

In view of the fact that the city did not desire to give the railway rights at this point to any one railroad, and in addition consideration of the demand for railroad accommodation in the manner of team tracks at this point, it was decided that the city should construct and own these tracks, granting operating rights to all railroads on a rental basis to such time as the viaduct question was definitely settled,

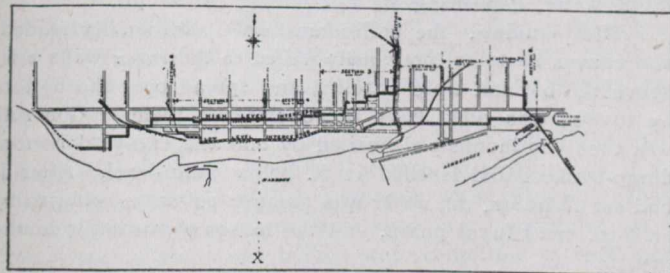


Fig. 3.

after which these tracks are to form part of the General Ashbridge Bay plans for railway facilities, which will be owned and operated by the city.

The trackage to be constructed consists of 1.06 miles. It is single track from the C.P.R. connection near subway at Winchester Street through to Gerrard Street; from this point it is double track to its present southern terminus, which is the Grand Trunk right-of-way south of Eastern Avenue.

In the construction of these tracks it was necessary to remove about 30,000 cubic yards of gumbo clay located in the Isolation Hospital hill, immediately north of Gerrard Street bridge. A point probably worthy of mention is the fact that practically all of the 30,000 yards had to be blasted. The fact that the Isolation Hospital was only about 200 feet from the cut naturally caused some hesitancy on the part of the Department. It was all blasted without mishap or complaint.

Summary of cost:—

Total original estimate	\$37,000.00
Cost of work to date	29,035.54
Credit balance	7,964.46
Estimated cost for completion.....	3,964.46
B'alnce	\$ 4,000.00

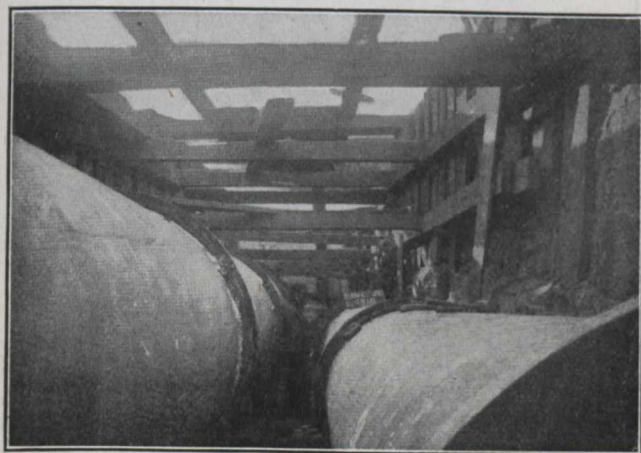


Fig. 4.—Cast Iron Pipe, Don Syphon High Level Interceptor.

A point which might be mentioned for the benefit of anyone having to handle similar material, is the fact that 8 sticks of dynamite (50 per cent. nitro-glycerine) had no effect on this material other than to blow a hole about 3 feet in diameter, and black blasting powder alone was practically

useless. After 3 days of experimenting, it was found that 3 sticks of dynamite and 2 quarts of blasting powder in each hole, 5 to 10 holes at a time, drilled alternately 5 feet apart, and alternately 6 feet and 2 feet back from the face, had the desired effect; it loosened from 21 to 40 yards at a time, depending on the number of holes drilled. The average haul was 1,600 feet on dump cars drawn by teams; team rate \$5 per day for nine hours; labor \$2 per day for nine hours. The average cost was 29.5 cents per cubic yard.

Bridge work during the past year has been particularly active owing to three large works being placed underway, viz., Wilton Avenue and Queen Street bridges and elaborate alterations to the Dundas Street bridge crossing the steam railway tracks.

In a former article, appearing in this paper, there was presented a description of the Queen Street viaduct.

The design calls for a 120-ft. 6-in. through truss span crossing the river supported on 10-ft. towers carried by the old masonry. The east approach commences at a point 34 ft. east of the centre line of Carroll Street, and is filled to a point 58 ft. 6 in. west of the centre line of Davies Avenue.

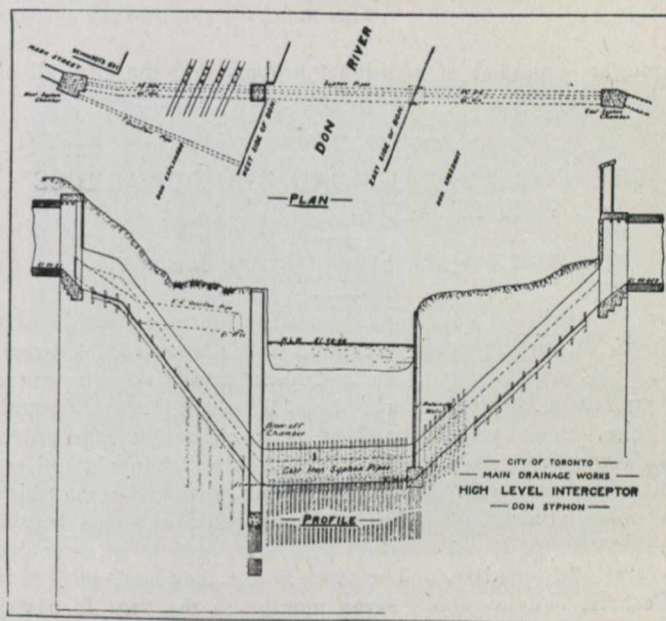


Fig. 5.

From this point there are 48-ft. and 65-ft. plate girder spans crossing over the Don Roadway and the reservation for railway tracks respectively, and connecting with the tower supporting the river span.

The maximum grade on the Queen Street approaches is 3 per cent., and that on the King Street approach 4 per cent., as compared with 3.3 per cent. and 1.58 per cent. respectively on the former roadways.

Access to the roadways on each side of the river is given on the west by a new roadway parallel to and immediately south of Queen Street leading from the Don Esplanade to River Street, and on the east by ramps to the Don Roadway, both north and south of Queen Street.

Including the approaches, the bridge has a total length of 1,300 feet, of which 579½ feet is carried on steel viaduct. The total weight of steel is estimated as 984½ tons. Throughout the entire length the roadway has a total width of 42 feet between curbs, and is paved with wood blocks on concrete.

The substructure is of concrete, that portion east of the river being carried on spread footings on hard blue clay. That part west of the river on wooden piles cut off below low