THE GREATER WINNIPEG WATER DISTRICT

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THE Greater Winnipeg Aqueduct ranks as a major engineering undertaking, the scheme in the main consisting of the bringing of water from Indian Bay, a part of Shoal Lake, which is an arm of the Lake of the Woods. The water will be delivered to the city of Winnipeg and to the surrounding municipalities. This is to be accomplished by means of gravity flow, taking advantage of a difference in elevation of about 300 feet, the distance between the two points being 96.5 miles.

The question of a suitable water supply had been for some time a vexed one, both because of the uncertainty of quantity of the supply and because of the quality of the water. The purity of the present supply for domestic purposes is unquestioned, and is rarely equalled in public water service, but because of the extreme degree of hardness a great deal of expense is incurred not only by corporations and manufacturing industries, but also by individual consumers. Those controlling power plants are called on to make frequent renewals of steam and water fittings and to expend large sums for water softeners and scaling compounds while the householders must necessarily regularly renew water fronts in stoves, coils in water-heaters and fittings in heating systems, owing to the corroding and incrusting elements in the water of the present supply.

A board of consulting engineers composed of Messrs. Rudolph Hering, Frederic P. Stearns, and James H. Fuertes, was appointed and on May 20th, 1913, received the following instructions from the city council:—

"That the Board of Consulting Engineers be instructed to submit a report on the best means of supplying the Greater Winnipeg Water District with water from Shoal Lake, together with estimate of cost and general plan of the work."

After an exhaustive study of the question the consulting engineers reported as follows:—

"Shoal Lake, without help from the main Lake of the Woods, can be depended upon to furnish, even in the driest years, a large part, if not all, of the water needed for Winnipeg until the population shall have reached about 850,000, and with the help of the Lake of the Woods can furnish a practically inexhaustible supply.

"The water of Shoal Lake was, when we examined it, of excellent quality for domestic and manufacturing purposes, being soft, practically free from contamination, without noticeable color, free from odors and of an agreeable taste. The results of recent examination of the Shoal Lake water, and all of the local conditions, indicate that the occurrence of bad tastes and odors in the water, from growths therein, should be infrequent, and may never occur at all."

Should such troubles occur in the future the opportunity to correct them by suitable treatment may be availed of when necessary without interrupting the supply of water to the city or making expensive changes in the works as built.

"The best point to take the water is from near the west end of Indian Bay, an arm of Shoal Lake, as the depth of the water and the configurations of the bottom and shores in this neighborhood are favorable.

"In order to avoid the dark colored water discharged by Falcon River, and cut off the shallow flowage at the extreme westerly end of Indian Bay, we propose the construction of a dyke across the end of the bay and a canal leading therefrom to Snowshoe Bay, through which to divert the undesirable waters.

"We find that the best way to get Shoal Lake water to Winnipeg is to bring it down first through a concrete aqueduct 84.75 miles in length, laid with a continuous down grade to a point about a mile east of Transcona, and then in a 5-foot steel pipe to the Red River. A 5-foot cast-iron pipe, in tunnel, is to convey the water under the river, and thence a 4-foot cast-iron pipe, laid in the city streets, will deliver it to the reservoirs at McPhillips Street. The total length of the aqueduct is 95.35 miles.

"We recommend that the concrete portion of the aqueduct be given a capacity of 85,000,000 Imperial gallons per day, but that the pipe line portion be given the smaller sizes above stated, capable of discharging 25,000,000 gallons per day by gravity into the McPhillips Street reservoirs.

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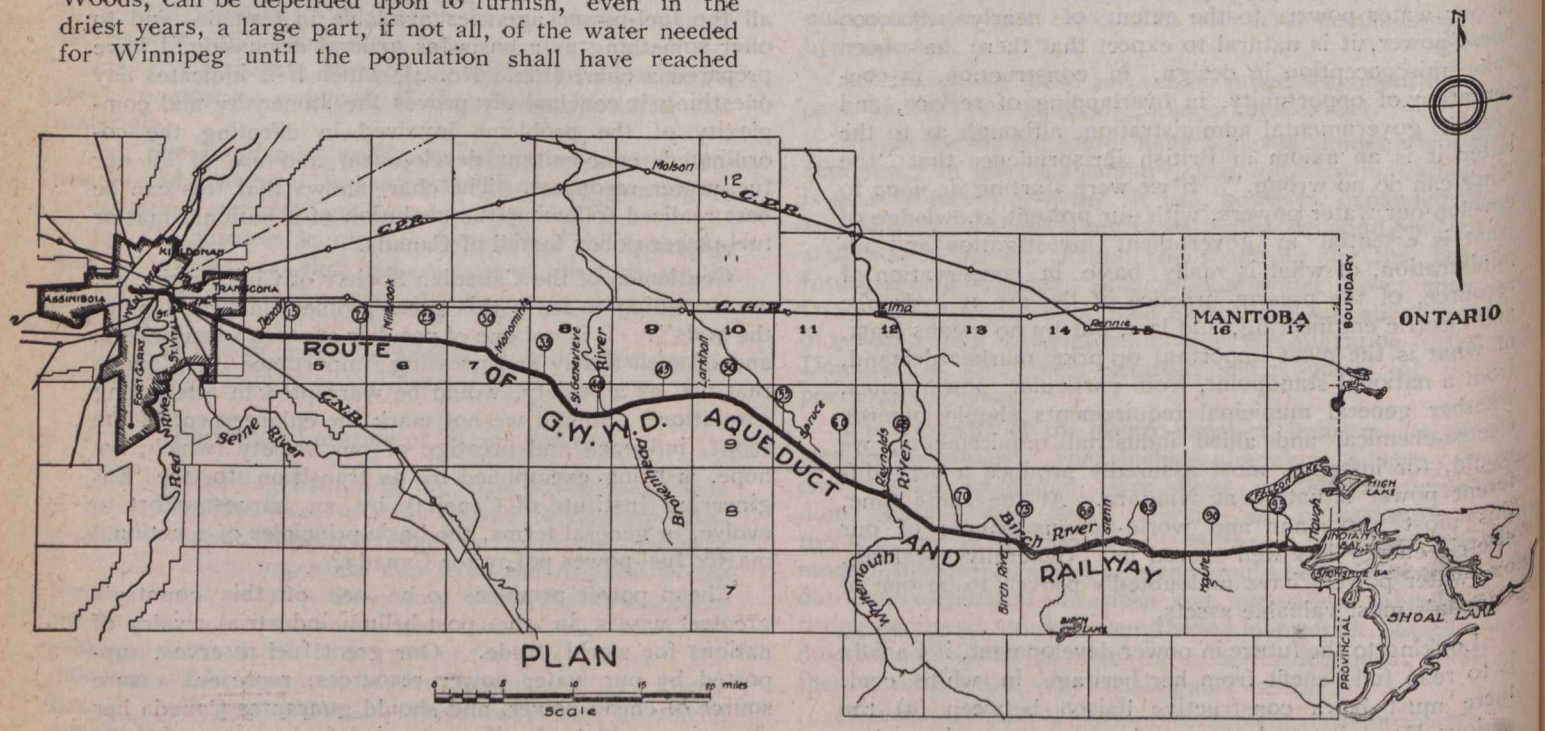

Plan of Greater Winnipeg Water District Aqueduct, Railway and Surrounding Country from Shoal Lake to Winnipeg