

CREDIT VALLEY RAILWAY – THE THIRD GIANT

III. Bridges On The CVR

A dramatic feature of a railway is its bridges. England had the “Firth of Forth”; New York had “Hells Gate” and the Credit Valley built two trestles that were a credit to the engineering of the day.

Frank Shanley, in his notebook on file in the Shanley Papers at the Ontario Archives details the actual inspection of the railway for the Government on August 1, 1879. Beginning “Brampton Ontario 10 a.m. starting at mark in rail at station” he proceeds to chain the entire trackage working northward up the line toward Orangeville. His entries include commencement of trestle; “45 spans, 25 at 30 feet each and 20 spans at 20 feet each; bents on masonry. End of trestle; total 1146 feet.” With these two single entries he indicates the longest wooden curved trestle in Ontario at this time one which the author believes is the record for curved trestle lengths in Ontario with the possible exception of the wooden trestle and bridge leading to the ore docks at Port McNichol built in later years.

The Forks of the Credit trestle was 1146 feet in length and 85 feet high. It used approximately 500,000 feet of lumbering employed 250 men and 50 teams of horses. The teams were paid at the rate of \$3.00 per day while Labourers received \$1.00 to \$1.10 per day. The Brampton “Conservator” of September 5, 1879 reports as follows “The Credit Valley Railway is progressing finely; about 400 men and 60 teams in the immediate vicinity of Cataract. The iron horse will reach Forks bridge on Saturday next.” (September 13, 1879) This is the closest date of any reported information so it is safe to say that the Forks bridge was opened to work trains around this date. A further report in the same paper dated November 14 1879 relates air few lovers of sport of this village (Meadowvale) left by Credit Valley Railway on Monday for the Caledon Hunting Grounds near Kilmanagh. Business is dull this week owing to the bad site of the roads and the inclement weather. The passenger train which runs daily is a convenience to our city. The C.V.R. station house at this place is nearly completed and work is progressing rapidly on a large storehouse.” Since regular passenger service was in effect before November 14, 1879 our date for the completion of the bridge and first use is pretty well established at late September, 1879.

The trestle built on a curve of nearly 90 degrees, crosses the western branch of the Credit River, allowing the railway to cling to the side of the narrow tortuous defile of the eastern branch. The river at this point is descending at the rate of 150 feet per mile but the gradient on the railway did not exceed 70, the consequence being that for a long distance up the valley on both sides of the trestle the road is benched out under the overhanging rocks of the chasm on one side while far below on the other side in the deep recesses beneath, the river foams and tumbles affording some lovely glimpses of wild picturesque beauty.

The other bridge which is unique to the C.V.R. was one which provided the railway crossing of the Grand River at Galt, Ontario. Since the Grand Trunk Railway had a branch on the west bank of the river and the Wellington Grey and Bruce ran along a depression parallel to the river and less than a quarter mile distant from it the C.V.R. was compelled to keep on a high level and cross both railways and the river sufficiently high to be clear of everything.

CREDIT VALLEY RAILWAY – THE THIRD GIANT

The Galt Bridge has five spans of iron together with trestling at either end. Over the Grand Trunk Railway is a Queen post truss of wood set within the trestling of one of the approaches. The whole structure the first large railway bridge of entirely Canadian manufacture was made by the Londonderry Iron Company. Nova Scotia while the works were put together and erected by the Toronto Bridge Company. Since it was the first large bridge constructed of Londonderry iron, a series of tests were made on all the principal sizes at the Canton Bridge Companies' works in Ohio and repeated again in Toronto. In addition most of the principal members were separately tested to a strain of 40,000 lb. per square inch so that when a train of three sixty-ton locomotives was worked over the bridge at different speeds the deflection was less than five-eighths of an inch in the centre of the span.

The total cost of the bridge and approaches including falseworks was \$60,582. Its length was 900 feet and it towered 75 feet above the Grand River. According to the Galt "Reporter" of December 24, 1879 the first passage of a train over the bridge took place at 12:30 noon on that date with Edward Toat in charge locomotive driver Cross, chief engineer Bailey, assistant chief Ellison; section engineer Barber foreman H. Fraser and an unidentified switchman. It proceeded as far as Barry's Cut and completed the crossing of the bridge, including its testing and official opening. The locomotives which made up the train were stopped on each section while measurements were made; then the entire train was backed up and run over the bridge once more at slow speed; then at moderate speed and finally at high speed, whereupon the bridge was declared safe and open to normal traffic.

In Our Todays and Yesterdays Andrew W. Taylor of Galt Ontario in 1969 recounts the first locomotive crossing of the Grand River Bridge at Galt on December 18, 1879: "Rather than risk human life in the test, the levers were set for slow movement and the crew jumped clear leaving it to cross the bridge on its own. At the far side it was met by other trainmen who climbed aboard and took over the controls." Since this story relates to the crossing of a single locomotive on December 18, 1879 and the official test took place on December 24, 1879 it seems quite possible that the 'story' really could have taken place as described and that the engine of the December 18 date really did check trackage etc. and was the first to cross the bridge prior to the official test six days later.

A letter from the Chief Engineers Office of the C.V.R. dated December 6, 1876 describes the Humber Bridge as "having bridge timber of 14 x 14 pine as piers with the piers being carried down to bedrock." The bridge was over 100 feet from the bottom of the piers to the top of the rails. Ties were of white oak and the fence posts of cedar.

Another report, different in its description of the piers of the bridge, is in the Woodstock "Sentinel" of Friday, October 2, 1874 "On Monday morning a party started in carriages from Toronto for an inspection trip along the road, the first halt they made was at the Humber to examine the bridge across the stream. This structure alone gives the C.V.R. a certain prominence as it is pronounced to be the finest bridge of its description on the continent. The spans are built on the "Howe" truss principle; one of 115 feet, one of 138 feet and three of 105 feet each, makings distance of 568 feet of truss at a height of 95 feet above the river. There are 800,000 feet of timber, almost (18,000 pounds of iron in the bridge and 3,186 yards of solid masonry in the piers supporting the spans."

CREDIT VALLEY RAILWAY – THE THIRD GIANT

The report goes into further detail and describes the Streetsville bridge over the Credit River: “This is composed of three spans of 'Howe' truss, 105 feet in length each and about 180 feet of trestling. The height from the water level is 36 feet.”

The 1875 report of the directors of the railway tells that “there are now finished the Humber, Mimico, Pallett's Creek, Cooksville, Barber's Ravine and Credit and Nith River bridges and 2174 linear feet of small trestling on the mainline and Credit and Meadowvale bridges and 1001 linear feet of small trestling on the branch line. Church's 'Overhead' and 'Millpond' bridges are also completed including fourteen spans of Howe truss. There is now eroded 35 miles of fencing on the mainline 17 miles on the Orangeville branch and 3 miles on the Elora branch. On hand are 56,017 ties and completed are 160 culverts and 61 pair of cattle guards on the mainline; 57 culverts and 19 pair of cattle guards on the Elora branch. An average of 620 men and 135 teams were employed during the season.” The report details monies paid for the right-of-way, with a large amount donated to the company for wages and equipment, and also notes that a loss was sustained in trying to build a concrete bridge at Meadowvale. Adding to this loss was an overcharge for certain right-of-ways and some minor contractor failures.

All of these totaled between eight and twelve thousand dollars. The directors' report further states that in 1875 “notwithstanding the loss the company is in sound financial shape, but in order to continue would require a large government subsidy.”