

Assuming the water to rise.....	17 feet.
The Clear to Soffit of Bridge.....	12 feet.
Height of Truss.....	20 feet.
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Total.....	49 feet.

We shall have the grade line, say 50 feet above the present level of water, and assuming the height of land to be 85 feet, there would be a grade of 35 feet to overcome in the distance of a mile and an eighth. But it must be remembered that the bridge must be approached by 4° curves, 1,432 feet radius. The bridge is estimated to be about 820 feet in length, which distance could be advantageously distributed in two centre spans of 150 feet, with five spans of 100 feet. The water in the centre channel is from 15 feet to 23 feet in depth. The remaining portion is somewhat shallow, rocks protruding at intervals, some of which can be made serviceable. The bottom is of rock. Owing to the rapids extending some distance above the site, the ice is broken up in Spring, and there is little to fear from its force in the early thaw and consequent freshets.

Crossing to the Ontario side, the line must overcome a rise from the water of from 50 feet to 60 feet from the travelled road, being between 20 feet to 30 feet above the grade of the bridge; the distance being about half a mile, when we gain the table land in the Township of Ross. The line must diagonally pass across the 7th Range, turning northwards to about Lot 20, to avoid the stone hills which crop out in the 7th Range. It then turns southward to the 6th Range, on which it crosses Lots 7, 8, and 9, and enters the 3rd Range adjoining Westmeath, across which it passes to enter Westmeath in the 2nd Range. The land is almost level until meeting the town line between Ross and Westmeath, where some stone hills are to be found, but a good line can be obtained between them.

We have in the Township of Ross—

- 9 small gullies.
- 5 moderately large.
- 3 small streams.

In Westmeath, the line would pass in the 2nd Range, to avoid the rolling land north of Muskrat Lake, being about three quarters of a mile from Yankee Brown's Tavern. It must run between the lake and gravelled road, at a distance from the latter, from a quarter of a mile to one mile being kept on the higher ground. Passing into the Township of Pembroke, it would run south to the River Range, and cross the Muskrat Lake River near the mill, and likewise the Indian Creek, and run on to the west of the town, avoiding the low land of Central Pembroke. At this point it would be in a condition to make a connection with the water, or to join any line going westwardly.