

would flow off, as follows:—Sand, 25 lbs.; loamy soil, 40 lbs.; clay loam, 50 lbs.; pure clay, 70 lbs. The following extract from a paper on "Drainage Engineering," by Professor R. C. Carpenter, of Michigan, will be found very useful in calculating the size of ditches.

Table for capacity of open drain: width of bottom, one foot; inclination of sides, one to one; drain full of water.

INCLINATION EXPRESSED IN FEET.	CAPACITY IN ACRES.				REMARKS.
	Depth, 1 foot.	Depth, 2 feet.	Depth, 3 feet.	Depth, 4 feet.	
1 in 10.....	949	2,555	6,870	14,268	One acre is considered the equivalent of 3,630 cubic feet, each day of twenty-four hours.
1 in 25.....	447	1,204	3,239	6,726	
1 in 50.....	314	846	2,290	4,725	
1 in 100.....	224	603	1,622	3,365	
1 in 150.....	204	542	1,458	3,027	
1 in 200.....	157	424	1,134	2,356	
1 in 250.....	142	382	1,027	2,132	
1 in 300.....	129	347	932	1,935	
1 in 400.....	108	289	779	1,619	
1 in 500.....	99	266	740	1,487	
1 in 1,000.....	70	189	507	1,053	
1 in 1,500.....	66	158	424	882	
1 in 2,000.....	51	140	367	763	
1 in 3,000.....	39	104	279	579	
1 in 4,000.....	32	87	234	487	
1 in 5,000.....	27	73	197	408	

"The capacity of drains of the same depth, but having widths and cross-sections differing from the areas tabulated, will be given approximately by considering that the capacity increases in the same ratio as the area. Thus, to ascertain the capacity of a drain three feet wide on the bottom and four feet deep, with slope of sides forty-five degrees, the area of cross-section would be twenty-eight square feet; the area of the tabulated form four feet deep is twenty square feet; the capacity would be the corresponding tabulated number multiplied by 28-20. The result would be more accurate if it even increased somewhat more, as the effect of friction is less as the breadth is increased for a given depth. The following factors should be introduced in the above results if a closer approximation is required":—