cents an acre; but as it would immediately acquire a value if required for a work of this kind, based on the amount that it might be possible to obtain for it, I have allowed $2 50 an acre for 1000 acres, including the Birch Cove and other lakes, which it may be found necessary either to purchase or control in the flowage.

For the right of way I allow $500 per mile on a distance of four miles, or $2000. For compensation to mill owners at Nine Mile House, owners of land on the stream for abstraction of water, and for Davis' Granite Quarry which would be flooded by raising the lake, I allow $35,500. This is less than one half of the amount asked, but I believe more than the property is worth, making in the aggregate $40,000 for land and compensation.

The character of the water does not probably differ materially from that of Long Lake and the Chain Lakes. The drainage area is of the same character, granite and whinstone rocks covering the surface to a large extent. The Birch Cove Lakes however are generally more shallow and the water may not be quite so pure as that of Long Lake.

Estimate of Cost of bringing Water from the Birch Cove Lakes.

Clearing, grubbing and burning brush and timber, 150 acres at $8,	$1200
Dams and waste weirs,	17,000
Gate houses and pipe chamber,	3,000
Land and compensation	40,000
5¼ miles of 27 inch main, from Birch Cove Lake to corner of Park and Cogswell Streets—including cuttings, embankments and culverts, 29,040 feet, at $8.25,	239,580
Reservoir on Shaffroth's Hill, including Land,—capacity 8 million gallons,	30,000
Eight stop cocks—at $400,	3,200
Miscellaneous and Contingent expenses,	20,000
	$353,980

As this estimate provides for bringing in sufficient water for the supply of the city, without using the present mains from the Chain Lakes to St. Andrew's Cross, their value should be deducted in order to exhibit a fair comparison with the other plan:

13,700 ft of 12 inch pipe at $1.90,	$26030,	
13,800 ft. of 15 inch pipe at 2.70,	37260,	63,290
		$290,690

3rd Distribution.

The plan of distribution which I recommend is to divide the city into four districts; to allow the present 12 inch pipes with their connections to remain, and to lay down additional mains leading to these districts without being tapped. By this means the effective head will be maintained as near as possible to the points of consumption.

The first district to embrace all of the city lying south of the line of Sackville Street. The second, all between Sackville and Jacob Street. The third all below Gottengen, and between Jacob and North Streets. The fourth district to include the high service—embracing all lying between Gottengen, Cogswell, Kempt Road and Richmond, also the Citadel.

Each of these districts contain equivalent to from 700 to 800 houses, and a population say of 6 to 7000.

To each of the first, second and third districts, I propose to lay down a 12 inch main, one on each side of Citadel Hill, to be connected through Grafton Street. The other main to pass down Cunard to Gottengen Street. Were not the 12 inch pipe on hand I would prefer making these mains larger, so as to let the whole volume of water down on the business portion of the city. By the plan proposed there will still be sufficient water brought to St. Andrew's Cross to fill two additional 12 inch pipes; one of which may be required for the high service and the other can be led to whichever district may first require an additional supply.

In the business portion of the city I propose to lay down 9 inch pipes in the east and west streets, from the mains in Grafton Street to Granville Street; and below this 6 inches—the increased head, and the draught by the service pipes allowing of the reduction. Through Granville and Water Streets I propose 9 inch pipes for the purpose of connecting the supply from the several mains and keeping up the circulation and a uniform pressure.

In arranging the plan I have kept in view to use the present pipes as far as practicable. Where larger ones are necessary the present to be taken up and used in other parts of the city.

The laying of 3 inch distribution pipes where fire-plugs are required is questionable—they have generally been abandoned for city use. In Boston nothing less than 4 inches, and in New York and Brooklyn nothing less than 6 inches are used. With the ordinary draught on a 3 inch pipe, only one stream in case of fire can be obtained. If more than one fire-plug is in use on the