

The Canadian Engineer

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PROGRESS ON THE NEW WELLAND SHIP CANAL

A REVIEW OF THE CONSTRUCTION WORK ACCOMPLISHED THIS YEAR ON THE VARIOUS SECTIONS NOW UNDER CONTRACT—SOME ENORMOUS YARDAGES OF EXCAVATION AND CONCRETING.

SINCE the article which appeared in *The Canadian Engineer* for November 5th, 1914, descriptive of the progress made last year on the construction of the New Welland Ship Canal (which is a \$50,000,000 undertaking on the part of the Department of Railways and Canals, Canada) construction operations have proceeded on a large scale and there is now much of interest to add. While no new contracts have been let during the year, excellent progress has been made on all sections of the work under way. These sections are Nos. 1, 2, 3 and 5, numbering southward from the Lake Ontario outlet. They comprise practically all the important engineering features of the enterprise, as the remaining sections, *i.e.*,

time they vary from this width to a width of only a few feet at the end of the trestle. An estimate of the volume of material required for this work is 5,000,000 cubic yards.

As already explained in previous articles, over 50 reinforced concrete cribs of exceedingly large proportions are being constructed to form the substructure of the outer entrance piers and to provide docking in the interior harbor. Six of these cribs have been sunk this season and four are in the harbor awaiting the same operation, while others are being constructed at Port Dalhousie.

Dredging operations have been continued without cessation, three dredges being engaged in the excavation of the entrance channel during the entire season.

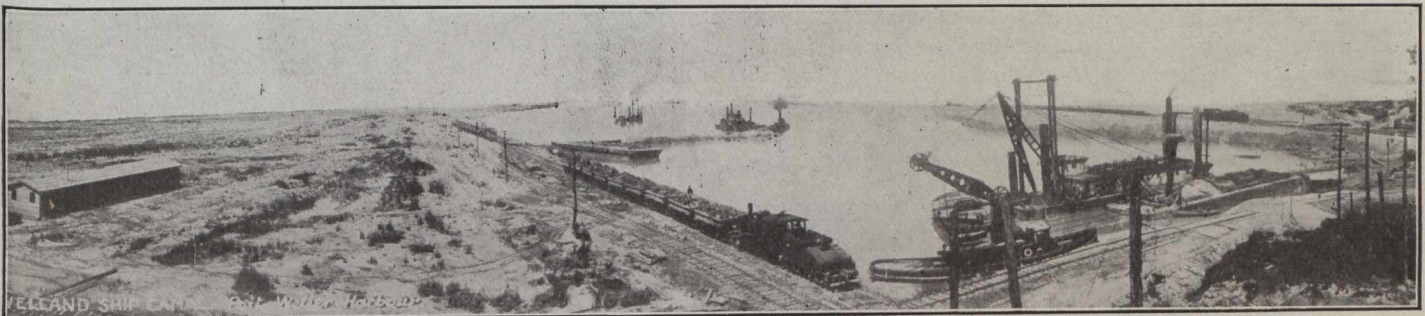


Fig. 1.—Recent View of Port Weller Harbor at the Lake Ontario Terminus of the New Welland Ship Canal.

4, 6, 7, 8 and 9, which have not yet been let by contract, consist chiefly of widening and deepening the present canal. It is the opinion of the Department that the completion of this portion of the work can readily be accomplished before the great locks of the canal are ready for operation. These locks, seven in all, three of which are twin locks in flight, are all in the first three sections of the canal.

Fig. 1 is a recent view of the new harbor of Port Weller, which forms the Lake Ontario outlet. It is interesting to note the progress made during the year, as evidenced by comparison with a similar view which appeared in the issue of this journal already referred to. In all, over 3,250,000 cubic yards of material have been deposited in the two embankments which form the harbor. These embankments extend about $1\frac{1}{2}$ miles into the lake. The trestle from which the material is dumped on the western embankment has now reached the outer extremity of the harbor, while the dyke on the east side is slightly less advanced. The embankments will be 500 feet in width when completed, although at the present

On the canal proper over 1,700,000 cubic yards of dry excavation have already been completed on Section 1. This work is practically finished, there remaining only small portions to be utilized later for back filling.

Concreting operations on the lock and entrance walls of Lock 1, which is situated a short distance from the lake shore in Section 1, have been under way all season, and at the present time the breast wall at the head of the lock and the west lock wall are both nearly completed. Concreting is under way on the east wall, and the upper entrance walls of the lock are also in course of construction. The reinforced concrete retaining wall below the lock on the west side will shortly be completed. In all, over 65,000 cubic yards of mass concrete and over 14,000 cubic yards of reinforced concrete have been placed in this section.

Fig. 2 is an interesting view taken from the breast wall of Lock 1 and showing the west lock wall, of which a considerable percentage of the total height of 81 feet is now completed. The travelling tower in the background is 112 feet high and operates on four trucks without guys.