

MUNICIPAL DEPARTMENT

SPECIFICATIONS FOR CEMENT- CONCRETE WALKS.

The following form of specification, prepared by the Commissioner of Highways for Ontario, includes the most necessary requirements for laying artificial stone walks by contract. They should, however, be varied as circumstances may render expedient:—

1. The location and approximate extent of artificial stone side walks to be laid under these specifications are as follows:

2. The corporation shall remove the old plank, stone, brick, and other sidewalk from the street before the construction of the new walk shall be commenced by the contractor, all such material being the property of the town, to be disposed of as the engineer may direct.

3. All excavated earth, stones, posts, stumps, other obstacles or rubbish shall remain the property of the town, to be removed by the contractor to such a point or points as the engineer may direct; if not hauled for a distance exceeding one half mile, such removal to be without extra charge.

4. The walk shall be laid to the lines and levels given by the engineer. No stakes or bench-marks placed for this purpose by the engineer shall be moved or effaced by the contractor without the permission of the engineer so to do.

5. The space over which the walk is to be laid shall be excavated to a depth of twelve inches below the elevation of the finished walk in accordance with the plans and profiles, on file at the office of the engineer. Perishable or objectionable material shall be removed to a further depth, to secure a firm foundation if so required by the engineer. Such excavation in excess of twelve inches shall be filled with gravel, or other material approved by the engineer, and the bottom of the sub-grade thus obtained shall be then made thoroughly firm and solid by pounding or rolling. For all excavation or filling,

ordered by the engineer in excess of twelve inches below the grade of the finished walk, the contractor shall be entitled to the sum of 35 cents per cubic yard.

6. A porous tile drain shall be laid centrally beneath the walk, to the depth, grade, of such diameter, and carried to such outlets as are specified upon the plan and profile on file at the office of the engineer; and tile drains for carrying surface and other water through or under the walk shall be laid as indicated upon the aforesaid plan and profile. All tile used shall be of the best quality of clay, manufactured expressly for drain purposes, in lengths not less than one foot, and of uniform diameter throughout. All earth excavated in the laying of these drains shall be returned to the trench, being thoroughly rammed and pounded in layers not exceeding one foot in thickness, and rendered perfectly firm and solid, to the satisfaction of the engineer. When sewer pipe is required in place of common tile, such pipe shall be furnished to the contractor by the engineer; and shall be laid in all respects to the satisfaction of the engineer.

7. Upon the sub-grade thus excavated, drained and consolidated, shall be spread a layer of clean gravel or broken stone to be thoroughly wetted, rolled or pounded, and brought to an even surface. The layer of gravel or stone so placed shall have a thickness of seven inches; and shall be uniformly not less than five inches below the surface of the finished walk, having preference thereto.

8. Upon the foundation thus prepared, a layer of concrete shall be laid in the following manner: It

shall be composed of one part by measure of fresh cement, of a quality approved by the engineer, and in accordance with the specifications for such elsewhere herein described; three parts by measure of clean, sharp sand; and four parts by measure of broken stone of such a size as will pass through a two-inch mesh. (Or where gravel is used the concrete shall be composed of one part of cement and five parts of clean gravel.) The concrete shall be mixed on a water-tight platform placed close to the work, by first spreading evenly a layer of sand; upon this shall be evenly spread the proportionate quantity of cement and the two thoroughly mixed while dry. To this water shall be added and the whole thoroughly mixed and brought to the consistency of mortar. The proportionate amount of stone shall then be spread evenly over this mortar and thoroughly intermixed therewith. The concrete when mixed as aforesaid, shall be immediately put in place and thoroughly pounded until it has an even surface, is perfectly and uniformly solid, and is four inches in depth over the foundation and within one inch of the finished surface of the walk. Slab or flag divisions shall then be marked off, sixteen feet in area, the joints to be filled with clean sand or other approved separating material.

(To be continued next week.)

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