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CONSTRUCTION OF THE NEW QUEBEC BRIDGE

EVENTS LEADING UP TO THE PRESENT UNDERTAKING—NOTES ON THE COMPLETED MASONRY—ERECTION DETAILS AND POINTS OF SPECIAL INTEREST IN THE SUPERSTRUCTURE.

At a meeting on February 25th, 1914, the Toronto branch of the Canadian Society of Civil Engineers was addressed by Mr. C. N. Monsarrat, Chairman and Chief Engineer, Board of Engineers, Quebec Bridge. On March 2nd, Mr. Monsarrat delivered a somewhat similar address before the Canadian Club of Montreal. His subject at each meeting was a description of the reconstruction of the new Quebec Bridge, and from his remarks the following synopsis is presented:

As early as 1852 a project for a bridge over the St. Lawrence River at Quebec was considered, and again in 1884 a design was prepared and submitted to the Quebec Board of Trade for a bridge at about the present site, but nothing actually was done until about 1900, when the Quebec Bridge and Railway Company located a site near Cap Rouge and took definite steps towards the erection of such a structure. This location is at the narrowest point on the St. Lawrence River between Montreal and Quebec, the width at mean water level being about 2,000 feet. The water at this point has a maximum depth of about 200 feet and a current at ebb tide of about 7 miles per hour. The Bridge and Railway Company awarded contracts in 1900 for a bridge of the cantilever type having a main span of 1,800 feet. Work was started and proceeded until the year 1907, when about half the superstructure, then erected, collapsed. Soon after this lamentable disaster the Dominion Government undertook to reconstruct the bridge,

and in 1908 appointed a board of three engineers for that purpose. This board made very exhaustive studies of various designs, including suspension and cantilever bridges, and finally decided, for good and sufficient reasons, that the cantilever type of bridge was the most

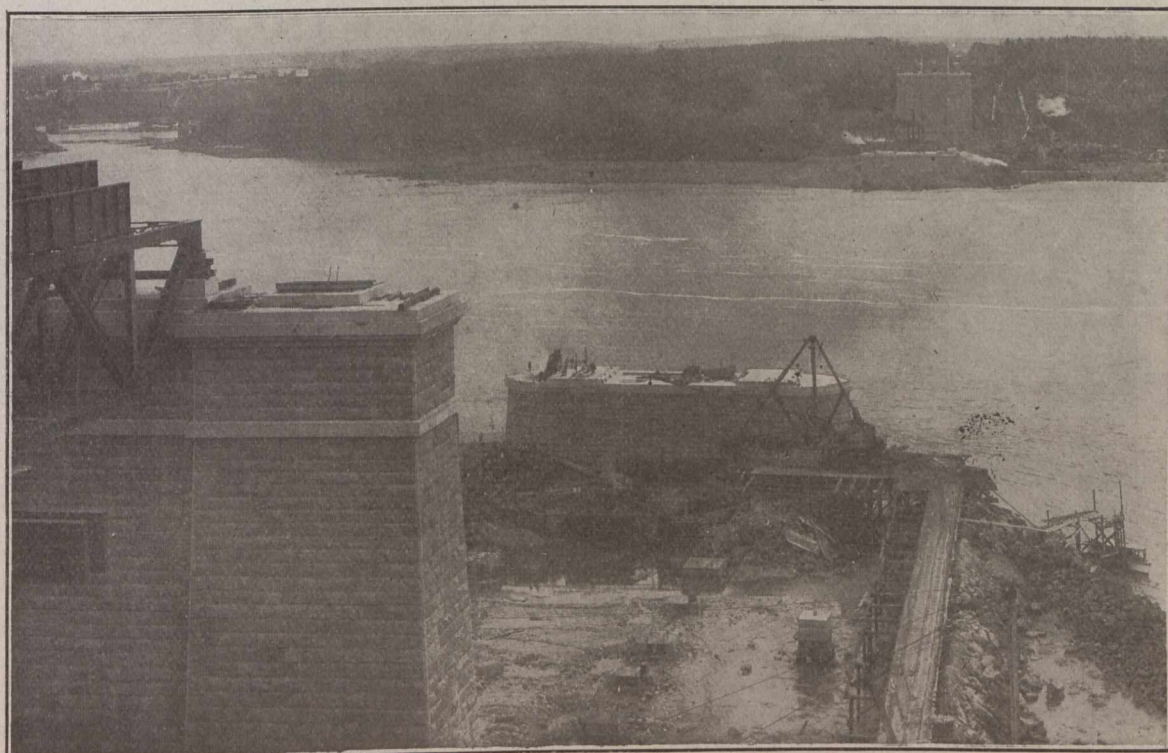


Fig. 1.—General view of the bridge site from the north shore, showing the completed masonry on both sides of the river.

satisfactory and economical kind of structure for such a crossing. It also decided that the bridge should be much wider and designed for heavier loading than the former bridge, that the same length of main span should be retained and that it should be built at the same site. Several changes were made in the personnel of this Board during the progress of the work, and since the contracts were let the Board has been composed of Mr. Ralph Modjeski, Mr. C. C. Schneider and Mr. Monsarrat, who is chairman and chief engineer.

Among the first things to be done in connection with the reconstruction was to take an extensive series of borings to ascertain the nature of the bottom and locate