

and overhauls. Valuable assistance in earth-moving jobs was also given by the new D4 tractor belonging to Pouarua Block, Kerepehi. This was loaned to the Rangitaiki District for seven months, and, after being fitted with a bulldozer blade, did a lot of work shifting stop-banks and making tracks for drag-lines. With this existing plant the arrears of maintenance work are being slowly overtaken, and it is hoped to make faster progress next year with all plants in operation. During the year the above earth-moving machinery has handled a total of 102,568 cubic yards of spoil.

A topographical and soil survey is still being carried out in the district and is now nearing completion, nearly all the northern part of the Plains having been covered with a network of levels, with borings to determine the subsoil character at frequent intervals. This and other routine work has kept the survey party busy, and during the year they have completed 106½ miles of levels, have made 179 soil borings, and have established 19 new bench-marks. One important work that has not been started is the proposed engineering survey of the Rangitaiki River. It is proposed to commence this early next year, and also to make preliminary investigations to determine the possibility of establishing a flood-control dam on the Rangitaiki River, in the gorge above Te Teko.

The average number of men employed during the year has been about twenty-six. In addition to the normal drain cleaning and widening, the following work has been carried out :—

A large extension measuring 20 ft. by 18 ft. to the workshop has made the handling of machine repairs much easier and more convenient. Several additions and alterations were made to store buildings and workers' cottages. A new 3-ft.-diameter flood-gate was constructed in Section 72 drain, where it discharges into the Kopeopeo Canal. One other 2-ft.-diameter and two 12-in.-diameter flood-gates were installed, as well as a 4-ft.-diameter culvert in the Omataroa Drain. Twenty chains of new fencing were erected and 7 chains of ¾ in. water-pipe laid. The cutting and removing of willows, blackberry, and gorse from river and drain banks totalled 382 chains for the year. Twenty-one chains of willow revetment work were completed to control erosion on the Whakatane and Rangitaiki Rivers. Overflow along the left bank of the Tarawera River north of the railway-line caused considerable trouble during the year, and kept many men busy for some weeks on two occasions. In one place a hole 10 ft. deep and 30 ft. long was scoured through the bank before being brought under control.

The drain work completed for the year was as follows :—

Drains widened and deepened by hand on wages	..	181 ch. 1736 c. yds.
Drains cleaned by hand on wages	.. ..	976 ch.
Drains cleaned by hand on contract	.. ..	11,107 ch.
Drains cleaned by weed-cutter	.. ..	1,486 ch.

It is becoming more difficult each year to secure sufficient men for the annual drain-cleaning, and consequently more of this work has to be done each year by machine. A new type of tyned drag-bucket, which gives very good results when used on the smaller type of excavator, was developed by the Overseer. With this equipment an average of 8 chains or 9 chains per day of large drains like the Tarawera Western can be cleaned.

The difficulty in securing suitable men for these works because of the lack of accommodation has been mentioned before in these reports. To secure good men for key positions such as excavator operators and drain foremen it is essential that married men's accommodation be provided. The present position in this respect is serious, and unless more accommodation for workmen is provided it seems certain that it will not be possible to keep all the earth-moving equipment manned.

The Committee set up to advise the Minister on the method of control and operation of settlers' small drainage pumping-stations in an area west of the Rangitaiki River sat during last year. The Minister's decision on these matters is awaited by the settlers with great interest, as the policy laid down for this area can probably be applied to other similar areas on the Rangitaiki Plains.