

**109 JAMES AVENUE – JAMES AVENUE PUMPING STATION**  
*H.N. Ruttan, 1906*



Built in 1906 to remedy an inadequate firefighting water supply system that had been linked to an outbreak of typhoid fever in 1904, the high pressure pumping system serving the downtown area was lauded as one of the most sophisticated of its kind in the world. The system, completely isolated from domestic service, drew water from the Red River and pumped it at high pressure through eight miles of mains supplying over seventy hydrants in the downtown area. The mains system was controlled from the Central Fire Hall located on Bannatyne Avenue and King Street, while City Waterworks operated the pumping station at 109 James Avenue. Most of the \$1,000,000 cost was raised through taxation of the downtown businesses which benefited from the security and reduced fire insurance premiums provided by the new service.

City Engineer Lt. Col. H.N. Ruttan designed much of the pumping station which consisted of three main components; a coal gas producer plant, a large gas storage tank, and the pumps themselves, each housed in separate buildings. The contract to supply the machinery went to W. Jacks and Company of Glasgow, Scotland, and the six pumps installed were built by Glenfield and Kennedy of Kilmarnock while the engines and gas producer plant were manufactured by

Crossley Brothers of Manchester. When completed, the system had a capacity of 9,000 gallons per minute at 300 psi pressure. The facility was acclaimed as the largest in the world.

The building itself is a good example of early industrial architecture and, like the machinery it accommodates, is designed in a straight-forward and functional manner. The two long adjoined-gable bays correspond to the organization of the pumping system into twin mains and to the two large beam cranes which run the length of the structure. The open interior and large windows provide as much light as possible. The pumps are located in two trenches running the length of each bay twelve feet below the engine room.

In 1962 the engines were converted to natural gas and electricity while the gas producer plant and storage tank were demolished. The pumping station continues to operate, responding to fire alarms received in the downtown area. Together the large and sophisticated pumping system, and the functionally planned facility housing it, provide one of the most impressive examples of the “golden age” of machinery.