

## LETTER TO THE EDITOR

## Open-Spandrel Arch Bridges

Sir,—I am appending a list of Canadian open-spandrel arches, which is the type now used for arches of the longer span of considerable rise. I am anxious to get this list as complete as possible and am writing to a number of engineers in order to make sure, so far as possible, that none escape me. I believe it is complete except for a foot bridge in Guelph. However, I should be much obliged if any of your readers could tell me of any other bridges that should go on this list.

## OPEN-SPANDREL ARCH BRIDGES OF CANADA, 1918

	Clear span of main arch.	Number of spans.	Engineer.
Saskatoon Bridge ..	150 ft.	7 spans.	Prov. Gov't., Regina,—D. Luten, Consulting Engineer.
King George Arch, Oakville, Halton County, 1912 .....	135 ft.	Length of floor, 47'6"—9 spans..	Jas. Hutcheon County Engineer; Frank Barber, Consulting Engineer.
Port Arthur, 1913..	130 ft.	1 span..	L. M. Jones.
Wadsworth Arch, Weston, 1910 .....	118' 6"	1 span..	Frank Barber.
Crawford Street Bridge, Toronto..	81' 4"	3 spans.	Chas. Power, Chief of Dept. Rys. and Bridges; J. S. Burgoyne, Chief Asst. on Design; L. N. Edwards, Chief Asst. on Construction.
Fergus Bridge, Wel- lington County, 1912 .....	80 ft.	1 span..	Bowman & Connor.
Kleinburg Arch, 1913, York County High- way Commission ..	65 ft.	1 span..	E. A. James, Engi- neer to Comm'n.; Frank Barber, Consulting Engi- neer.
Victoria Bridge, Brantford, 1911, Market St. South.	60 ft.	5 spans, total length 250 ft., width 64 ft. ....	T. Harry Jones.

I might call your attention to the list of bridges, purporting to be complete for spans of over 75 feet, given on page 60 of the "Proceedings of the Twelfth Annual Meeting of the Ontario Good Roads Association, 1914."

FRANK BARBER,  
Consulting Engineer.

Toronto, Ont., August 23rd, 1918.

## HAMILTON CITY ENGINEER'S REPORT

**E.** R. GRAY, city engineer of Hamilton, Ont., has submitted to the Board of Control of that city combined annual reports of the engineering and waterworks departments for the two years ended December 31st, 1917. These reports have been published in one volume of about 160 pages and cover, 6½" x 10", coated paper, illustrated by diagrams and photographs.

Among the features to which the report calls attention is the systematic inspection of bridges at regular periods, which has been inaugurated during the past two years with excellent results.

## To Design Storm Sewers

The sewer division is proceeding with the collection of information upon which to base the design of a system of storm sewers. The study is now well advanced. During the past two years this division has constructed a number of local improvement sewers, tendering in competition with contractors.

A detailed pole survey was made by the engineer in charge of the city lighting division over that section of the city where the overhead wiring will be eliminated.

A systematic card index of all plans has been installed by the office engineer, resulting in a considerable saving of time, as there are approximately 3,500 plans on file.

A waterworks appraisal is being prepared and when complete will enable the department to calculate more readily the cost of water.

It is expected that the 10,000,000 Imperial gallon, steam-turbine-driven, centrifugal pumping unit being made for the city by the Turbine Equipment Co., Toronto, will be delivered in December, 1918. The 10,000,000-Imperial-gallon, motor-driven, centrifugal pumping unit has been awarded to the same company, who are agents for the De Laval Steam Turbine Co., of Trenton, N.J., and will be installed at a later date.

## Water Consumption Increasing

The water consumption of Hamilton is still increasing. The average pumpage, 127 Imperial gallons of water per 24 hours per capita, is considerably higher than the average consumption by American cities and almost twice the consumption by cities where the services are metered.

Monthly inspections and reports are made by the mechanical and electrical engineer in regard to all pumping equipment in the various stations.

Mr. Gray recommends the construction of a duplicate supply main from the Ferguson Avenue high-level pumping station to the Jolley Cut, at an estimated cost of \$3,000.

He also urges that some action be taken to determine the cost of power supplied for pumping purposes at the Beach pumping station, the last definite statement received having been dated February, 1916.

The department is preparing a complete and accurate record of all waterworks valves in the city, so that anyone will be able to locate a desired valve.

## May Buy Thawing Apparatus

Due to the unusual severity of the weather, great difficulty was experienced during the past winter with frozen water services, over 350 services having been thawed out, chiefly by electricity. The expense in connection with this work amounted to about \$2,000. The apparatus used belongs to the Dominion Power and Transmission Co. Mr. Gray recommends the purchase of such apparatus by the city at an estimated cost of \$1,600.

The Province of New Brunswick has sold to the public at par \$300,000 of six per cent. twenty-year debentures. The sum of \$200,000 was first offered, but the demand proved so great that an additional \$100,000 was issued. The money will be used to improve the roads, and the principal and interest is payable from motor vehicle fees.