

## CORRESPONDENCE RELATIVE TO THE

remainder of the distance is through open land, covered with fern and scrub. The distance from the Titokura saddle to the Mohaka crossing is 345 chains, or over four miles and a quarter. The steepest gradient from Galbraith's house to the Titokura saddle is 1 foot in 12, the general gradient being 1 in 15, or 352 feet to the mile. The steepest gradient from the saddle to the Mohaka crossing is 1 in 10. This gradient is in three sections. The total length does not exceed 40 chains. The general gradient is from 1 in 13 to 1 in 20. Along the whole length of road the line has been cut, closely pegged, with the gradient marked on each peg, a notch in the peg showing the fillings, and the cuttings are marked in figures. The expense of making a good dray road, fourteen feet wide, with good side drains, culverts, banks, and formation properly sloped, and the gradients kept as shown on the pegs will be about £2,500.

52 chains through Pohue Bush.—Formation and cutting bush, 66 feet wide, £6 per chain	...	...	...	...	£312
593 chains formation, also building small bridges and culverts, at £3 per chain	...	...	...	...	1,779
40,000 feet matai timber, at 20s.	...	...	...	...	400
					£2,491

Should totara be required, the price will be 25s.

With culverts put closely on the road, I do not think a back drain requisite, excepting in a few deep side cuttings.

The surface soil is very porous, being mostly composed of volcanic ashes, through which the water permeates quickly. A good side-drain, with close culverts, will carry off the water before it acquires volume or force sufficient to cut up the road. Care should be taken that the side-drains or water-tables are sufficient to carry off the water, which, after passing through the porous surface soil, meets with stiff clay, overlying soft freestone rocks. In many places this strata will be tapped, and the water will ooze out of the side cuttings. Care should also be taken that the centre of the road where there is the most traffic should be kept well rounded till such a time as the road acquires solidity, so as to throw the water to the side-drains, otherwise the centre will, owing to the light material of which the road is formed, be worn concave, and will in inclinations form a watercourse.

Should the work be done by day labor, it will be found to cost more than the above estimate, as labour by the day is always less profitable than contract or piecework, at which each man's skill and industry receives a proportionate reward. Should hired labor be used, it would be well to have the workmen under the superintendence of an experienced roadmaker, who would be a judge of both the quantity and quality of the work. This would enable him to give the men piecework or jobs, by which they would, by hard work, earn more than their ordinary wages, with mutual profit to themselves and the Government.

I have, &c.,

D. Ross,

Provincial Engineer.

His Honor the Superintendent of Hawke's Bay.

## No. 108.

Copy of a Letter from Mr. COOPER to His Honor J. D. ORMOND.

Colonial Defence Office,

Wellington, 10th February, 1870.

SIR,—

I have the honor to acknowledge receipt of your letter of the 3rd inst., covering Mr. Bold's report on road works, and tracings of the road from Tarawera to Taupo Plains, and to convey to you an approval generally of your proceedings, and the instructions you have given in the matter.

Will you be good enough, on behalf of the Government, to thank Mr. Bold for the valuable services he has rendered to the Colony in connection with these works.

I have, &c.,

For the Defence Minister,

G. S. COOPER,

His Honor J. D. Ormond, Napier.

## No. 109.

Copy of a Telegram from His Honor J. D. ORMOND to the Hon. W. GISBORNE.

Napier, 20th March, 1870.

I WANT Mr. Bold to get away on Monday morning. Please authorise Paymaster to advance on imprest the £300 for Poihipi's road work. Mr. Bold will take it with him. You know probably that the carts are working on Taupo Plain, between Runanga and Tapuaeharuru, and effect great saving in transport.

ORMOND.

## No. 110.

Copy of a Letter from His Honor J. D. ORMOND to the Hon. Mr. GISBORNE.

Napier, 2nd April, 1870.

SIR,—

I have the honor to forward for your information a copy of the translation of a very good letter received lately from the chief Poihipi, who is, and has been, a very useful man to us at Taupo. I should be glad if you would notice him, by writing that you had seen his letter, and heard of his roadwork at Taupo, on which horse-drays are now working.

I have, &c.,

J. D. ORMOND.

The Hon. the Colonial Secretary, Wellington.