

STATE OF COLORADO

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Clarification for Determining the Number of Chamber Units in OWTS Design under Regulation 43

Since the recent implementation of local regulations which comply with Regulation 43, the Water Quality Control Division has received several inquiries regarding the use of chamber units within an OWTS and how to calculate the number of chambers required.

Section 43.13(E)(1)(d) of Regulation 43 generally states: If the width of the chamber unit is within 90% of the width of the excavation, the area may be approved for the equivalent width of the excavation. Thus:

- If a chamber is 4' long x 33"-36" wide, the equivalent size is calculated at 12.0 Sq.Ft./Chamber in a 36-inch wide trench (i.e., $33/36 = 92\%$). Thus a chamber 33" – 36" wide, placed in a 36" wide trench is given credit for the entire 36" of trench width. Note that if a chamber is 5' long and 33" – 36" wide and placed in a 36" wide excavation, the equivalent size is 15.0 Sq.Ft./Chamber.
- The equivalent area is similar for a "Bed" installation. If the excavation is 12' wide (144") and four 33" wide chamber units are placed side-by-side across the width of the excavation, the site would receive credit for the entire 12' width of the excavation (i.e., $4 \times 33" = 132" / 144" = 92\%$).

This sizing principle replaces the various calculations for each specific chamber model such as 11.55, 9.87, 10.00, etc. Do not use them.

System sizing example. 3-bedroom home, gravity trench, Soil Type 2, using 33" x 48" chambers in 36" wide trench excavation:

- 3 Bedroom Home: (3 rooms x 150 gal per room) = 450 gpd
- Table 10.1: The LTAR for a Soil Type 2 and TL1 = 0.6 gpd/Sq.Ft.
 - $450 / 0.6 = 750$ Sq.Ft.
- Table 10.2: The Size Adjustment Factor for a "Gravity Trench" system = 1.0
 - $450 / 0.6 = 750$ Sq.Ft. x **1.0** = 750 Sq.Ft.
- Table 10.3: The Size Adjustment Factor for "Chambers" = 0.7
 - $450 / 0.6 = 750$ Sq.Ft. x 1.0 = 750 Sq.Ft. x **0.7** = 525 Sq.Ft. of Soil Treatment Area (STA)
- Number of Chambers Required: 525 Sq.Ft. / 12 Sq.Ft. per chamber = 43.75 (Use 44 chambers)

For additional information contact:

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