

1894.
NEW ZEALAND.

NORTH ISLAND MAIN TRUNK RAILWAY

(REPORT OF MR. LESLIE REYNOLDS, C.E., ON TRIAL SURVEY OF DEVIATIONS ON THE MARTON-ELTHAM SECTION).

Laid on the Table, by Permission of the House, by the Hon. Mr. Seddon.

Public Works Office, Wellington, 29th August, 1894.

North Island Main Trunk Railway.

Memorandum for Hon. Minister for Public Works.

SURVEYS having been made by Mr. Leslie H. Reynolds, C.E., with the object of ascertaining the nature and extent of works that would be required for improving the grades and curves on portions of the constructed main line of railway between Marton and the junction of the surveyed Ngaire line at Eltham Station, on the Wellington-Waitara Railway, I have the honour to forward Mr. Reynolds's report herewith for your information.

WILLIAM H. HALES,
Engineer-in-Chief.

Public Works Department, Wellington, 27th August, 1894.

North Island Main Trunk Railway.—Trial Survey, Deviations Marton-Eltham Section.

Memorandum for the Engineer-in-Chief.

I HAVE the honour to submit to you the following report upon the recent survey and investigations in connection with proposed deviations on the Marton-Eltham Section, North Island Main Trunk Railway, with a view to easing the heavy grades and sharp curves which exist between Turakina and Waitotara:—

The key-plan, Drawing No. 1, accompanying this report indicates the general direction and extent of proposed deviations, and also gives a comparison of the grades and curves of proposed deviations with those of the present line.

There are in connection with this report five sets of plans, comprising longitudinal sections and alignment of the deviations of the Wangaehu and Brunswick divisions of the survey (twenty sheets), and plans of cross-sections for these two divisions (twenty-one sheets), also the key-plan above referred to.

In this report I deal with the survey in four sections—namely, the “Wangaehu Section,” extending from Matarawa to Turakina; the “Brunswick Section,” from Aramoho to the bridge crossing Goat Valley Stream; the “Kai-Iwi-Okehu Section”; and the “Nukumarū-Waitotara Section.” Complete trial-survey plans and estimates have been made of the Wangaehu and Brunswick Sections. Of the other two sections I was only enabled to make a reconnaissance survey, and therefore report on them approximately.

WANGAEHU SECTION.

The proposed deviation leaves the present line at Matarawa Station, and traverses the Matarawa Valley for a distance of 3 miles 45 chains, with ascending gradients—in the first mile of from 1 in 110 to 1 in 440, and in the remaining 2 miles 45 chains of from 1 in 95 to 1 in 100. From this point there is a level stretch of 26 chains, and then the grade descends towards the Wangaehu River at the rate of 1 in 70, 1 in 95, and 1 in 550, the length of the 1-in-70 grade being 2 miles 54 chains. On leaving the Wangaehu River the proposed line proceeds across the Wangaehu Flat for 27 chains on the level; then rises over the Ruatangata Ridge at the rate of 1 in 75 for 77 chains, and 1 in 80 for 80 chains. The line would then descend to Turakina with gradients of 1 in 70 for a distance of 63 chains, 1 in 75 for 72 chains, and 1 in 88 for 16 chains, the last 12