

that difficulty would be experienced in arranging finance for the erection of houses, sheds, and subdivisional fencing; and those who desire partly improved farms are selecting them from those which come on the market under the provisions of the Discharged Soldiers Settlement Act and from farms falling back on other mortgagees' hands. In such cases purchasers are often in a position to meet the cost of stocking and pay a small deposit, but would require a large amount of assistance if taking up a new holding.

The settlers on some of the older settlements are still finding it difficult to get ahead, principally on account of the heavy manuring required to give good results and the general depreciation of buildings, which have to be met out of farm revenue. Heavy consideration-money is still being asked and paid for areas on which both pasture and buildings are depreciating, which fact does not appear to be taken into account by the purchaser. The outgoing lessee naturally endeavours to load on his past expenditure, even if the results have not given proof of permanency. When applications to transfer in such cases come before the Land Board the consideration-money is carefully reviewed, as it is realized that when difficulties arise the new lessee immediately expects consideration in the matter of payment of rent.

### APPENDIX III.—LAND-DRAINAGE OPERATIONS.

(R. G. MACMORRAN, Chief Drainage Engineer.)

OPERATIONS have been continued during the year on the main land-drainage schemes, which have been reported on separately as required by statute—viz., Hauraki Plains, Rangitaiki Plains, and the areas brought under the provisions of the Swamp Drainage Act, 1915.

In addition various inspections and reports have been made on drainage matters generally in all parts of the Dominion, ranging from Te Kao, in the extreme north, to Invercargill.

In this connection the following special inspections have been made and reports furnished: Te Aute Swamp (Poukawa), Seaward Moss and Awarua Plains, Allenby and Strathvale Settlements, Jed River, Putorino Settlement, Te Akau, Streamlands Settlement, Tikinui Kauri-gum Reserve, Tangowahine Settlement, Motutangi area, and Te Kaeo.

Work carried out by local bodies under grants and subsidies has also been inspected and supervised, and the total amount passed for payment was £5,397 14s. 10d.

Hereunder is a short summary of general work carried out by this Branch.

*Reporoa Settlement.*—The maintenance of drains has been carried out on this area, eighteen miles having been attended to. In addition the Waio tapu Stream was cleaned of weeds for a distance of three miles, whilst 120 chains of drains were deepened and widened. The question of forming the area into a district under the Land Drainage Act has been placed before the settlers, but up to the present no definite scheme has been evolved.

The expenditure during the year was £455.

*Waikato River.*—Representations have been made for some time by the Aka-aka Drainage Board that the groynes erected by the late Waikato River Board have detrimentally affected the outlets from their area. In order to observe the effects of the groynes, cross-sections of the river from the Waikato Heads to near the Devil's Elbow were taken so as to compare them with those taken in 1913. In addition the gauges at several points were re-established so as to compare the tidal range since the erection of the groynes.

*Tikinui Kauri-gum Reserve.*—An engineering survey of the 350 acres of swamp in this reserve was carried out. Some three miles and a half of traverse and levels were run, with necessary soundings; also plans drawn and a scheme of drainage prepared.

*Tangowahine Settlement.*—This area of approximately 3,000 acres, was purchased for closer settlement purposes under the provisions of the Land for Settlements Act. Some 1,500 acres of the property required stop-banking and drainage.

The engineering survey was carried out, entailing running eighteen miles of traverse and levels, four miles check levels, and the necessary cross-sections locating the lines of the proposed stop-banks and drains. Plans were prepared and a drainage and stop-banking scheme drawn up.

The internal drains could not be constructed, as the route of the proposed railway and main-highway road has not been finally decided upon. However, the work of construction drain and stop-bank along the banks of the Wairoa River was proceeded with. Five contracts were let and some five miles of drains and stop-bank completed. In addition four floodgates were installed.

The expenditure was £2,164 10s. 4d.

*Putorino Settlement.*—The question of improved drainage in this settlement in the Wellington District was investigated, and two miles of levels were carried out so as to locate the drains and obtain information necessary for the preparation of specifications for letting contracts.

*Motutangi Block.*—No field-work has been carried out on this area during the year, but in view of its being opened for selection, plans for the construction of the outlet to the surveyed sections have been prepared, so that a contract can be let to the successful applicants after the ballot.

*Waitakaruru North Block.*—In order to devise a scheme of drainage for this block, which extends from Waitakaruru to Miranda, and contains approximately 4,500 acres of low-lying land similar to the lower Hauraki Plains area, some eleven miles of levels were carried out. The plans for the drainage are now being prepared and will be available to the settlers in due course.