

pected that unless unforeseen conditions arise, the work at this point, which involves heavy expenditures, will be completed, including the paving of the street, before the next freeze up. The depression of the street at this point is 9½ ft., making it necessary to make some very extensive alterations to the underground utilities, which consist of water mains, sewers, power and telephone conduits, and gas mains. To the east of the street and underneath the C. P. R. tracks will be located a driveway to the station and baggage rooms, the latter being located under the tracks. The driveway will be 28 ft. wide, and the baggage rooms will be about 140 x 60 ft. The new station has been located, as is shown in fig. 1, just east of Yonge St., and south of the tracks.

In building up the embankment between the subways, the earth work, about 280,000 cu. yds. of which is already placed, was hauled from Leaside Jct. To the west of Avenue Road, instead of building expensive trestle work, the tracks were pumped up, or lifted in 6 in. lifts, without interfering with the traffic. At the streets where subways were to be built, timber work corresponding to the deck of a standard railway trestle, was placed underneath the tracks on ties, in such a way that when a 6 in. lift

own half of the viaduct, but between Yonge St. and Avenue Road, the portion which includes the passenger facilities will be owned

solely by the C. P. R., but the Canadian Northern Railway will enjoy the facilities by paying a rental.

Birthdays of Transportation Men in September.

Many happy returns of the day to:—

G. W. Alexander, Local Treasurer, G.T.R., Western Lines, Detroit, Mich, born at Lightcliff, Yorks., Eng., Sept. 10, 1859.

H. Bailey, ex-Bridge and Building Master, Dominion Atlantic Ry., now of Huntsville, Ont., born there, Sept. 2, 1879.

W. B. Bamford, Division Freight Agent, Atlantic Division, C.P.R., St. John, N.B., born at Belleville, Ont., Sept. 10, 1863.

G. T. Bell, Passenger Traffic Manager, G.T.R. and G.T.P.R., Montreal, born there, Sept. 7, 1861.

W. H. Bigger, K.C., Vice President and General Counsel, G.T.R., and G.T.P.R., Montreal, born at The Carrying Place, near Trenton, Ont., Sept. 19, 1852.

E. J. Blais, Foreman Tinsmith, Grand Trunk Pacific Ry., Transcona, Man., born Sept. 26, 1876.

E. R. Bremner, ex-Division Freight Agent, Ottawa Division, G.T.R., Ottawa, born at Toronto, Sept. 9, 1875.

sion, C.P.R., Calgary, born at Hull, Eng., Sept. 24, 1869.

J. E. Hutcheson, General Manager, Montreal Tramways Co., Montreal, born at Brockville, Ont., Sept. 15, 1858.

C. B. King, Manager, London St. Ry., London, Ont., born at Galena, Ind., Sept. 12, 1871.

S. King, ex-Superintendent, Canadian Car and Foundry Co., Montreal; Director, National Steel Car Co., Ltd., Hamilton, Ont., now of London, Ont., born at Thetford, Norfolk, Eng., Sept. 12, 1853.

R. E. Larmour, Assistant General Freight Agent, C.P.R., Vancouver, born at Brantford, Ont., Sept. 26, 1868.

H. D. Lumsden, M. Can. Soc. C. E., Engineering Department, C.P.R., Toronto, born at Belhaire, Scotland, Sept. 7, 1844.

G. S. Lytle, Car Service Agent, Manitoba Division, C.P.R., Winnipeg, born at Dennison, Ia., Sept. 23, 1878.

C. D. MacKintosh, Superintendent, District

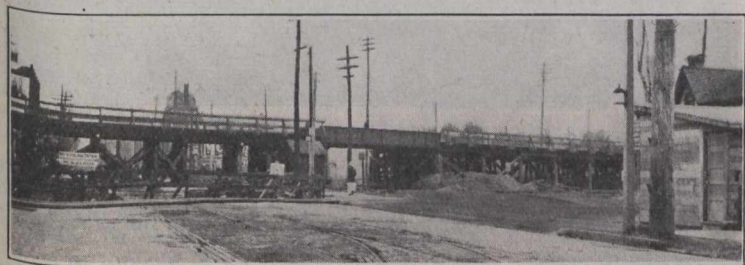


Fig. 4.—Yonge Street Subway Site in Early Stages of Work.



Fig. 5.—Davenport Road Subway as Completed.

was made on the earth work, a 6 in. lift could be made with the deck of the trestle already placed underneath the tracks, by placing ordinary 6 in. sawn railway ties underneath the caps to form cribwork. As the lifting proceeded the cribwork was formed so as to permit driving piles. After the final height or elevation of the tracks had been attained, pile bents were driven, the cribwork was removed, and steam shovel excavation commenced. It was necessary, of course, to drive the piling below the foundation levels, and in some cases on account of the great density of the material encountered, it was necessary to replace the pile bents as many as two and three times, by driving fresh piles.

The substructure of the subway at Avenue Road was built by Jennings and Ross, Toronto, and the superstructure by Canadian Bridge Co. The substructures of subways at Davenport Road, Spadina Road, Howland Ave. and Bathurst St. were built by Wells and Gray, Toronto, and the superstructures by Dominion Bridge Co. The substructures of subways at Christie, Shaw, Ossington Ave. and Dovercourt Road were built by McFarlane, Pratt, Hanley, Ltd., Toronto, and the superstructures erected by Dominion Bridge Co. Wells and Gray have the contract for the substructure of Yonge St. subway, and the superstructure has been awarded to Dominion Bridge Co. The superstructure of Yonge St. involves 2,500,000 lbs. of steel. This is by far the largest amount of steel in any of the subways along the viaduct. It is the C. P. R.'s intention to double track its line between Summerhill Ave. and Leaside Jct., and it is understood that the Canadian Northern Ry. will run into North Toronto over the C. P. R. tracks. To the west of Avenue Road the C. N. R. will

M. H. Brown, Division Freight Agent, Ontario Division, C.P.R., Toronto, born at Victoria Square, Ont., Sept. 2, 1866.

W. B. Bulling, ex-Assistant Freight Traffic Manager, Eastern Lines, C.P.R., Montreal, born there, Sept. 16, 1858.

W. E. Burke, Assistant Manager, Canada Steamship Lines, Ltd., Montreal, born at Belleville, Ont., Sept. 23, 1881.

A. D. Cartwright, Secretary, Board of Railway Commissioners, Ottawa, born at Kingston, Ont., Sept. 20, 1864.

A. S. Dawson, M. Can. Soc. C.E., Chief Engineer, Department of Natural Resources, C.P.R., Calgary, Alta., born at Pictou, N.S., Sept. 6, 1871.

W. E. Duperow, Assistant General Passenger Agent, Grand Trunk Pacific Ry., Winnipeg, born at Stratford, Ont., Sept. 4, 1872.

W. H. Estano, Traffic Auditor, Intercolonial Ry., Moncton, N.B., born at Halifax, N.S., Sept. 29, 1874.

C. B. Foster, Assistant Passenger Traffic Manager, Eastern Lines, C.P.R., Montreal, born at Kingston, N.B., Sept. 30, 1871.

J. P. Ferguson, representing Galena Signal Oil Co., Ottawa, Ont., born at Drummondville, Que., Sept. 12, 1856.

R. S. Gosset, Auditor of Disbursements, Canadian Northern Ry., Toronto, born there, Sept. 28, 1879.

John Gray, General Agent, G.T.R., Toronto, born at River Beaudette, Que., Sept. 28, 1863.

D. W. Hatch, Travelling Agent, Atchison, Topeka and Santa Fe Ry., Montreal, born at Bedford, Que., Sept. 1, 1841.

W. R. Howard, Chief Dispatcher and Trainmaster, District 1, Atlantic Division, C.P.R., Brownville Jct., Me., born at St. Andrews, N.B., Sept. 14, 1871.

E. Humphreys, Fuel Agent, Alberta Divi-

1, Alberta Division, C.P.R., Medicine Hat, born at Auckland, New Zealand, Sept. 24, 1882.

F. J. Mahon, Inspector of Telegraphs, Saskatchewan Division C.P.R., Saskatoon, born at Montreal, Sept. 18, 1865.

W. A. Mather, Superintendent, District 1, Alberta Division, C.P.R., Medicine Hat, born at Oshawa, Ont., Sept., 1885.

J. F. Mundle, City Freight Agent, C.P.R., Montreal, born at Prescott, Ont., Sept. 20, 1857.

M. B. Murphy, Superintendent, District 2, Central Division, Canadian Northern Ry., Winnipeg, born at Napa, Cal., Sept. 11, 1866.

J. Paul, District Freight Agent, Canadian Northern Ry., Winnipeg, born in Euphrasia Tp., Grey Co., Ont., Sept. 13, 1858.

W. J. Pickrell, Master Mechanic, Ontario Division, C.P.R., Toronto, born at London, Ont., Sept. 15, 1880.

W. D. Robb, Superintendent of Motive Power, G.T.R., Montreal, born at Longueuil, Que., Sept. 21, 1857.

E. W. Taylor, General Freight Agent, Reid Newfoundland Co., St. John's, Nfld., born at Carbonear, Nfld., Sept. 8, 1870.

F. G. Wood, Commercial Agent, Canadian Northern Ry., St. Louis, Mo., born at Toronto, Sept. 15, 1890.

H. A. Young, Ontario Storage and Cartage Co., Ltd., Toronto, born at Brooklyn, N.Y., Sept. 1, 1864.

Eastern Canadian Passenger Association.—The monthly meeting of the association was held at Quebec August 3, instead of Montreal, as customary.

The railway mail clerks in the Winnipeg district have offered to the Dominion Government a machine gun, with eight men to operate it.