

Canadian Railway and Marine World.

December, 1913

The Railway Viaduct Along the Toronto Waterfront.

By Frederick H. Moody, B.A.Sc.

Most of the trains entering Toronto come in on the Esplanade, along the waterfront, crossing most of the streets in the central portion of the city at grade. This has been a menace to street traffic which the city has been agitating for years to have remedied. This, in conjunction with a new union station, which it was desired to have built at the same time, was considered by the Board of Railway Commissioners early in 1909, and the Board passed an order in June, 1909, ordering the elevation of the tracks along the waterfront, as well as the building of a new station for the joint use of the G.T.R. and C.P.R. The time limit set by the board was two years, the cost to be borne equally by the two railways and the city.

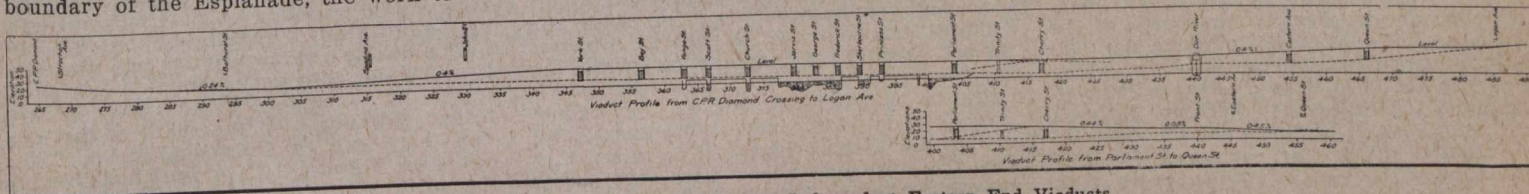
This original order called for a four track viaduct from west of John St. to near Berkeley St., with three tracks each side of the viaduct on the Esplanade level, with all necessary crossovers, the centre line of the viaduct to be located on the southern boundary of the Esplanade, the work to be

appealed the matter to the Board, which in May, 1912, again ordered the viaduct to be built under the original order, with a further extension of two years for its completion, the original two years having by then expired. At the same time, the board approved the G.T.R. plans as the more desirable, and ordered that they be followed, instead of the plans submitted by the C.P.R. for the same proposition. These plans, as ordered to be followed, were described in detail in Canadian Railway and Marine World for Aug., 1912.

Last year, the Toronto Harbour Commission was formed to take over all the waterfront properties of the city and formulate plans for a comprehensive harbour scheme. As the proposed viaduct would follow the waterfront through practically its full length, this commission was vitally interested in the manner in which the railways would develop that section, and in consequence the two railways, the city and the commission decided to consult each other in formulating of plans that would, in the

west, to Logan Ave. on the east. The grade separation work in the west end of Toronto, undertaken by the G.T.R. in 1910-12, terminates at the C.P.R. diamond crossing west of Bathurst St., which is the ruling point on that section of the work, the diamond remaining at its former elevation. From that point easterly the tracks through the city will be elevated, with a consequent rearrangement of many of the yard tracks and spurs.

The principal variation in the route through the city from that laid down in the former plans, is in the section from Yonge St. easterly to the Don River, which will follow a straight line, instead of the sweep northerly along the Esplanade. To do this, a large portion of the land south of the present right of way will have to be expropriated, and as the new line will run across water lots, there will be a great deal of filling. The principal advantage in the new route will be the facility offered to the construction parties in carrying forward the work uninter-



Profile of Viaduct Scheme, Including Independent Eastern End Viaducts.

undertaken jointly by the G.T.R. and C.P.R. with the city. Independently of this, the C.P.R. was ordered to elevate two tracks from the easterly end of the foregoing viaduct to near Queen St., with necessary viaducts over intervening streets. The corresponding section of the G.T.R. line was also ordered elevated on a two track viaduct from the same point to Logan Ave., crossing the intervening streets on viaducts. All the tracks in this whole length of viaduct as ordered, with the exception of the two crossings at John St. and Spadina Ave., which cross on bridges, have the streets passing beneath the tracks. The city was ordered, in addition to paying one third of the cost of the viaducts, both the joint and the separate, to bear the same proportion of the expense of elevating the C.P.R. passenger car yard, the G.T.R. Don sorting yard, the bridges at Spadina Ave., John St., and Eastern Ave., and the substructures for the new union station. In addition to these liabilities on the part of the city, the latter could collect no damages for city property taken for the proper carrying out of the project. Any question of damages between the two companies was to be taken before the Board for adjustment.

At that time, the C.P.R. management spoke of removing a large portion of its passenger service to a union station to be built in conjunction with the Canadian Northern Ontario Ry. in the northern section of the city, on its West Toronto-Leaside line, and thus release itself from the congestion and crossing troubles in the lower part of the city. In view of this, the C.P.R. took exception to being included in the viaduct and union station project, and

combined opinion of the four parties, make for a better viaduct scheme. The result of a series of conferences was the preparation of an entirely new set of plans which it was considered would meet the city's requirements more satisfactorily and work in with the general harbour scheme then being evolved by the commission. The scheme as developed was approved by the four parties, an agreement, dated July 29, 1913, being drawn up on the basis of the new plans.

These substitute plans were presented to the Board of Railway Commissioners, and as it appeared that the works agreed to be undertaken by the four contracting parties of the agreement would be performed on the terms and in the time specified therein, and as all the parties were making application to the board for their approval, the board passed order 19926, July 31, 1913, giving full effect to the agreement and authorizing and approving the construction and maintenance of the works provided in the agreement. Briefly, the order approved the substitution of the new plans for the viaduct for those accompanying the original order 7200, ordering that the work be completed within three years from July 29, 1913. Also, all questions reserved for ultimate determination under former orders 7200, 13568, 16019 and 17033, as well as the necessity for amendments to or rescission of the whole, were reserved for further consideration by the board on hearing the parties. All changes in the plans as may be required must be approved by the board.

The plans as approved are shown in the accompanying sectional illustrations, which show the scope of the work, from the C.P.R. diamond crossing west of Bathurst St. on

ruptured from the necessity of maintaining the regular train service as would be required if the former right of way were followed. As the route at present followed is comparatively narrow, with both sides occupied through the greater part of the route by buildings where it would be impossible to secure temporary space for use during construction, it would be practically an impossible task to elevate the tracks and at the same time maintain the service without serious interruptions. With an entirely new right of way through the more difficult section, this phase of the work is simplified. Another advantage to the new line is that the through tracks will follow a tangent from Spadina Ave. on the west to Parliament St., nearly $1\frac{1}{4}$ mile.

From the west, the grade revision completed to that end of the city, brings the tracks on a descending grade of 0.25% to the C.P.R. diamond crossing, continuing on the present grade to a point midway between Strachan Ave. and Bathurst St. From this point to near Bathurst St., the line is through the old cutting, with no change from the present conditions. In consequence, the bridge across the tracks at Strachan Ave. will not be done away with, but it is said that the present wooden bridge will be replaced by a more modern steel structure, but this will be apart from the viaduct proposition. From there to just east of Bathurst St., there will be no change in existing conditions, the steel bridge across Bathurst St. remaining.

To this point the line will be a tangent, changing there to 1 degree curve through $12\frac{1}{2}$ degrees, terminating at Spadina Ave., from which point the line will be again