

The Canadian Engineer

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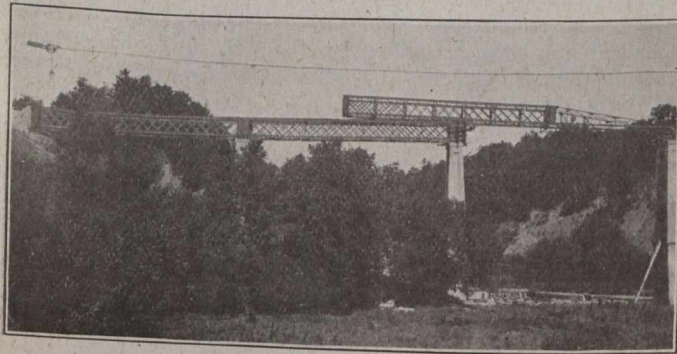
Construction of High Level Bridge at Tansley, Ont.

Girders Launched Without Falsework by Means of Pilot—Four Concrete Piers About 100 Feet High—Concrete Floor 542½ Feet Long and 20 Feet Wide, Curb to Curb—To Carry Provincial County Road on New Toronto-Hamilton Route

By A. W. CONNOR

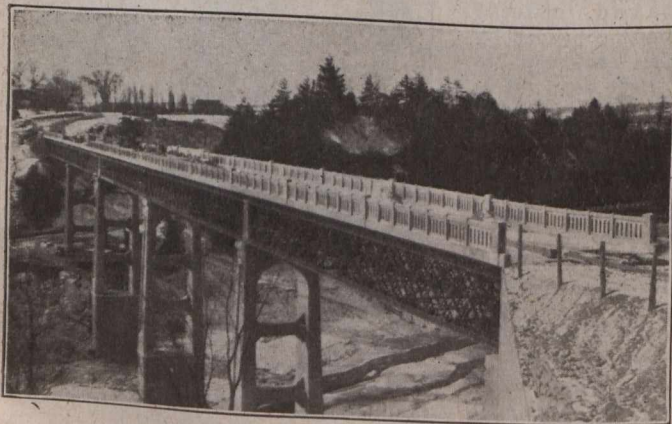
Bowman & Connor, Consulting Engineers, Toronto

DUNDAS ROAD, extending westerly from Toronto, Ont., was selected in 1917 as a part of Ontario's provincial county road system because the bridging of the Twelve-Mile Creek ravine and that of Sixteen-Mile Creek would enable this road to be so improved as to provide a main route between Toronto and Hamilton (via Cooksville and the



THIRD GIRDER, WITH PILOT ATTACHED, READY TO BE MOVED FORWARD

Eaton Highway), relieving the traffic on the present Toronto-Hamilton Highway; the high-level bridge over Twelve-Mile Creek has just been completed by the county of Halton, aided by a provincial subsidy. The bridge is at Tansley, Ont., about 35 miles south-west of Toronto.

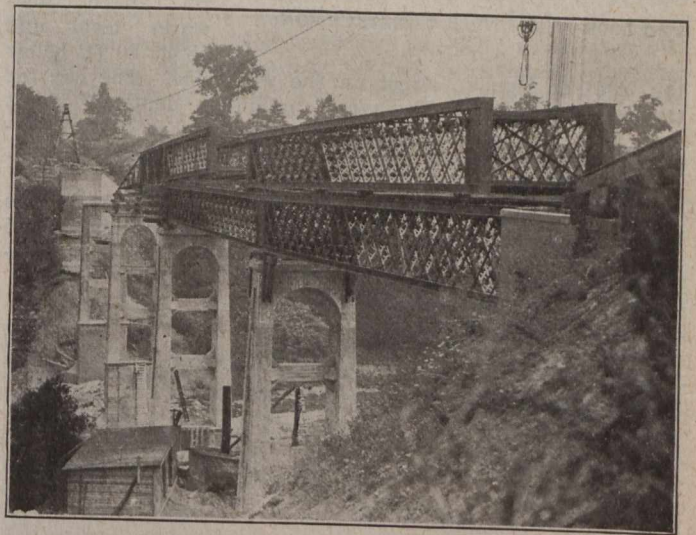


TANSLEY BRIDGE ALMOST COMPLETED

The ravine at Tansley is about 650 ft. wide and 120 ft. deep, and was formerly crossed only by a 90-ft. steel bridge, about 25 ft. above the stream, the approaches making a detour down the side of the hills. These approaches were dangerous and practically impassable in bad weather, being

on a curve, with grade as high as 16½%. The steel structure, built in 1885, was badly rusted, and was also too light for the traffic at the time Dundas street became a provincial county road, so in March, 1917, the writer was instructed to strengthen this bridge, but the day tenders were being opened, a section of the old abutment fell out.

The county council then decided to build a new high level structure from the centre line of Dundas street on the east to a point about 43 ft. south of Dundas street on the west, thus shortening the required structure by avoiding the cut made for the old road. On the east the new structure was to follow an old cut which formerly led to a wooden bridge built about 90 years ago. The writer prepared plans



ANOTHER VIEW OF THIRD GIRDER BEING PLACED—
FOURTH GIRDER FOLLOWS CLOSELY

and specifications for several designs, using steel arch, steel truss superstructure with concrete substructure, and reinforced concrete arch and pre-cast concrete beam and trestle construction. On account of war-time prices, plans were also made for a crossing at an intermediate level and on the line of Dundas street without the deviation required for the higher level.

Very little preliminary investigation was required, as shale appears on all banks and cuts within a few feet of the surface, and on the river banks. The river is generally small and shallow, but in time of freshet fills the whole valley to a depth of 10 to 12 ft. It empties into Lake Ontario at Bronte, about 4 miles south of Tansley.

Tenders were opened June 20th, 1917, but the county council thought that they were too high, so action was de-