



Municipality of Anchorage Development Services Department

Building Safety Division
On-Site Water and Wastewater Program
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Typical Bed Requirements and Specifications AMC 15.65

PERMITTING

A permit must be obtained from the Municipality of Anchorage, Development Services Department to modify, upgrade or install an on-site wastewater disposal system.

TWO INSPECTIONS ARE REQUIRED BY A REGISTERED CIVIL ENGINEER

- 1- When all excavating is completed.
- 2- When the septic tank is installed and the system is ready to be backfilled.

SEPTIC TANK REQUIREMENTS

- 1- Municipality of Anchorage approved, two compartments -- installed level, with a minimum volume of 1000 gallons plus 250 gallons for each bedroom over 3.
- 2- Watertight couplings on inlet and outlet.
- 3- Manholes must be equipped with watertight gaskets.
- 4- Five feet minimum undisturbed soil between the tank and trench, and the tank and foundation.
- 5- Tank must be insulated if buried four feet or less.
- 6- Tank and solid pipe must be set on well-compacted, stable soil.
- 7- Four inch diameter cleanouts with airtight caps are required:
 - a. One to four feet from foundation wall
 - b. Prior to any pre-tank ninety degree bends in 4 inch line
 - c. In each tank compartment
 - d. Two adjacent opposing cleanouts between the tank and the absorption field not more than 10 feet from the tank positioned to provide cleanout access towards the tank and towards the absorption field.
- 8- All cleanouts must extend to at least ground level.
- 9- In solid pipe runs, ASTM D-3034 may be used in lieu of cast iron.
- 10- Tank must be cleaned and pumped at least once every two years or inspected to determine the need for cleaning and pumping at least once each year.
- 11- Tank must be installed at a site accessible year-round to a pumping truck. The access site for the pump truck must not be further than 100 feet from the tank at an elevation not more than 11 feet higher than the bottom of the tank.

SUBSURFACE DISPOSAL FIELD

- 1- Bed must be installed parallel to the slope contour.

- 2- Bed not to be installed on a slope greater than 10%.
- 3- Single bed length shall not exceed 100 feet.
- 4- Bed width shall not exceed 15 feet.
- 5- There must be a minimum of 24 inches of unsaturated accepting soil below the bed bottom.
- 6- Gravel depth over perforated pipe must be 2 inches minimum.
- 7- Gravel must be ½ inch to 2-½ inch screened.
- 8- Bed bottom must be level throughout.
- 9- Gravel must be distributed uniformly throughout the bed.
- 10- Perforated pipe must be installed level with perforations down.
- 11- Silt barrier material must be installed above the final gravel layer and below the native soil backfill. Insulation material will serve as a silt barrier.
- 12- Smear bed bottom must be raked or scarified before gravel placement.
- 13- Insulation must be installed when backfill depth is less than 36 inches.
- 14- Backfill after final gravel layer must not be less than 24 inches.
- 15- The finish grade over the bed must be mounded to prevent the formation of a depression after settling.
- 16- A bed may not be installed in soil having a percolation rate faster than 1 minute per inch without a sieve analysis showing 51% or more passing a #4 sieve.
- 17- Insulation must be placed over any pipe installed under driveways or parking areas.
- 18- Only the bottom area of the bed may be considered in determining the absorption area.
- 19- There must be a minimum of 4 feet of vertical separation between the bottom of the trench and the seasonally high groundwater table.
- 20- There must be a minimum of 6 feet of vertical separation between the bottom of the trench and any impermeable barrier such as bedrock, fractured or weathered bedrock, clay or other material with a percolation rate greater than 120 minutes per inch.

SETBACK REQUIREMENTS

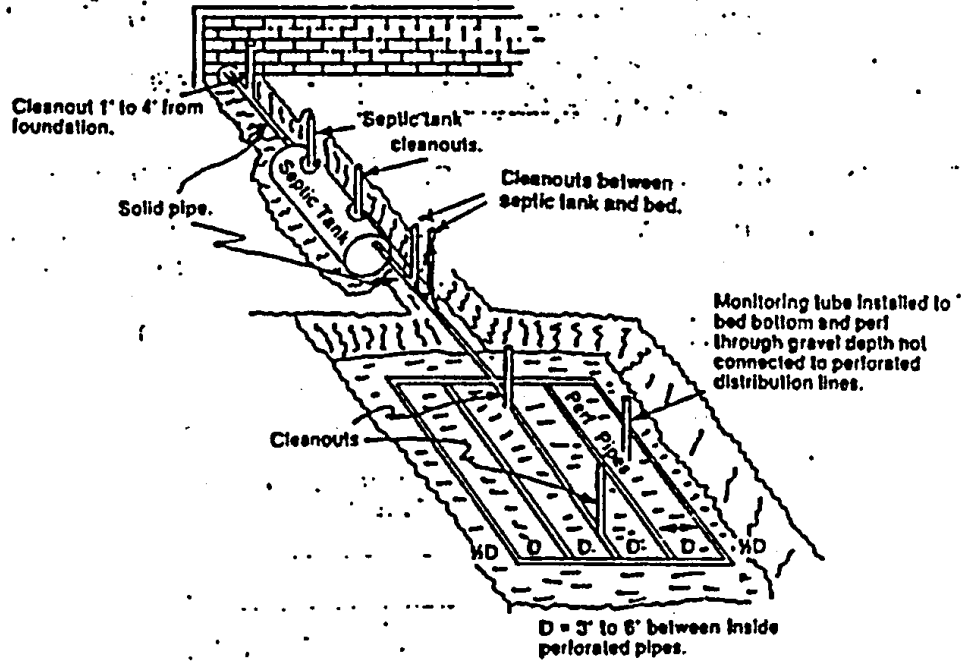
Septic tank to:

- A. Property line or foundation – 5 feet.
- B. Water main or service line – 10 feet
- C. Any surface water, major drainage, or single family water supply well – 100 feet
- D. Class A or B water supply well – 200 feet
- E. Class C water supply well – 150 feet

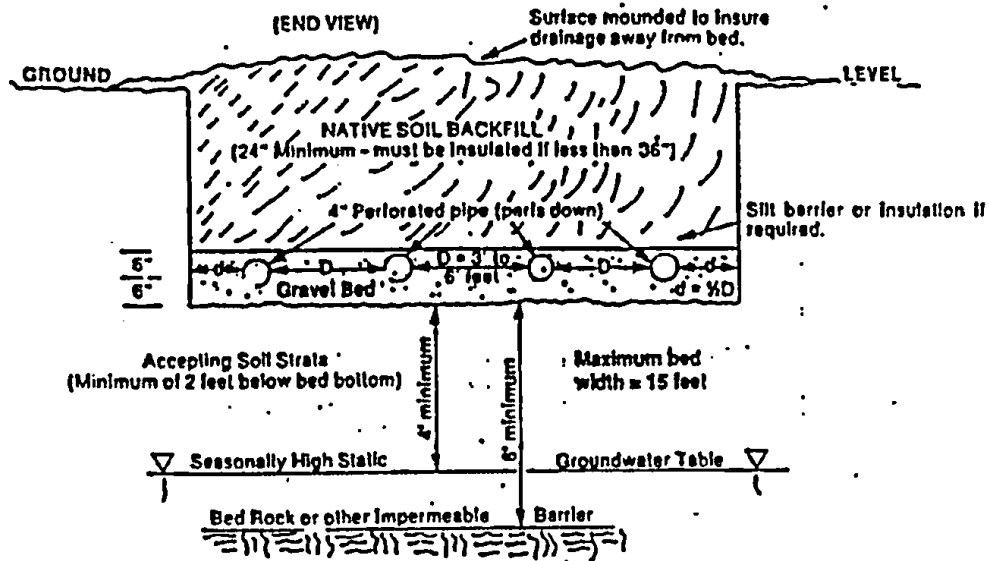
Subsurface disposal field to:

- A. Septic tank – 5 feet
- B. Property line – 10 feet
- C. Water main or service line – 10 feet
- D. Any building or structure foundation – 10 feet
- E. Uphill from any cut bank or change in slope to 25% or more – 50 feet
- F. Uphill from a curtain drain – 50 feet
- G. Downhill from a curtain drain – 20 feet
- H. Twice the gravel depth below the perforated pipe or 10 feet, whichever is the greater, from any existing or abandoned subsurface disposal field.

TYPICAL BED INSTALLATION



TYPICAL BED DESIGN



SAMPLE BED CALCULATIONS

Procedure: $\frac{\text{Number of Bedrooms} \times 150}{\text{Application Rate (GPD/Sq. Ft. from Table 1)}} = \text{Absorption Area}$
 $\frac{\text{Absorption Area}}{15' \text{ (width)}} = \text{Bed Length}$

Example: 4 Bedrooms Soil Perc Rate = 20 Min./Inch
 From Table 1 Absorption Rate = 0.4 GPD/Sq. Ft.
 Required Absorption Area = 1500 Sq. Ft.

$\frac{1500 \text{ Sq. Ft.}}{15' \text{ Wide}} = 100' \text{ Bed Length}$

TABLE 1
 WATER APPLICATION RATES
 FOR DISPOSAL FIELDS
 (GPD/SF)

PERC. RATE MIN/INCH	BED	
	GPD/SF (SF/BED)	AREA (SF) by #/Bed
0 - 1	N/A	
1 - 5	0.8 (188)	1 = 188
		2 = 375
		3 = 563
		4 = 750
		5 = 938
6 - 15	0.5 (300)	1 = 300
		2 = 600
		3 = 900
		4 = 1,200
		5 = 1,500
16 - 30	0.4 (375)	1 = 375
		2 = 750
		3 = 1,125
		4 = 1,500
		5 = 1,875
31 - 60	0.3 (500)	1 = 500
		2 = 1,000
		3 = 1,500
		4 = 2,000
		5 = 2,500
> 60	N/A	
FILTER MATERIAL	0.7 (215)	1 = 215 2 = 429 3 = 643 4 = 858 5 = 1,072