

Ratepaying Engineers Criticize Montreal Aqueduct Report

Consulting Engineers Vautelet, McRae and St. Laurent Said to Lack Justification For Recommending "Scheme No. 2"—Board's Report Shown to Agree With Previous Allegations Concerning the Work

ON Tuesday of this week, Montreal's ratepaying engineers submitted to the city authorities a memorandum commenting upon the Montreal Aqueduct report recently made by Consulting Engineers Pautelet, McRae and St. Laurent. The memorandum is signed by W. F. Tye, John Kennedy, Ernest Marceau, J. A. Jamieson, R. A. Ross, Arthur Surveyer, and Walter J. Francis, who are a committee representing the thirty-one ratepaying engineers. W. F. Tye is the chairman of the committee, and Walter J. Francis the secretary. The memorandum, which was read and approved on July 5th, at a meeting of all the ratepaying engineers, is as follows:—

Following the receipt of your letter of 25th May, 1917, undertaking to let us have details of the estimates in the report of the Board of Engineers, dated April 30th, 1917, we have recently received from the City Hall certain pages of details of the report. Having studied these in conjunction with the report, we now beg to submit our comments thereon, as promised.

Summing up our conclusions, we may say that to us it is evident that the report of the Board of Engineers agrees in almost every main conclusion with our report submitted last November. The following contentions of our report are clearly supported:—

- (a) The project as designed is condemned.
- (b) Ice troubles are admitted to the degree that it is estimated the plant will be completely shut down for an average yearly period equivalent to 2.4 months.
- (c) Radical changes in design, at greatly increased cost, are shown to be necessary to obtain the amount of power claimed by the city.
- (d) Purchased power or steam-generated power is shown to be much cheaper than that which could be produced by the aqueduct.
- (e) No power from the aqueduct would be available for lighting the city.
- (f) The capital costs and annual charges are shown to be greatly in excess of the estimates made by the city.

The following is a brief comparison of statements made regarding the various features of the Montreal Aqueduct Power Development Scheme. The first paragraph in each case is based on published statements by the city up to the end of 1916. The second is based on the "Report by Ratepaying Engineers," dated November, 1916. The third is based on the "Report on Aqueduct Enlargement, Montreal Waterworks," by the Board of Engineers, Messrs. Vautelet, St. Laurent and McRae, dated April 30th, 1917.

Power Obtainable from Enlarged Aqueduct in E.H.P.

The City—Winter minimum, 9,000; summer minimum, 18,000; yearly average minimum, 14,000.

The Ratepaying Engineers—Maximum as designed, 7,000.

The Board—"Winter, 5,600; summer, 8,900." With radical alterations and additions, 9,750.

Probable Ice Troubles in Operation.

The City—Stated frequently that there would be no ice troubles.

The Ratepaying Engineers—Stated that "serious operating troubles due to ice are inevitable."

The Board—States that there will be ice troubles, "equivalent to a complete shut-down for 2.4 months each year."

Capital Cost of the Project.

The City—variously stated the cost from \$2,500,000 to \$9,500,000.

The Ratepaying Engineers—Gave the cost as over \$10,600,000. (All data for complete estimates were not then available.)

The Board—Gives the cost as over \$10,600,000, but did not include in the cost certain important items amounting to about \$1,400,000, which would make the total cost at least \$12,000,000.

Annual Unit Cost of Power from Aqueduct.

The City—Variously stated cost from \$13.33 to \$40 per horse-power per annum.

The Ratepaying Engineers—Said this cost would be \$108.00 per electrical horse-power per annum, including sinking fund and depreciation.

The Board—Gives this cost as \$56.90 per theoretical horse-power. (This is equivalent to \$76.00 per electrical horse-power. In this cost the board does not include sinking fund and depreciation. It is based on a capital cost of \$10,600,000. Based on a capital cost of \$12,000,000 and including sinking fund and depreciation this annual unit cost is over \$100 per electrical horse-power.)

Study of Project as a Whole.

The City—Frequently stated that project had been studied as a whole.

The Ratepaying Engineers—Always stated that "project had never been studied as a whole."

The Board—Would not answer this question when put by Mr. Commissioner Villeneuve.

The Necessity for the Undertaking.

The City—Undertook the present project and declared it very advantageous.

The Ratepaying Engineers—Stated that "the capacity of the original aqueduct was sufficient for three times the present population served, if used for water supply only, and not for hydraulic power," and also that "the present project should never have been started."

The Board—Says: "Had the old aqueduct been left as it was, simply as a supply to the steam pumps, a steam plant would have been a most attractive proposition."

Proposed Completion of Work.

The City—Persists in continuing, extending and completing the work in spite of protests.

The Ratepaying Engineers—Stated that "all thought of completing the project, along the present lines, should be abandoned."

The Board—States that the present scheme "is the one to which exception has been taken, and we agree that it should not be proceeded with as outlined. It could not have developed the expected power." The Board does