15.242: LTAR - Effluent Loading Rates

(1) The effluent loading rates set forth below are adjusted to account for the long term acceptance rate (LTAR) of the proposed soil absorption system. The LTAR is limited in large part by both the texture of the most hydraulically restrictive soil layer included within the four-foot zone beneath the proposed soil absorption system and the formation of a biomat based on the strength of effluent applied to the soil. As such the effluent loading rates have been based on the strength of typical settled sanitary sewage and may be adjusted proportionately downward if the proposed effluent strength is determined by the local approving authority or the Department to exceed that of typical sanitary sewage. Soil textural classes and soil types comprising the classes are defined in 310 CMR 15.243 and 310 CMR 15.244.

EFFLUENT LOADING RATE gpd/sq.ft (cm/day)

PERC. RATE (min./inch)	SOIL CLASS CLASS I	CLASS II	CLASS III	CLASS IV
≤5	.74 (3.0)	0.60 (2.5)	-	-
6	0.70 (2.9)	0.60 (2.5)	-	-
7	0.68 (2.8)	0.60 (2.5)	-	-
8	0.66 (2.7)	0.60 (2.5)	-	-
10	-	0.60 (2.5)	-	-
15	-	0.56 (2.3)	0.37 (1.5)	-
20	-	0.53 (2.2)	0.34 (1.4)	-
25	-	0.40 (1.6)	0.33 (1.3)	-
30	-	0.33 (1.3)	0.29 (1.2)	-
40	-	-	0.25 (1.0)	-
50	-	-	0.20 (0.8)	0.20 (0.8)
60	-	-	0.15 (0.6)	0.15 (0.6)

(2) The effluent loading rates set forth below may be used in place of those listed above at 310 CMR 15.242(1) when the effluent from a septic tank, installed in compliance with 310 CMR 15.223, is distributed over the soil absorption system using pressure distribution designed in compliance with 310 CMR 15.254(2).

SEPTIC TANK EFFLUENT LOADING RATE WITH PRESSURE DISTRIBUTION gpd/sq.ft (cm/day)

PERC. RATE (min./inch)	SOIL CLASS CLASS I	CLASS II	CLASS III	CLASS IV
40	-	-	0.29 (1.2)	
50	-	-	0.25 (1.0)	0.25 (1.0)
60	-	-	0.20 (0.8)	0.20 (0.8)

15.243: Types of Soil Textural Classes

(1) The following soil textural classes apply to soil types of which they are composed:

CLASS I	Sands, Loamy Sands
CLASS II	Sandy Loams, Loams
CLASS III	Silt Loams, Sandy Clay Loams with less than 27% clay, Silt
CLASS IV	Clays, Silty Clay Loams, Sandy Clay Loams with 27% or more clay, Clay Loams and Silty Clays

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15.245: Soil Absorption System Siting Requirements

(1) New systems shall not be sited in areas with percolation rates slower than 60 minutes per inch.

(2) When recorded percolation rates are between those listed in 310 CMR 15.242(2), the next slower rate shall be used for design purposes.

(3) Soils with percolation rates in excess of 60 minutes per inch are impermeable and shall not be used for the construction of a soil absorption system except in conjunction with a tight tank approved by the Department pursuant to 310 CMR 15.260 and 15.261.

(4) Surface and subsurface drainage shall be directed away from the soil absorption system.

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15.249: Design Criteria for Soil Absorption Systems

(1) Every soil absorption system shall consist of one or more trenches, beds, fields, pits, galleries or chambers.

(2) Effluent disposal area requirements shall be determined in accordance with 310 CMR 15.242.

(3) System designs employing equipment designed to distribute effluent without the use of aggregate (i.e., “gravelless systems”) are prohibited except in accordance with the procedures set forth at 310 CMR 15.280 through 15.289.

(4) Soil absorption systems for Class III and IV soils with percolation rate greater than 30 minutes per inch shall not include beds or fields except in accordance with 310 CMR 15.255.

NOTE TO SECRETARY OF STATE: SECTION 15.417 IS PROPOSED TO BE DELETED IN ENTIRETY.