

# The Canadian Engineer

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## BRANTFORD WATERWORKS

ILLUSTRATED DESCRIPTION OF A TYPICAL ONTARIO WATERWORKS PLANT—DETAILS OF EQUIPMENT.

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**B**RANTFORD, Ont., derives its supply of water from an infiltration area of about 170 acres in extent, lying within and near a horse-shoe bend in the Grand River. There are intakes in the river and water is raised therefrom and discharged into the distributing pipes leading to the infiltration area. The city owns about 300 acres of land. The water is collected by two sets of lines. The first consists of two 15-inch perforated earthenware pipes about 1,700 feet long and the

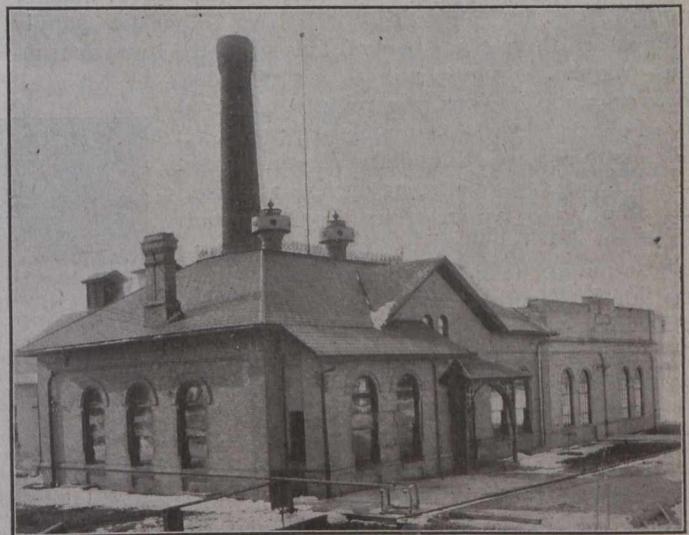
diameter and 23 feet deep, and the second lines are connected to the new pump well, which is 25 feet in diameter and 29 feet deep. The hydraulic canal conveying water to Messrs. Slingby's works, passes the front of the pump-house and is slightly higher than the pump-house floor. This canal is about 100 feet wide and 8 feet deep and is controlled by gates. It is connected to the Grand River about a mile up-stream from the pump-house, where a dam with flashboards has been built across the riverbed to impound water and to increase the head. The city intakes are about a quarter of a mile below the dam.

The pump-house is situated about 2 miles from Market Square and the difference in surface level is about 23 feet. The daily quantity of water pumped varies from about 1,670,000 Imperial gallons in December to about 4,250,000 gallons in March. The average daily consumption is about 2,610,000 gallons, and as the population is



Construction Work on Collection Gallery.

second consists of two 18-inch perforated tile pipes 1,200 feet long. The perforations are one-eighth inch wide and two inches long, and extend two-thirds round the pipes—the solid part being at the invert. The first lines discharge into the old pump well, which is 15 feet in



Pumping Station.

about 26,000 the average quantity per head is 100 gallons per day.

The pumping plant consists of: One Holly double-expansion, Corliss gear, steam-driven pump, 18-inch and 36-inch cylinders, installed in 1900. The suction is 24 inches in diameter and the delivery 20 inches. This pump with steam at 85 lbs. per square inch is rated to deliver 5,000,000 gallons per day under 80 pounds station domestic water pressure. One Worthington 1,670,000-gallon-per-day direct acting double expansion steam pump, installed in 1889, and one Gaskill 1,670,000-gallon-per-day double expansion steam-driven pump 12-inch and 24-inch cylinders, 12-inch suction and 16-inch delivery, installed