

RIVERS IMPROVEMENT AND PROTECTIVE WORKS.

WAIROA RIVER.

Tokatoka Stop-banks.—Good progress has been made with the construction of new stop-banks down the Wairoa River from Ruawai, to prevent damage by flood-waters and high tides. A mechanical excavator has been used, and has worked two shifts. This machine has excavated 118,000 cubic yards of material to date, and 6 miles of stop-bank are completed.

WAIHOU AND OHINEMURI RIVERS.

Upper Waihou River.

Mangaiti-Tirohia.—Left bank: 2 miles 48 chains of stop-bank were completed during the year by the Waihou dredge No. 1, which worked two shifts throughout the period. Soiling and sowing of 2 miles 50 chains of stop-bank have been completed, and four flood-gates were installed, comprising one 12 in. concrete culvert and three 4 ft. corrugated-metal culverts.

Tirohia-Ngararahi.—Right bank: The raising of stop-bank to final level on section between 4 m. 50 ch. to 5 m. 12 ch. was completed by means of a drag-line excavator.

Left bank: A total length of 5 miles 78·5 chains of bank has been raised to final level and section by two drag-line excavators between 0 m. and 4 m. 27·50 ch. and 4 m. 30 ch. and 6 m. 1 ch.

Lower Waihou River.

Ngahina-Netherton.—Right bank: Preliminary bank between 0 m. and 3 m. has been strengthened by hand-labour. The spoil-banks on each side of railway outlet-drain have been trimmed over the total length of 40 chains of drain.

Left bank: The preliminary bank from 0 m. and 2 m. 26 ch. was raised and strengthened by a drag-line, and from 2 m. 26 ch. to 3 m. 4 ch. by hand-labour. The erection of the concrete retaining-wall at Netherton Dairy Factory is in hand, and 77 chains of drain have been widened and deepened, and a 20 ft. M.A.H. bridge erected over it at Pukahu Road.

Netherton-Wharepoa.—Right bank: Alexander's drain has been completed by the dipper dredge, which dug 1 mile 51·60 chains during the year. A 20 ft. span hardwood bridge was also erected over this drain at its crossing with the Netherton Ferry Road, and a temporary 4 ft. corrugated-metal culvert installed at the mouth of the drain.

Ohinemuri River.—Right bank: The preliminary stop-bank has been raised to final level and section, and soiled and grassed over a total length of 1 mile 66·5 chains, from 0 m. to 0 m. 13·50 ch., 0 m. 26 ch. to 0 m. 31 ch., and 0 m. 55 ch. to 2 m. 23 ch.

Left bank: Stop-bank has been built to final level and section over a total length of 1 mile 29 chains, from 3 m. 56·50 ch. to 3 m. 64 ch., 4 m. 68 ch. to 5 m. 30 ch., 5 m. 73 ch. to 6 m. 6 ch., 6 m. 28·50 ch. to 6 m. 40 ch., and 7 m. 46 ch. to 7 m. 71 ch., and is now complete except for gaps at Criterion traffic and Paeroa railway bridges.

Ohinemuri River (Willow-clearing).—The stump-extractor has completed the clearing and stacking of willows over a length of 3 miles 61 chains of river, commencing from the new junction and working up-stream.

Hikutaia Creek.—Ringbarking of willows has been completed.

General.—A total of 489,110 cubic yards of material was removed by machinery during the year.

Waihou Dredge No. 2.—The construction of the Waihou No. 2 dredge is almost completed. The steel hull, 80 ft. by 29 ft., was built in this Department's workshops at Tauranga, and erection of superstructure, machinery, &c., has been undertaken on these works. This dredge will be driven electrically, current at 11,000 volts, from the Thames Valley Power Board transmission-line, being brought on board by means of an armoured cable, and transformed on board down to 400 volts. A 250 h.p. motor, connected direct to a 12 in. gravel-pump, will provide the main power. Two 25 h.p. service motors are provided to work winches, service-pumps, &c., and a 16 h.p. oil-engine provides stand-by power to work winches in event of failure of the current. A 48 ft. towing-barge has been built, and pontoons erected for discharge pipe-line.

Surveys.

A considerable number of surveys have been made, of which chief items are as follows:—

Mangaiti—Te Aroha: River traverse completed.

Ngahina-Netherton: 11,000-volt transmission-line survey completed for a length of 3 miles.

Ngahina-Wharepoa: Contour survey of lower Waihou completed for 12 miles.

TAIERI RIVER.

This work which is designed to protect the fertile Taieri Plains from periodical inundations such as have occurred in the past, is now being actively prosecuted. In order to determine and provide for the necessary waterways a great deal of survey work and investigation has been necessary. This portion of the work is now almost complete, and in addition detailed surveys have been carried out at particularly important places, such as Outram Railway-bridge, Allanton and Otokia Railway-bridge, in order to determine the flood capacities at these places and to try out alternative lines for the stop-banks.

Headquarters for the construction works have been established at Allanton, where an office, store, carpenter's shop, and garage have been erected, as well as accommodation for workmen and staff.