

Figure: 30 TAC §317.2(c)(2)

Size of Pipe In Inches I.D.	Minimum Slope In Percent	Maximum Slope In Percent
6	0.50	12.35
8	0.33	8.40
10	0.25	6.23
12	0.20	4.88
15	0.15	3.62
18	0.11	2.83
21	0.09	2.30
24	0.08	1.93
27	0.06	1.65
30	0.055	1.43
33	0.05	1.26
36	0.045	1.12
39	0.04	1.01
>39	*	*

** For lines larger than 39 inches in diameter, the slope may be determined by Manning's formula (as shown below) to maintain a minimum velocity greater than 2.0 feet per second when flowing full and a maximum velocity less than 10 feet per second when flowing full.

$$V = \frac{1.49}{n} \times R_h^{0.67} \times \sqrt{S}$$

V = velocity (ft/sec)

n = Manning's roughness coefficient (0.013)

R_h = hydraulic radius (ft)

S = slope (ft/ft)