

For the purposes of comparison, it should be stated that Mr. Clarke's plan contemplated locks 250 feet long, 45 feet wide, and 12 feet depth on the miter sills, with a depth of 13 feet in the canals, widths in bottom of short sections 100 feet, and in long sections 146 feet, where it was intended for boats to pass, with a depth of 15 feet in the slack water reaches. A plan for the enlarged water-way proposed by the author is as follows: Locks 600 feet long, 85 feet wide, and 20 feet deep on the miter sills. The depth of canal prism 22 feet, with a width of 150 feet in short sections and 200 feet in the long sections, and with 24 feet depth in the rivers and in slack water reaches. The general methods of Mr. Shanley and Mr. Clarke to be adopted alternatively according to the conditions existing at special points. Employing the data given in Mr. Clarke's report, which appears to be accurate and quite complete, but using prices for rock excavation about midway between his and those of Mr. Shanley, and allowing for the many new obstacles which the enlarged water-way would meet in the deepening of rivers and of locks where submarine rock excavation would be required, in either of the earlier plans, the total cost of the work would be about \$83,000,000, allowing for the enlargement of the Lachine Canal to the dimensions of the enlarged water-way. A careful examination leads to the inevitable conclusion, that a free unrestricted water-way cannot be found on the line of the Ottawa route at any cost which the traffic would bear. A ship railway, as an alternative, has been suggested. The course of the river is too tortuous and the cost of removing natural obstructions too great to give this alternative project serious consideration.

GEORGIAN BAY AND TORONTO SHIP CANAL, OR ITS ALTERNATIVE,
THE HURONTARIO SHIP RAILWAY.

A project for a ship canal was initiated on this route as early as 1846, and an examination made by Mr. Kivas Tully, civil engineer, of Toronto. In 1851 and in 1855 further examinations were made under the auspices of the Board of Trade of Toronto, to be used at a convention of delegates from various Western cities. The Hurontario route at that convention was favourably considered, and Mr. Tully was appointed to complete the survey. There was associated with him as consulting engineer Colonel R. B. Mason of Chicago, who, himself, examined the route in 1855. The survey was completed in 1858 and published with maps and profiles. The estimate was