

Excavator Programme for coming Year.

Wairua River.—Main Diversion Spillways.—Early in the year No. 14 Bucyrus will complete the long D-B spillway.

River Improvement: Lewis's-Purua Bridge.—The Priestman will continue to work steadily down-stream to the Purua Bridge. Later in the coming year No. 14 Bucyrus will be available to commence at the 6 m. 0 ch. mark and work down-stream on battering the bank, general widening, and easing of bad bends. These two machines should have this stretch of the river in good order by the end of the year.

River Bars.—Early in May, provided the river is low enough, No. 13 Bucyrus will attempt to grapple with the shallow at the lower end of No. 8 diversion. This shallow was dredged by the Priestman some eighteen months ago but "came up" again from the bottom.

Up-river Diversions.—No. 7: No. 13 Bucyrus will concentrate on this in the near future, and should be able to finish early next summer.

No. 8: No. 13 Bucyrus should be excavating at this point by next December.

No. 10: No. 26 dipper dredge will be moved from the mouth of the Ngararatunua Canal, through the Jordan Bridge, to the site of this diversion as soon as there is sufficient water to float her. In the winter months this machine should be able to make this work conform to a grade of 15.00 ft. with a top width of some 90 ft.

No. 12 Bucyrus should be available towards the end of the year to complete the dipper's work to general river-diversion dimensions of 110 ft., top width, with flat batters.

No. 13: Construction work is well in hand by No. 12 drag-line, and should be completed sometime about June, 1930.

No. 16: Construction work by No. 12 drag-line should be in hand at this point next July, and the work should be completed in November. The machine will then return to No. 10.

Mangahuru-Ngararatunua Junction.—No. 13 drag-line will spend a few days early in the coming year in making a good job of this actual junction of the two diversion channels.

Handwork Programme for coming Year.

Relief Work.—Of the hand draining-work carried out to date, except for the original Otonga work from 0 m. 40 ch. to 2 m. 40 ch., and the Okarika work from 1 m. 0 ch. to 3 m. 50 ch., all has been done by relief workers.

At present these relief workers are still engaged on Riponui outlet (which will be completed shortly), Otonga branch drain (also to be completed shortly), outlet through Sections 7, 12, and 11 (Okarika), and outlet through Sections 10, 9, and 5 (from No. 10 diversion). If the weather holds good enough an attempt to complete the two latter jobs will be made.

Other Works, &c.

Survey Work.—Engineering surveys: An engineering survey, with frequent peat soundings, has been made of the Ngararatunua arm of the swamp. A comprehensive survey has been made of the Waiotu Stream and adjoining swamp areas. Levels, cross-sections, &c., have been taken as necessary for fields of relief work. Early in the coming year a complete survey will be made of the Whakapara arm.

Land surveys: Through the latter part of the year a complete land survey was made of the properties affected by the Mangahuru Stream improvement work.

Relief Work.—Since October last an average number of some seventy-five men have been employed in this area on relief works. The work done has been almost wholly hand draining and fair results have been obtained for the money expended. The work as far as possible was carried out on the co-operative contract system.

Wairua River Improvement.—The final dimensions of the river-improvement work are still under review. Following the test stretch done late in the year with the drag-line, it would appear that, through the swamp area, it is possible to work economically to 120 ft. width at a stage of 26.00 ft., keeping to batters no steeper than $1\frac{1}{2}$ to 1 down to an excavation grade of about 12.00 ft., and then aim for improvement below the swamp area to give uniformity of flood flow down to diversion No. 1B, where work should be constructed to 120 ft. width at a stage of 20.00 ft. with batters no steeper than $1\frac{1}{2}$ to 1 down to an excavation grade of about 11.00 ft. This enlargement of the channel would not eliminate flooding, but would reduce the height and period of same.

Main Camp Site.—For some considerable time now the workshop, stores, and office have been located at Ruatangata West. This location was governed by the continuous rockwork being done in that locality. The rockwork will be finally completed in the early future, so arrangements have been proceeding steadily through the past few months to make the central organization at a new camp-site on the Jordan Road fronting Section 2, Block IV, Purua Survey District.

Works Expenditure.

The expenditure recorded for the year totalled £29,551 2s. 5d., of which £15,916 14s. 9d. was paid in wages and thirty-two piecework and co-operative contracts let, totalling £4,193 16s. 7d.

WAIHI DRAINAGE AREA (20,000 ACRES), TAURANGA COUNTY.

During the first half of the year, apart from the dredging of the Kaikokopu Stream, commenced in the previous year, work in this area consisted entirely of maintenance and minor improvements of existing works. During the latter half of the year, however, a considerable length of very desirable drain improvement and construction work was put in hand, local and outside relief workers being employed.