The infiltration to basin from lake may be taken as about 50 per cent additional.

The capacity of intake and basin may therefore be taken as between 6,000,000 gallons and 8,000,000 gallons per day, depending upon the height of the water in Lake Ontario.

2. Conduits—

The 33 inch conduit can convey 11,000,000 gallons to the pump wells with the water in basin one foot lower than the lake when at normal level.

At low water stage in the lake, which is two feet below normal, the capacity of this conduit would be materially reduced

With the water in basin 3 feet below low water in lake, practically nothing would flow through this conduit, this being due to the height of invert at the Eotridge Creek crossing.

At the lowest stage of the basin the 36 inch conduit has a capacity of 18,000,000 gallons per 24 hours, which also represents the minimum available capacity of both conduits.

3. Pumping Machinery—

Two steam units, vertical, Nos. 1 and 2	5,000,000 gallons
" " " Horizontal, Nos. 3 and 4.	8,000,000 "
" electrically operated turbine units, Nos. 5 and 6. .	12,000,000 "
Normal total capacity per 24 hours	25,000,000 "

The vertical engines should only be relied upon as a reserve, which reduces the total to 20,000,000 gallons.

4. Force Mains—

When pumping at the rate of 8,000,000 gallons per 24 hours to the James Street Reservoir, through the three existing force mains, the pressure on gauge in pump room (No. 3 and No. 4) is 105, representing a friction loss of 6 pounds. When pumping at the rate of 12,000,000 gallons the friction loss will increase about 12 pounds.

If for any reason the 30-inch main should be out of commission, the 18 inch and 20 inch would fail to supply the City. Forcing the entire supply through the two smaller mains would so increase the friction head that the pressure capacity of the turbine units would be exceeded.

The safe combined capacity of the three existing mains may be taken as not exceeding twelve million gallons per 24 hours, with the turbine pumps, and about 15,000,000 gallons with the steam pumps.

5. Reservoirs—

The capacity of the Barton Reservoir, when full, is 11,000,000 gallons, which is held in reserve. About once per week some water is drawn from it and replaced.

The James Street Reservoir, containing 2,500,000 gallons, is merely a compensating reservoir, fluctuating with the City consumption.