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Care must be taken to make the excavation conform as nearly as possible to the shape of the half of the pipe, with proper depressions for the hubs. The joints should be caulked with clay or cement. If this is not done the water may force itself out of the joints and wash the earth from around the pipe. The earth should be carefully and solidly rammed around the pipe, and the upper surface of the pipe should be at least 15 inches below the surface of the roadway.

The following table shows the size, capacity and price of sewer pipe in car lots at almost any railroad station in Ontario.

Diam. of Pipe, inches.	Capacity, sq. ins.	Weight per foot, lb.	Price per foot, s. c.
6	28	10	13
8	50	16	20
9	63	23	25
10	73	34	30
12	113	44	35
15	177	63	53
18	264	84	80
20	314	100	1 10
24	452	208	1 25

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They are now making what is termed "double strength pipes," particularly adapted for culverts; they weigh considerably heavier than the above, and cost about 40 per cent. more per foot.

Drains should be constructed to take the water away freely from the lower end of the culvert, as the freezing of the water in a pipe culvert when over half full is liable to burst it. The use of wood for small culverts is not economical in comparison to culvert pipe; they very soon decay, and are in such cases, to a certain extent, dangerous.

WIDTH OF ROADBED.

The width of the roadbed between the side ditches will vary according to the width of metaled surface that is intended to be put upon it, but it should in no case be less than 20 feet (except in fills, which should be fenced). Anything of less width than this, with an open ditch on each side of the road, is somewhat dangerous. Where the metaled surface is to be 16 feet wide, the roadbed should be 24 feet wide, and for a metaled surface of 24 feet the roadbed should be 30 feet wide, unless there is a curb on each side of the metaled portion.

ROADBED.

In preparing the roadbed have all perishable material discarded. The earth taken from the side ditches should be placed upon the roadbed, making the centre higher than the sides and of a convex

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