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TIMISKAMING DAM CONSTRUCTION.

The second annual report of Mr. C. R. Coutlée, the engineer in charge of the construction of storage reservoirs on the Upper Ottawa River, has recently been published by the Department of Public Works. An abstract of the report dealing with the Timiskaming dam construction follows.

For several years prior to the commencement of the Georgian Bay ship canal survey in 1904, by the Department of Public Works, it was felt that something should be done to improve the conditions of low water on the Ottawa River, which made navigation difficult during the fall of low years, and crippled badly some of the power developments on the river. Representations were made to the Federal Government that the only possible remedy was to establish some system of storage reservoirs at the head waters of the Ottawa River, by which some of the surplus waters in the spring could be collected and conserved to be released gradually during the low period and thus augment the low flow.

crease the low water flow in time of deficiency, and that this control would not only be of benefit to navigation, but would be of great advantage to all commercial and industrial interests on the river depending on water for power and transportation.

Moreover the fact that large communities depend on an adequate and permanent river flow for the necessities of life, such as water supply for domestic purposes and fire protection, and the economical production of electrical energy for lighting tramways, industries, etc., gives to this control a national and vital importance. For these public utilities a shortage of water becomes a serious matter, as was exemplified in 1905 by the helpless condition of the powers at the Chaudière Falls on the Ottawa River on account of the long period of extremely low flow.

During the session of 1908-9, parliament voted the sum of \$65,000 to commence the construction of storage dams



Fig. 1.—Timiskaming Dam, November, 1910. Coffier Dams, Quebec Channel, Stopped by Autumn Floods.

In 1904, Mr. George Brophy, superintending engineer, Ottawa River works, was commissioned by the Department of Public Works to carry on a preliminary investigation of the storage possibilities, the work having been recognized as of Federal importance. The result of his investigations is published in the report of the Georgian Bay ship canal, page 303.

During the extensive surveys made for the proposed Georgian Bay ship canal, and in elaborating a project for a first-class waterway, it was soon seen that no satisfactory scheme could be devised unless it included an efficient partial control by storage of the spring floods of the Ottawa River throughout its watershed, in order to reduce the fluctuations in the different reaches, to eliminate swift and dangerous currents, and to establish practically slack water navigation.

In the report on that waterway, it was shown that conditions in the upper Ottawa River were favorable to a partial control of the surplus waters which could be used to in-

on the Ottawa valley, previously recommended by Mr. G. P. Brophy, superintendent of Ottawa River works. Another sum of \$20,000 was voted to continue the preliminary studies already commenced of the Ottawa River watershed.

Having been promoted to the position of Assistant Deputy Minister in the department, Mr. C. R. Coutlée, C.E., was appointed engineer in charge of the whole storage work, under the direction of the chief engineer, it being understood, however, that the work would be continued under my general supervision in an advisory capacity.

The report presented, after a brief review of the preliminary works performed in relation to storage during the survey for the canal, treats of the present waterpower development on the Ottawa River, the different lakes along its course, the characteristics of its watershed, its flow, etc., and gives figures as to the possible amount of water which can be stored in the natural reservoirs which it has been possible, so far, to investigate and study with a fair degree of accuracy.