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Near where the trial line to Port Dalhousie passes the west corner of the St. Catharines' Cemetery, it runs close to the head of a branch of the Twelve Mile Creek, which enters the present Canal at what is known as "Collier's Bend," a short distance below lock No. 5.

It is doubtless practicable to descend by this ravine, and form a connection with the present work ; but the line would be crowded in between high banks, where it would be difficult to locate the required waste weirs ; and the channel would be crooked and unsuitable to a navigation of the character contemplated.

This line would interfere with the existing hydraulic race by which the water is now supplied to several of the mills in St. Catharines, and would cross the Welland Railway where there is a very heavy embankment, necessitating a formidable bridge. It is also said that the character of the soil in the gully at some depth below the surface is, in places, a sort of quicksand unsuitable for the foundations of the locks.

But it seems to me that the chief objection to this route, and one that would outweigh all ordinary considerations of economy is, that it leads into the tortuous channel of the existing canal, where the traffic of both would be thrown together, and where in some places it would be almost if not quite impossible to obtain a line adapted to the requirements of the enlarged canal.

In my humble opinion the lines of traffic when divided at Thorold, should not again be united in the same channel until the inner basin of Port Dalhousie is reached, where there is ample room for both without danger of interruption to either. For these reasons the present canal has not been surveyed from Collier's Bend to Port Dalhousie, although information can readily be provided from existing documents, on which to base an approximate estimate of cost, should the proposition of enlarging by this route be entertained. The profile shews the lockage and a longitudinal section down the ravine, which has been measured and cross-sectioned closely throughout.

2. From Thorold to Port Colborne, the existing canal has been accurately surveyed and cross-sectioned at distances, of 500 feet apart, so as to afford sufficient accurate data to make an approximate estimate of the cost of the enlargement.

As instructed by you, the quantities between Thorold and Allanburg, have been calculated on the arrangement that the water of the reach between these points will be raised 2 feet, instead of lowering the bottom to obtain the requisite depth.

Up to the bend below the Allanburg bridge, at the Holland road crossing, the present line is generally followed throughout. At this point, however, the very objectionable approach to the lock from the lower level, may be avoided, by adopting a new line for enlargement. This would permit of the necessary works being constructed, without interruption to the business of the existing canal.

The ground in the vicinity of Allanburg, has been closely cross-sectioned, to enable the new line at this place to be located on the west side in the most favorable position.