

Between this point and Port Dalhousie, there is a large bay on the east side of the Canal with an area of 40 acres, in which there is at present from 12 to 15 feet water, with a mud bottom. This forms a capacious inner basin, for the accommodation of a large number of vessels. It is almost completely land locked, so that all those likely to be detained from going out into the lake during stormy weather, might safely lie there without interfering in any way with the upper bound traffic.

Soundings were taken over the area—between the entrance piers to the harbor—and for some distance out into the lake. Cross sections were also taken on the east side of the present lock, at Port Dalhousie, where it seems the enlarged lock should be constructed.

The general depth from the lock to the end of the piers (a distance of 3,200 feet) is, with 12 feet on the lower mitre sill, from $10\frac{1}{2}$ to 12 feet. A portion of the material forming the bottom is hard; but there is no reason to believe that to obtain the necessary depth for a Canal of the proposed dimensions, any extraordinary difficulty will be encountered. A part of this work is now under contract. The water gradually deepens lakeward from the head of the piers, and there are no shoals or other dangers in the approach to this harbor from any direction.

All the information obtained during the period of the surveys and examinations, from captains of vessels and others practically acquainted with the requirements of the trade of the Canal, proved clearly that Port Dalhousie is one of the best ports on Lake Ontario. So that by an increase of depth and area it can be made fully adequate to the wants of the proposed enlargement, and this can be accomplished at a reasonable outlay.

Trial lines were run from the projected route above described to another ravine in the right bank of the present Canal, on lot No. 21 of Grantham, (IV Con.), and about one mile below lock No. 2. A general examination of the banks on this side was made with a view of finding some place which might improve the proposed location. The results prove that the point selected for entering the Canal is decidedly the best.

The foregoing description will show the general features of the proposed line for enlargement between Thorold and Port Dalhousie. It is about three-quarters of a mile shorter than *via* the present Canal between the same points—and there are no objectionable curves at any place along it; whilst about 60 per cent. of the whole distance of $8\frac{3}{4}$ miles is straight line, or nearly so. Ample space can be had between locks to permit of vessels passing each other freely, and the Railway crossing can be so arranged as not to interfere with existing grades, whilst, at the same time, the efficient working of the proposed Canal can be fully secured. If the line recommended should, in the main, be adopted for construction, the relative levels of the old and new Canals will be such that a large milling and manufacturing power can be created on channels discharging from the latter into the former at various points. The nature of the soil through which the line runs is generally so favourable for the construction of water-tight banks and sides, that the loss from leakage and infiltration (often a serious item), will probably be reduced to a minimum, whilst, in the execution of the work, the proximity of large quarries of excellent building stone, together with an abundance of first class cement, will prove a great and obvious advantage. Finally, the Lake Ontario terminus of this line can, as before stated, be easily made capable of accommodating the largely increased trade, which will, beyond all doubt, follow this route upon its completion to the scale now contemplated.