

point now forming Ramey's Bend, materially straightening the canal. The excavation from this cut will be principally rock, and will form suitable material for the break-

The present aqueduct at Welland will be dredged out, as well as the bank between the canal and the river. The river will be utilized between Welland and Port Robinson

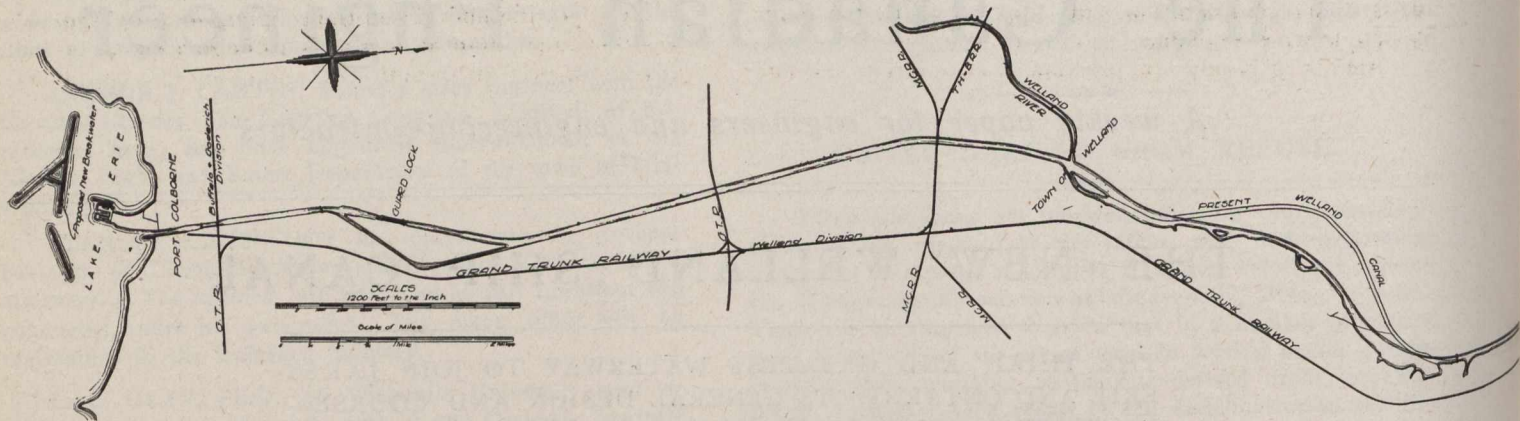


Fig. 1.—Course of New Welland Ship Canal, 25 Miles in Length.

water in Port Colborne harbor.

A guard lock will be built in the rock cutting a short distance below Humberstone, and when this new cutting is ready for navigation a regulating weir will be built across the abandoned portion of the present canal, which will be used as a by-pass to furnish water to the canal. This lock and regulating weir will control the elevation of the summit level of the canal, which it is proposed to keep at the level of extreme low water in Lake Erie, viz., 568 ft. above sea level.

The Welland River Crossing.

From Ramey's Bend to Welland the present canal will be enlarged by an extended excavation along the western bank. It crosses the Welland River by an aqueduct at Welland, as indicated in Fig. 1, but in the new structure it is proposed to raise the level of the river to that of the summit level of the canal by means of a dam

instead of the present canal, being somewhat more direct and entailing considerably less excavation. At Port Robinson a cut will be made through the present bank between the canal and the river, enabling vessels to re-enter the canal prism. Between Port Robinson and Allanburg what is known as the "Deep Cut," which has a maximum depth of 66 ft., will be enlarged by cutting a slice off the western bank.

In raising the Welland River above Welland some 1,600 acres of low land adjoining the river will be flooded. This land is not of any great value, as it is flooded every spring by the river overflow, limiting its agricultural value to pasturage only. The township of Wainfleet, adjoining the Welland River on the south side, consists principally of low-lying ground which drains into the Welland River, and to prevent damage to this land on account of the raising of the river it will be necessary to open up most of the ditches from the point of their pre-

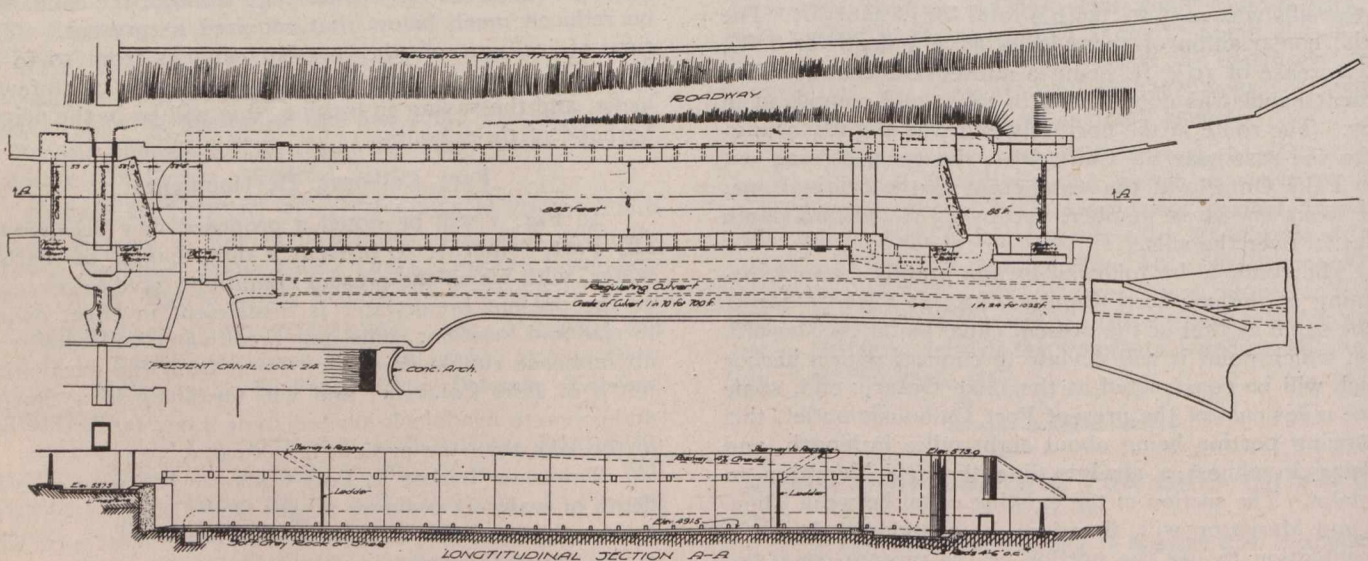


Fig. 2.—General Arrangement of Lock No. 7, Welland Ship Canal.

across the river at Port Robinson. This dam will be provided with a large overflow and regulating weir, which will control the elevation of the summit level, allowing any surplus water to overflow into the old Welland River and pass out into the Niagara River at Chippawa, as at present. A sufficient quantity of water will be allowed to run constantly to keep the river clean.

sent entrance to the river, to the intended high-water mark.

Turning the Welland River into the canal will pollute the waters which are at present used by the towns of Welland, Thorold and Merriton and the city of St. Catharines for domestic purposes. This may necessitate the construction of extensive filtering plants, although