## 1936. NEW ZEALAND.

## DEPARTMENT OF LANDS AND SURVEY.

## RANGITAIKI LAND DRAINAGE.

REPORT FOR THE YEAR ENDED 31st MARCH, 1936, TOGETHER WITH STATEMENTS OF ACCOUNTS.

Presented to both Houses of the General Assembly in pursuance of Section 10 of the Rangitaiki Land Drainage Act, 1910.

Sir,— Department of Lands and Survey, Wellington, 1st July, 1936.

I have the honour to submit herewith the report of the Chief Drainage Engineer on drainage operations in the Rangitaiki Plains for the year ended 31st March, 1936, pursuant to the provisions of the Rangitaiki Land Drainage Act, 1910.

I have, &c., W. Robertson,

Under-Secretary for Lands.

The Hon. Frank Langstone, Minister of Lands.

## REPORT OF CHIEF DRAINAGE ENGINEER.

Sir,--

In accordance with the provisions of the Rangitaiki Land Drainage Act, 1910, I have the honour to submit the report on the works for the year ending 31st March, 1936.

The rainfall in this district for the year has been considerably above the average for the past eighteen years, and as such has provided an adequate test of the efficiency of the internal drainage system of the area. The lands with satisfactory freeboard or of a reasonable height above sea-level, and which form the greater part of the area, have generally come through the test well. However, certain lower-lying lands which have with the past dry seasons responded readily to cultivation with simultaneous consolidation have been more or less seriously affected by the abnormal height of the outlets. Where these areas have been provided with auxiliary drainage in the shape of electrically driven drainage-pumps the effects of the wet season have not been so severe, demonstrating that in this area this form of auxiliary drainage, where properly installed, is quite successful. Seven of these installations are now operating in this area.

The necessity for the provision of up-to-date machinery for the maintenance of the main outfalls is becoming more urgent. A small drag-line has been continuously employed, but this plant should at an early date be supplemented by similar plant with a wider range of usefulness.

The rivers in the area have been at a high level on a number of occasions, the Whakatane River overflowing on to portions of the White Pine Bush area in April and June, whilst during the latter month the Rangitaiki River also overflowed its banks for a short period. Work was commenced late in the year with the ring-barking and removal of willows from the Rangitaiki River, and the eventual complete removal of willows from this channel will have a very beneficial effect on the flood level of the river. The continued high level of the Tarawera River put a severe strain on the pumice stop-bank protecting the farming lands adjoining the east bank, and on several occasions temporary repairs were necessary to prevent a serious breach in the banks. The proposed strengthening of these banks, for which work a light caterpillar dragline is required, should not be long delayed. The low summer level of the river was generally above the average indicated by readings taken over the past eleven years. This can, however, be attributed to the heavier rainfall rather than a permanent raising of the steep pumice bed.