

encountered in carrying the main sewer under the Don River, where cast iron pipes had to be laid to act as syphons.

This syphon consists of two lines of cast iron pipe, and it was decided that it should be laid in the dry so that the joints could be properly made with lead and so that better inspection could be had; to this end, the contractor built coffer dams across the Don River, both above and below the line of the syphon, to prevent the water from the river and from the bay entering into the excavation. The material was of a fairly treacherous nature, and required extremely heavy sheeting. Work was commenced on this contract in July, and at the present time laying of the pipes has been successfully completed from one end of the syphon to the other, and the coffer dams partly removed. In order to verify our opinions with regard to the strength of the cast iron pipe used on the work, a full sized test was carried out.

The total amount of high level interceptor under construction is 29,880 lineal feet. This is the length from Gar-

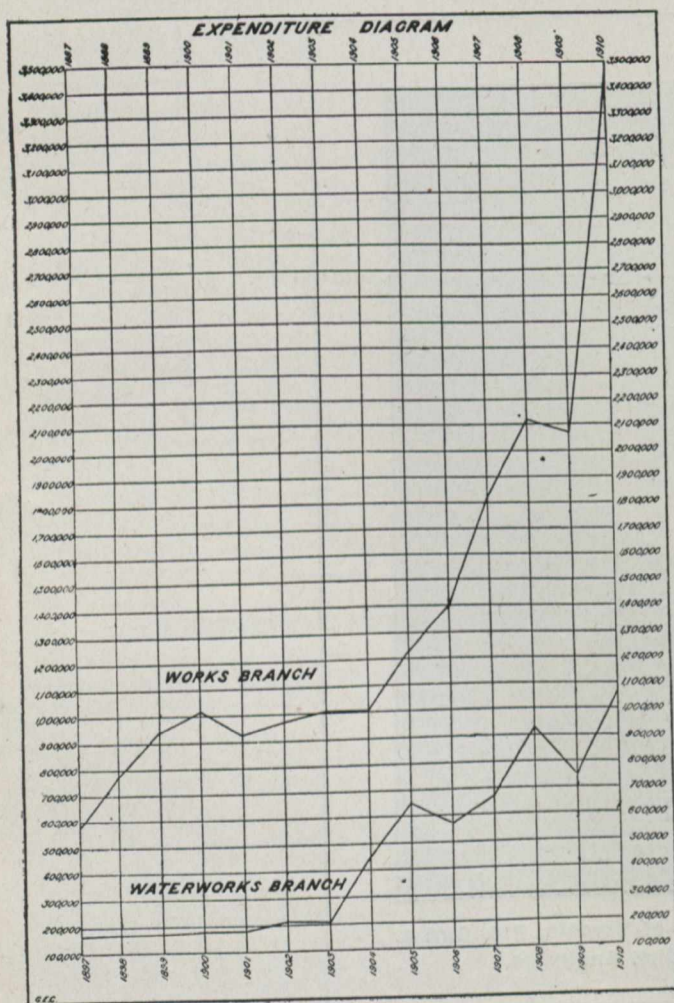


Fig. 1.

risson Creek sewer to the Disposal Works. There is also to be constructed under the by-law an extension of the high level interceptor from this point westerly to the west end of Springhurst Avenue, where the avenue turns to the north.

In order to make the system complete, the engineer in charge has recommended that authority be granted to carry this sewer from this point westerly to Roncesvalles Avenue and the corner of Queen and King Streets, so that the sewage from West Toronto coming down the proposed new trunk sewer from Bloor Street to this intersection could be intercepted, and the dry weather flow carried easterly to the Disposal Works.

Fig. 3 is a plan showing the lines laid down for this sewage system, the point marked X is about the spot of the waterworks intake. Figs. 4 and 5 are illustrative of the method, mentioned above, to carry the conduits across or under the Don River.

Railway engineering in the vicinity of Toronto has been very active the past year or more, as a result of the order of the Board of Railway Commissioners to eliminate level crossings at the Exhibition entrance, Parkdale, Sunnyside, and along the Lake Shore towards the western portion of the city. This, of course, may be taken as the larger portion of railway work; however, considerable other railway construction has been undertaken. The grade revision work is being undertaken jointly by the Grand Trunk Railway and the City of Toronto, and will be, when completed, the most extensive grade separation work ever undertaken in the Dominion of Canada.

The work consists of grade separation, starting from C. P.R. diamond just west of Strachan Avenue, and continuing in a westerly direction to Mimico, a distance of about 5.95 miles.

The first grade crossing to be separated is Dufferin Street, followed by Dunn, Jameson, Dowling, Queen Street (Sunnyside), Indian Road, Howard Avenue, Ellis Avenue, Windermere Avenue, Jane Street, Queen Street West, Trafalgar and Church Street, Mimico, comprising in all grade separation for thirteen crossings. The last crossing in the present city limits of the above mentioned highways is How-

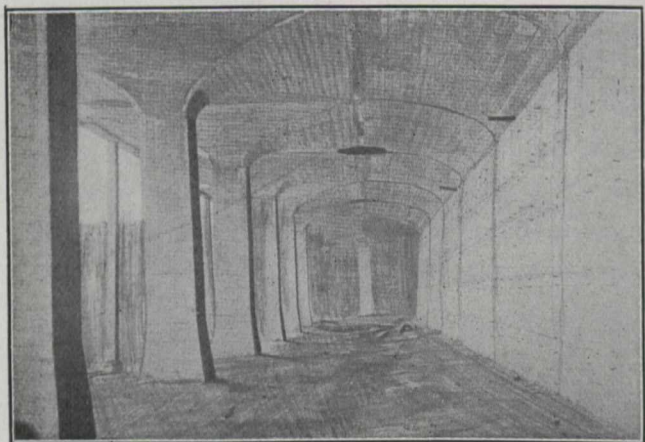


Fig. 2.—Interior View Filter Masonry, Filtration Plant.

ard Park Avenue, or what is sometimes known as western entrance to High Park.

The tracks will be depressed at Dufferin Street 23 ft., Dunn Avenue 25 ft., Jameson Avenue 25 ft., Dowling Avenue 25 ft., at Queen Street, Sunnyside, the tracks will be elevated 2.5 ft., Indian Road 12 ft., Howard Park Avenue 15.5 ft., Ellis Avenue 16 ft., Windermere Avenue 14.5 ft., Jane Street 12.5 ft., Humber River bridge 12.5 ft., Queen Street 12 ft., Salisbury Avenue, Church Street; that is, the present grade crossings at Dufferin, Dunn, Jameson and Dowling Avenues will be overhead bridges upon the completion of the work, and the remaining crossings, from that point westerly, will all be subways. The maximum grade of the railway tracks when the work is completed will be four-tenths of one per cent. (0.40 per cent.) in either direction.

The cost of this work is estimated at \$1,800,000.00. The accompanying diagrams will make the general purpose of this work more clear. Figure 6 is a map of the work.

Since 1905, applications have been made from time to time for the construction of railway tracks on the reserved allowance under the Don Improvement plan on the east side of the River Don.