

Clarke, was requested to make a second survey. His report submitted to the Legislative Assembly in the month of March, 1860, is full of valuable new information and constitutes with the previous report of Mr. Shanly an interesting and complete study of the question of construction. Mr. Clarke agrees with Mr. Shanly in the general conclusions which are most favourable to the enterprise, but he differs with the latter on the questions of cost, water supply and method of construction. Mr. Shanly provided for 58 miles of canals while Mr. Clarke reduced this to 29 miles. This difference is explained by the fact that Mr. Clarke follows more the course of the river, occasionally raising its level by the construction of dams to overcome rapids or cascades, while in most cases Mr. Shanly has recourse to canal excavation. In consequence, there are more dams in Mr. Clarke's plan and more canals in Mr. Shanly's.

Mr. Shanly's estimate is made for locks measuring 250 feet long, 50 feet wide, and 10 feet deep while Mr. Clarke's calculations are based on locks measuring 250 feet long, 45 feet wide, and 12 feet deep. The cost of the whole enterprise is estimated by Mr. Shanly at \$24,000,000 including the enlargement of the Lachine canal.

Mr. Clarke's figures are \$12,058,680, but he does not include the enlargement of the Lachine canal, which is one of the biggest items, nor the probable damages to property caused by the flooding of lands in certain parts of the route where the level of water has to be raised. The Summit level is another question which is treated differently in the Shanly and Clarke reports. Both adopt lake Nipissing as the feeding reservoir, but Mr. Shanly raises its surface 23 feet to the level of Trout lake by means of dams at the outlets. By this scheme, the storage capacity of the lake is increased to the extent of 300 square miles, but large tracts of lands on the north and northwest side of lake Nipissing are completely flooded. To-day this would be an impossibility, as it would swamp the whole town of North Bay and a portion of the Canadian Pacific Railway line.

Mr. Clarke proposes raising lake Nipissing only 9½ feet over high water level, lowering Trout lake 8 feet and Turtle lake 7 feet and raising lake Talon 21 feet. In this manner the four lakes are reduced to a common level, forming a summit reservoir 57 miles long and measuring 330 square miles in area. This difference in the summit level accounts for the difference in lockage.

From lake Huron to the Summit level, Mr. Shanly measures 83 feet of lockage, and Mr. Clarke 77.

From the Summit level to Montreal, Mr. Shanly measures 615 feet lockage, and Mr. Clarke 586. The general principles of these two reports have never been set aside by any subsequent survey or exploration nor by the last report made by the Government's engineers.

Shortly after Confederation, on the 16th of November, 1870, a Royal Commission was appointed by the Government of Canada with the following powers:

To institute and make a thorough inquiry as to the best means of affording such access to the seaboard as may be best calculated to attract a large and yearly increasing share of the trade of the northwestern portion of North America through Canadian waters, as well as a thorough and comprehensive improvement of the canal system of our said Dominion, on such a scale and of such a character as would best tend to afford ample facilities for the expansion and due development of its growing trade and commerce; and in such inquiry to consider the whole subject, in all its bearings, as well in a commercial as in an engineering point of view, with the object of obtaining such reliable information thereupon as may furnish the necessary data on which to base a plan for the improvement of the canal system of our said Dominion, of a comprehensive character, and such as will enable Canada to compete successfully for the transit trade of the great western country, and especially to inquire into the public works and improvements hereinafter enumerated, that is to say:

The Welland canal and the enlargement thereof.

The St. Lawrence canal and the enlargement thereof.

The deepening of the channels through the rapids of the river St. Lawrence.

The deepening of said river in its most shallow parts between the cities of Montreal and Quebec.

The Rideau canal and its improvements and the development of trade through the same.

The construction of a canal at Sault Ste. Marie between lakes Superior and Huron.

The construction of a canal between the St. Lawrence at Caughnawaga and lake Champlain.

The improvement of the river Richelieu and lake Champlain line of canals.

The completion of the Montreal and lake Huron system of navigation via the Ottawa and French rivers.

The construction of the Georgian Bay canal to connect the Georgian bay with lake Ontario.

The construction of a canal in the township of Murray through the neck of land lying between lake Ontario and the Bay of Quinté.

The construction of a canal through the isthmus dividing the Bay of Fundy from the Gulf of St. Lawrence at Bay Verte.

As you have no doubt noticed, at that time the expression 'Georgian Bay canal' was used to indicate a proposed canal system between lake Huron and lake Ontario