

MUNICIPAL DEPARTMENT

THE CONSTRUCTION OF STREET PAVEMENTS.

(Concluded).

COST OF PAVEMENTS.

In the matter of cost most pavements, including macadam, require pretty much the same expenditure up to a certain point—the completion of the grading, under-drainage curbing and excavating, preparatory to receiving the paving materials. Up to the layer of concrete the cost, excluding macadam (that is for asphalt, stone block, vitrified brick and wood pavements), is very much the same, but may vary according to the depth of concrete used and the material for curbing, whether stone or wood. As I have no data for calculating the amount of grading, excavating and drainage needed in St. John, it becomes impossible for me to make an estimate of the cost of the work applicable solely to your city.

The following indicates the basis for a strong form of pavement, on which the cost of a macadam roadway twenty-seven feet wide, for a resident street, may be estimated per lineal feet:

| | |
|--|---------------|
| Excavating and grading roadway.. | \$0 30 |
| Grading boulevard | 6 |
| Water and sprinkling..... | 4 |
| Rolling..... | 10 |
| Crushed stone in the street at \$1 per cubic yard..... | 1 00 |
| Drainage..... | 10 |
| Total per lineal foot of street | \$1 60 |
| Total per square yard..... | 0 53½ |

With cedar curbing, 4 x 12, the cost would be \$1.72 per lineal foot or 57½ cents per square yard; with stone curbing, \$2.80 per lineal foot or 86½ cents per square yard.

In estimating the cost of an asphalt pavement to replace the cedar block on such a street as Main street, with a roadway forty feet wide, the actual cost would be about as follows:

| | |
|---|----------------|
| Removal of cedar blocks and excavation per lineal foot..... | \$0 44½ |
| Drainage per lineal foot | 15 |
| Concrete, six inch layer, per lineal foot..... | 2 22½ |
| Asphalt surface, per lineal foot..... | 4 44½ |
| Total per lineal foot | \$7 26½ |
| Total per square yard | 1 63½ |

The maintenance is usually estimated on a basis of eight cents per square yard per annum. The cost, therefore, for a five years' guarantee is 40 cents; ten years, 80 cents; fifteen years, \$1.20. The total cost then under a five years' guarantee is \$2.03½; under a ten years' guarantee, \$2.43½; under a fifteen years' guarantee \$2.83½. In the above estimate the profit of the contractor on initial construction is not included and is regulated by competition.

Asphalt pavements, as previously stated, are laid by contract. This material is one which can be greatly adulterated and it will usually be advisable to have the work done by a reliable company under a long term

guarantee. Recent inquiry shows that Ottawa has had rock asphalt pavements laid, with maintenance guaranteed for fifteen years, for \$3.10 per square yard; Montreal has had rock asphalt pavement laid, guaranteed for a similar term, for \$3.09. Trinidad asphalt, maintenance guaranteed for ten years, has cost Montreal \$3.45 per square yard; Toronto, \$2.60; in Hamilton, \$2.15. Montreal paid \$2.85 for Trinidad asphalt on a five years' guarantee. The apparent disparity in these prices may be accounted for in part by differences in specifications regarding drainage, concrete foundations, and as regards special work on gutters, curbing, etc.

For a roadway of the same description as that on which the cost for broken stone was computed, twenty-seven feet wide, an estimate for brick pavement would be as follows:

| | |
|--|---------------|
| Excavation and grading roadway, per lineal foot..... | \$0 30 |
| Grading boulevard | 6 |
| Concrete, six inch layer | 1 50 |
| Drainage..... | 10 |
| Brick surface laid | 3 45 |
| Total per lineal foot | \$5 41 |
| Total per square yard..... | 1 80½ |

The following is an estimate of the actual cost of laying one square yard of stone block pavement, on a basis of the whole of the work being performed by the city. Labor on street railway allowances would be slightly more expensive:

| | |
|--|---------------|
| Stone in quarry..... | \$0 10 |
| Quarrying stone | 25 |
| Making blocks | 1 20 |
| Hauling | 10 |
| Laying and grouting | 75 |
| Removal of old pavement, excavation, grading, etc..... | 13 |
| Drainage..... | 5 |
| Concrete, eight inch layer..... | 67 |
| Sand coating..... | 5 |
| Total per square yard..... | \$3 30 |

LEGAL DECISIONS AFFECTING MUNICIPALITIES.

DAVIPEON VS. CORPORATION OF STANBRIDGE STATION. One Edward Charles Davipeon sued the corporation of the municipality of Stanbridge Station for \$800 damages for injuries received through the upsetting of his carriage while driving over a highway under the control of the corporation, on 26th December last. The carriage in which the plaintiff was riding passed over an obstacle in the road, which had the effect of upsetting it and of throwing the occupant to the ground. His leg was broken by the fall. The plaintiff alleged that the highway was dangerous owing to the pro-

jecting rock on which his carriage ran, and that the accident was caused by the negligence of the corporation in not maintaining the highway in the condition required by law. The defendant pleaded that the road was not dangerous, and was in good condition; that plaintiff knew of the alleged obstacle in the road; that plaintiff was driving a spirited horse attached to a cart loaded with boards, a use for which it was not intended; that plaintiff was himself under the influence of liquor, and was himself the cause of the accident. After reviewing the evidence the learned judge said: "As a rule our local municipalities do not appear to recognize the requirements of the law, as to the condition of the roads under their control; or if they are aware of their strictness, little attention is paid to the obligations which result from a non-compliance." Speaking of the projecting rock on which plaintiff's carriage was overturned, his honor said: "Why it has been allowed to remain there so long is probably due to the same cause which renders so many of our roads defective, and in some cases positively dangerous, negligence and indifference on the part of the municipal authorities coupled with the utter lack of competent supervision. It is nobody's special business to see that such defects are removed. They have existed from time almost immemorial; and they are simply overlooked and will continue to be overlooked, unless some rude awakening takes place." Further on the judgment reads: "I now come to the second question—was plaintiff prudent? The Sacred writings (14 Prov. 15) contains this proverb, 'The prudent man looketh well to his going.' Plaintiff knew this road, the hill and the projecting rock well. He had passed there but a few hours before the accident on his way to Stanbridge Station. With this knowledge was it prudent for him to have put boards twelve feet long on a market cart? Was it prudent for him to have done so with a spirited horse, such as his is shown to have been, attached to the cart with the ends of the boards extending by the horse and pushing up on him while going down the hill? Was it prudent to allow the horse to trot with such a vehicle while going down the hill? Was it prudent for plaintiff before starting to take three glasses of rye whiskey? To each of these questions the answer 'no' almost instinctively suggests itself; but when they are combined, the answer must be an emphatic 'no'." After quoting a number of authorities, the judge concluded as follows: "Here the accident might have been avoided had plaintiff taken even ordinary care; but he was most imprudent; and while his misfortune is much to be regretted, it would be simply offering a reward and encouragement to imprudence to award him any damages. But I cannot allow the corporation to escape entirely free. Under all the circumstances I shall dismiss the action without costs."

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