

TABLE II.—SIZE OF TILE PIPE OF MAIN DRAIN.

(McConnell.)

Fall.			Acres Drained.					
			3-inch tile.	4-inch tile.	6-inch tile.	8-inch tile.	10-inch tile.	12-inch tile.
1	foot in	20	18.6	26.8	74.4	150.0	270.0	426.0
1	"	30	15.1	21.8	60.4	128.0	220.8	346.0
1	"	40	12.9	18.6	51.6	108.8	189.6	298.4
1	"	50	11.9	17.0	47.7	98.0	170.4	269.0
1	"	60	10.9	15.6	43.4	90.0	156.0	246.0
1	"	70	10.0	14.5	39.9	83.0	144.4	228.1
1	"	80	9.3	13.4	37.2	77.0	135.0	213.0
1	"	90	8.1	12.6	35.0	72.5	127.0	200.5
1	"	100	7.3	11.9	33.1	69.2	120.6	190.5
1	"	150	6.7	9.5	26.6	56.0	97.3	154.4
1	"	200	5.7	8.2	22.8	48.0	83.9	132.5
1	"	250	5.1	7.5	20.4	42.4	74.4	117.0
1	"	300	4.6	6.9	18.4	38.2	65.5	107.0
1	"	400	4.1	5.9	16.5	32.6	60.3	90.7
1	"	500	3.7	5.2	14.8	30.1	54.0	81.6
1	"	600	3.3	4.7	13.3	28.0	48.6	74.0
1	"	800	2.9	4.1	11.4	24.0	41.9	65.0
1	"	1,000	2.6	3.7	10.2	21.2	37.2	56.0
1	"	1,500	2.1	3.0	8.5	16.8	30.8	47.0
1	"	2,000	1.9	2.8	7.4	15.0	25.0	40.8

Using the maximum rainfall at Guelph as a basis I have applied the rule and worked out several grades and sizes of tile, and found that the table corresponds very closely with our requirements here, and so we have adopted it in all our work.

The use of the table may be illustrated as follows: Suppose a man has 12 acres to drain and the slope of his main is 1 foot in 600, then we look down the list of falls till we find 1 foot in 600 and follow this line to the right. A 3-inch tile would not do; it drains only 3.3 acres. A 4-inch tile drains only 4.7 acres. A 5-inch tile, not given, but probably drains about 7 to 9 acres. A 6-inch tile fills the bill, as it is capable of draining 13.3 acres. The size to use for any other slope is determined in the same way. For instance, if 70 acres are to be drained on a grade of 1 foot in 100, an 8-inch tile will be necessary. The table applies to the submains and laterals as well as to the mains.

Owing to the great amount of friction in small tile compared with the volume of water they can carry, they are much more likely to clog with sediment than the larger ones, so much so indeed that a 2-inch tile should never be used except on a steep grade. In time they are almost sure to clog on a slow grade. For the same reason, the use of 2½-inch tile is not encouraged.