

Generally, reports in connection with the works were prepared in the first place by the Engineering, Mechanical, Transportation, Tariff, Signals, and other officers of the Department respectively, and subjected to thorough examination by the General Manager before being finally concurred in and submitted to the Government. It will be seen that, quite apart from the improved working-conditions and facilities for the public, many of the works will pay interest ranging from 5 to 17 per cent. on cost.

SIGNAL AND ELECTRICAL, £710,000.

This item in the schedule is to cover the cost of automatic signalling, general signalling and interlocking, telegraph and telephone facilities, and electrification of railway workshops.

In regard to *automatic signalling*: The experience of the three-position automatic signals on the Wellington—Upper Hutt line, and the three-light automatic signals on the Christchurch—Arthur's Pass line, both in respect of efficiency and economy, has shown that the system is satisfactory, reliable, and economical. Automatic signalling is now being installed between Auckland and Mercer, and it is proposed to extend it to Marton. The cost of the scheme is £400,000, spread over five years. The annual savings are estimated to amount to £32,200, with a saving of staff of twenty-one clerks, four signalmen, and ninety-two tablet-porters. The annual cost, based on 5 per cent. on the capital, and including electric current, is estimated to amount to £25,000, leaving a net annual-recurring saving of £7,200 on the existing expenditure. The installation of automatic signalling increases the capacity of the lines for trains, which can follow each other at close intervals and still be sufficiently protected by signals. The delays that occur to trains through tablet-porters and others sleeping in will also be avoided, in addition to many other staff troubles.

General Signalling and Interlocking.—This includes signalling and interlocking of important stations and junctions, the provision of fixed signals at officered stations not already equipped, interlocking of points at flag stations, and automatic warning signals at level crossings. This will cost £100,000.

Telegraph and Telephone Facilities.—The most important work under this heading is the metallic-circuiting of all telephone-lines, and additions to telephones and telegraph facilities as required. The metallic circuit has been necessitated by the introduction of general electric-power schemes which affect telephone and telegraph circuits in the vicinity. This work is estimated to cost £65,000.

Electrification of Workshops.—This is to provide for Petone, Addington, Hillside, Invercargill, East Town, and Napier Locomotive Workshops. The electrification of these shops will effect a very considerable saving in actual running-costs, and greatly increase the efficiency and output from the machinery. The actual saving in running-costs by the conversion from steam to electric drive of the Newmarket Workshops has been nearly 150 per cent. per annum. This work will cost £70,000.

The expenditure of £710,000 will be spread over a period of five years.

LOCOMOTIVE BRANCH, £460,000.

The expenditure includes the following:—

Newmarket Workshops, £20,000: For extension to existing shops and the provision of additional pits and roads.

Petone Workshops, £22,000: Extension of shops, offices, foundry, pits, and alterations for electrification.

East Town Workshops, £21,000: New car-shop, extension of erecting and old car-shops, increased lavatory accommodation, engine-shed for shunting-engine, fire-station, alterations for electrification.

Napier Workshops, £7,000: Extension of car-shop, new store, additional lavatory accommodation, alterations for electrification, extension of pits.