

SEPTIC TANK WATER TEST is required. Fill the tank with water to two (2) inches into the manhole riser and watch for leaks or water drops. Check to assure tank is watertight. Seal/repair leaks, if found. **RETEST.**

"AS-BUILT" DRAWING must be at the job site or delivered to livered to this office prior to inspection. Failure to provide this complete drawing will delay completion of the job and may incure a ***$113.00 Re-inspection Fee***. Accurate measurements to the septic tank and the first drop box are required from two permanent points, for the record. If the "As-Built is left on the job, place it in a plastic bag, on the septic tank for the operator.

PUMP ASSEMBLES and pressure lines should be pre-tested by the contractor to determine if they are working properly and do not leak. Make any repairs, if necessary, prior to the inspection. **Power and water MUST be available to test the effluent pump.**

SYSTEM TESTING. Visually check the installation for completion prior to requesting an inspection. **Call (503) 623-9237 to set up an inspection**. Be sure to have the permit number available. Polk County will attempt to complete septic pre-cover inspections as soon as possible.

AS-BUILT PLAN OF CONSTRUCTED SYSTEM

POLK COUNTY ENVIRONMENTAL HEALTH
850 Main St., Dallas, OR 97338
Phone: (503)623-9237 Email: environmentalhealth@co.polk.or.us

Permit #_____T_____ R_____ S_____ TL_____ Owner_____
Site Address_____ Date_____

AS-BUILT PLAN OF CONSTRUCTED SYSTEM: scale 1" – 50'

NORTH

SYSTEM MATERIALS AND SPECIFICATIONS

Septic Tank: **Size:** _____ **Mat'l:**_____ **Mfg:** _____
[ ] one compartment [ ] two compartment

Dosing Tank: **Size:** _____ **Mat'l:**_____ **Mfg:** _____

Effluent Sewer: **Size:** _____ **Mat'l:**_____

Box (es): **[ ] Distribution [ ] Drop / [ ] Concrete [ ] Plastic Mfg:** _____

Drainfield Pipe: **[ ] EZ-Flow [ ] Chambers [ ] Rock and Pipe: Size**_____ **Mat'l:** _____
Rock Depth Total: _____ **Under pipe:** _____

Total Drainfield Footage: _____ **Header Pipe Mat'l:** _____

Trench Depth: **Minimum:** _____ **Maximum:** _____ **Curtain Drain Depth:** _____

Effluent Pump: **Pump Model:** _____ **Static Head in System:** _____**ft.**
Pump Cycle Time: _____ **Gallons per Cycle:** _____

Additional info: **[ ] Hydrosplitter [ ] Gravel-less [ ] ATT / Model:** _____ **[ ] Capping Fill / Depth:** _____

Attach an additional sheet for components and materials not listed above.

INSTALLERS CERTIFICATION

I HEREBY CERTIFY THAT THE ON-SITE SEWAGE SYSTEM INSTALLED AT THE ABOVE ADDRESS WAS CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT AND THE RULES OF THE ENVIRONMENTAL QUALITY COMMISSION.

[ ] I HAVE TESTED THE SEPTIC TANK AND CERTIFY IT TO BE WATERTIGHT

THE SYSTEM WAS INSTALLED BY:
[ ] PROPERTY OWNER (permittee)
[ ] LICENSED SEWAGE DISPOSAL SERVICE

Signed: _____

Company Name: _____
(Please print)

Date: _____**DEQ#**_____

(for Polk County use only)

The above septic system has been inspected by Polk County. The information has been determined to be accurate and the system is:
[ ] Approved
[ ] Approved with corrections: (see inspection report)
[ ] Denied

Signed: _____ **Title:** _____ **Date:** _____