



Prevent • Promote • Protect

Environmental Health Division

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Conventional (Non-Engineered) On-site Wastewater Treatment System (OWTS) Design Worksheet

Property Address: _____ City and Zip: _____

Number of bedrooms: _____ Wastewater Design Flow (Table 6-1) _____

Work will be done by: Owner Licensed Installer _____

Note: - Homeowner installation requires the individual installing the system be the listed as the individual on the permit.

Water source:

Well Municipal Cistern

*Note: - Wells must be located 50' from septic tank and 100' from STA.
- The well must be installed and verified before final signoff will occur.
- An additional trip fee will be charged if EPCPH must return to verify the well location.*

Soil Report:

*Note: Report **MUST** stamped by Professional Engineer*

Soil Type: _____ LTAR: _____

Note: - Most limiting layer found within the 4' below the intended infiltrative surface of either profile pit must be used.

Was a limiting layer of Bedrock or Groundwater found within 8 feet? Yes No

Groundwater found at _____ inches. Bedrock found at _____ inches.

Septic Tank Requirements

Septic Tank Material: Concrete Plastic

Tank Size (Table 9-1): _____ Pump Tank size (if applicable): _____

*Note: - Inlet side must have a sanitary "T" that extends 5" above and 8" below inlet or a baffle.
- Tank must have risers to grade and outlet side must have an effluent filter.*

Clean outs

Distance from structure to clean out: _____ (no further than 5' from structure)

Note: - There must also be a cleanout at least every 100' from structure to the septic tank

Proposed Soil Treatment Area (STA):

What is the installation depth range for the STA? _____ inches.

Depth of limiting layer: _____ inches.

Must maintain appropriate separation

- | | | |
|----------------------------|--|--|
| Application of wastewater: | <input type="checkbox"/> Gravity | <input type="checkbox"/> Pump-to-gravity |
| Distribution Layout: | <input type="checkbox"/> Trench(s) | <input type="checkbox"/> Bed |
| Distribution Media: | <input type="checkbox"/> Chambers | <input type="checkbox"/> Rock and Pipe |
| Distribution Type: | <input type="checkbox"/> Distribution box | <input type="checkbox"/> Serial distribution |
| Diverter Valve: | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Inspection Ports: | <input type="checkbox"/> Beginning & End of trenches | <input type="checkbox"/> 4 corners of each bed |

Calculate the size of the STA:

Soil Treatment Area in square feet required = $\frac{\text{Design Flow (in gallons per day)}}{\text{LTAR (in gallons per day per square foot)}}$

Soil Treatment area X (Reduction from table 10-2) X (Reduction from table 10-3) = Final STA size

Design Flow: _____ GPD, LTAR: _____
 Reductions: Table 10-2: _____ Table 10-3: _____

Show calculations here:

*Sample calculation: 3-bedroom home: 450gpd, LTAR 0.8, gravity fed (1.0) chambers in trenches (0.7) system: 450 / 0.8 = 562.5 Sq Ft * 1.0 = 562.5 Sq ft * 0.7 = 394 (393.75 rounds up to 394) Sq ft*

_____ / _____ = _____ Sq Ft * _____ = _____ Sq ft * _____ = _____ Sq ft

For Chamber systems:

**Note: total area is calculated by number of chambers and sq ft per chamber allotted.*

Chambers: Quick4 (12 ft²) Arc36 (15 ft²) Total Chambers: _____ Total ft²: _____

For Rock and Pipe Systems:

Depth of Rock (under pipe): _____ Depth of Rock (over pipe): _____
 Width of each trench/bed: _____ Total Pipe Length: _____
 Total ft²: _____ Type of Cover on Rock: _____

Design Document

A legible drawing *shall* be provided with each permit application (see attached example design documents):

- Must be minimum 8.5"x11" and show then entire property boundary.
 - The document must display a site plan with the whole property shown including all general notes below. A second or additional page can be added to display the necessary details of all components.
- Reference locations including street names, building structures, and any other permanent physical features.
- Layout of the entire OWTS and all components from structure to soil treatment area
 - To include dimensions of trenches or beds, distribution method and equipment (including clean outs, distribution boxes, drop boxes, valves, or other components used.)
- A legible drawing showing location of each OWTS component and distances to all applicable physical features, on both the subject and adjacent properties requiring setbacks (Table 7-1).
- Elevation or depth of infiltrative surface of the soil treatment area, the septic tank invert, and all other components of the OWTS.
 - This must be in the form of an STA cross section.
- Location of the soil profile test pit excavations. (Must also be clearly marked on site).
- Location of the alternate STA site.
- North direction arrow.
- Contours, OR slope direction and % slope.
- Location of proposed well or existing well.

Note: It is recommended that the design document is completed by a professional in the OWTS industry. EPCPH does not complete or alter design documents. Contact EPCPH with any questions.

Check list for submittal (initial each section):

Completed application page
Completed calculation sheet

Soil report (PE stamped)
Design document