

Lock No. 4 has been added in order to exclude the tide from the upper reach of the canal, after it has reached a greater elevation than eighty-eight, in case it should be found necessary to do so.

	Elevation above Datum.	Lift Feet.
At Baie Verte :—		
1st lift from extreme low water in lock	No. 6 at 55·57	} 12·00
At eastern entrance to water surface of tide lock, No. 5 at 77·57		
2nd lift from surface of water in lock	No. 5 at 77·57	} 10·43
To surface of water in upper reach of canal	at 88·00	
		22·43

As the increase of trade might prove hereafter to be such as to require a depth of nineteen instead of sixteen feet in the canal for vessels of a greater draught, it is desirable to sink Locks Nos. 4 and 5 three feet lower at each end of the upper reach than what is actually required for a draught of fifteen feet over the sills. In such case, however, at extreme low water spring tides, vessels drawing over fifteen feet can neither enter the canal nor leave it before the tide has risen at least three feet, or to an elevation of 50·20 above the datum line.

It may be proper to observe that the word draught, in all cases, means the depth of water over the tops of the lock sills, and that the sills are placed one foot above canal bottom.

At the western terminus there is a basin of 600 by 300 feet above each of the first three locks ; at the eastern terminus there is the same number of basins, one above lock No. 5, one between Locks Nos. 5 and 6, and one below Lock No. 6.

Basins. These basins will give increased accommodation to vessels in their passage from one lock to another ; they will also serve to economize the greater portion of the water that would otherwise be lost, in case of successive lockages in opposite directions through the same flight of locks.

At the western terminus on Lac Point, the artificial channel to be excavated is some 2,000 feet in length and 300 feet in width between the piers required for its protection from the shore westward ; thence some dredging will be required for a distance of 2,500 feet further in the same direction.

From Lock No. 4 to Lock No. 5 above Tidnish bridge, the bottom of the canal prism on the upper reach is 100 feet wide, at the elevation of 69 feet, and the side slopes are two horizontal to one vertical ; the depth of water is three feet more than what is required for navigation in order to ensure a full supply towards the Baie Verte end of the canal and to provide against the emergency of the water being drawn off by repeated lockages faster than it can be supplied during a long succession of neap tides ; this surplus quantity will also be required in case the supply from the reservoirs should have to be stopped for the purpose of cleaning out or repairing the same.

From the basin below Lock No. 6 at Tidnish Bridge, the canal prism as far as Tidnish Head, is of the same dimensions as on the upper reach ; thence to sixteen feet water in Baie Verte, at extreme low water, the channel to be dredged from the shore, seaward, is 9,200 feet in length and 300 feet in width between the piers necessary for its production.

Efflux and Supply of Water.

The probable average maximum lifts on which the volume of efflux depends, are effected by the tidal fluctuations at each end of the projected canal ; they may be set down at thirteen feet in the Bay of Fundy, and at eight feet in Baie Verte.

If sixty lockages per day of twenty-four hours, through the canal, are taken as the basis of calculation, the average volume of water discharged daily into Cumberland Basin, after deducting 20,000 cubic feet for the space occupied by a vessel in any of the locks,