

1917.  
NEW ZEALAND.

DEPARTMENT OF LANDS AND SURVEY:  
RANGITAIKI LAND DRAINAGE.

REPORT FOR THE YEAR ENDED 31st MARCH, 1917, TOGETHER WITH STATEMENT  
OF ACCOUNTS.

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

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SIR, —

Department of Lands and Survey, Wellington, 1st June, 1917.

I have the honour to submit herewith the report upon drainage operations in the Rangitaiki Plains for the year ended 31st March, 1917, pursuant to the provisions of the Rangitaiki Land Drainage Act, 1910.

The report of the Chief Drainage Engineer (Mr. J. B. Thompson) gives details regarding the successful progress of the operations carried on under exceptionally trying conditions.

The expenditure to date has been as follows :—

	£
For the year ended 31st March, 1912	12,140
.. 1913	15,203
.. 1914	17,873
.. 1915	15,990
.. 1916	16,875
.. 1917	21,675
Total	£99,756

The accompanying statement of accounts shows the expenditure for the year.

I have, &c.,

The Right Hon. W. F. Massey, P.C.,  
Minister of Lands.

T. N. BRODRICK, Under-Secretary.

STATEMENT OF ACCOUNTS (AS REQUIRED BY SECTION 10 OF RANGITAIKI LAND DRAINAGE ACT, 1910)  
FOR THE YEAR ENDED 31ST MARCH, 1917.

<i>Receipts.</i>			<i>Expenditure.</i>		
	£	s. d.		£	s. d.
To Balance forward .. .. .	5,835	6 0	By Drainage - works, stop-		
New Zealand Loans Act, 1908—De-			banks, clearing chan-		
bentures issued under the Rangitai-			nels, and all expenses		
taiki Land Drainage Amendment			incident al thereto ..	12,364	6 7
Acts, 1913 and 1914 .. .. .	17,000	0 0	Equipment, and main-		
Receipts under the Rangitaiki Land			tance of dredges, wages		
Drainage Act, 1910 .. .. .	16	2 8	of dredgemasters, &c.	4,635	4 10
			Travelling-allowances and		
			general expenses ..	236	0 11
			Office upkeep .. .. .	5	15 3
			Material .. .. .	79	14 9
			Compensation for land		
			taken .. .. .	886	17 2
				<hr/>	18,207 19 6
			Interest on debentures		
			issued recouping the		
			Consolidated Fund ..		3,356 0 5
			New Zealand Loans Act,		
			1908—Charges and ex-		
			penses in connection		
			with debentures issued		0 17 6
			Rangitaiki Land Drainage		
			Amendment Act, 1913		
			(section 6)—Rate Ac-		
			count : Refund of rates		
			collected .. .. .		110 13 6
			Balance—Cash in Public		
			Account .. .. .		1,175 17 9
				<hr/>	<hr/>
	£22,851	8 8		£22,851	8 8

*Loan Account.*

1917—March 31st.	£	s.	d.	1916—April 1st.	£	s.	d.
To Balance .. .. .	98,000	0	0	By Debentures issued under the State-guaranteed Advances Act, 1909, and amendments .. .. .	45,000	0	0
				Debentures issued under the Rangitaiiki Land Drainage Amendment Acts, 1913 and 1914 .. .. .	53,000	0	0
	<u>£98,000</u>	<u>0</u>	<u>0</u>		<u>£98,000</u>	<u>0</u>	<u>0</u>

### REPORT OF CHIEF DRAINAGE ENGINEER.

SIR,—

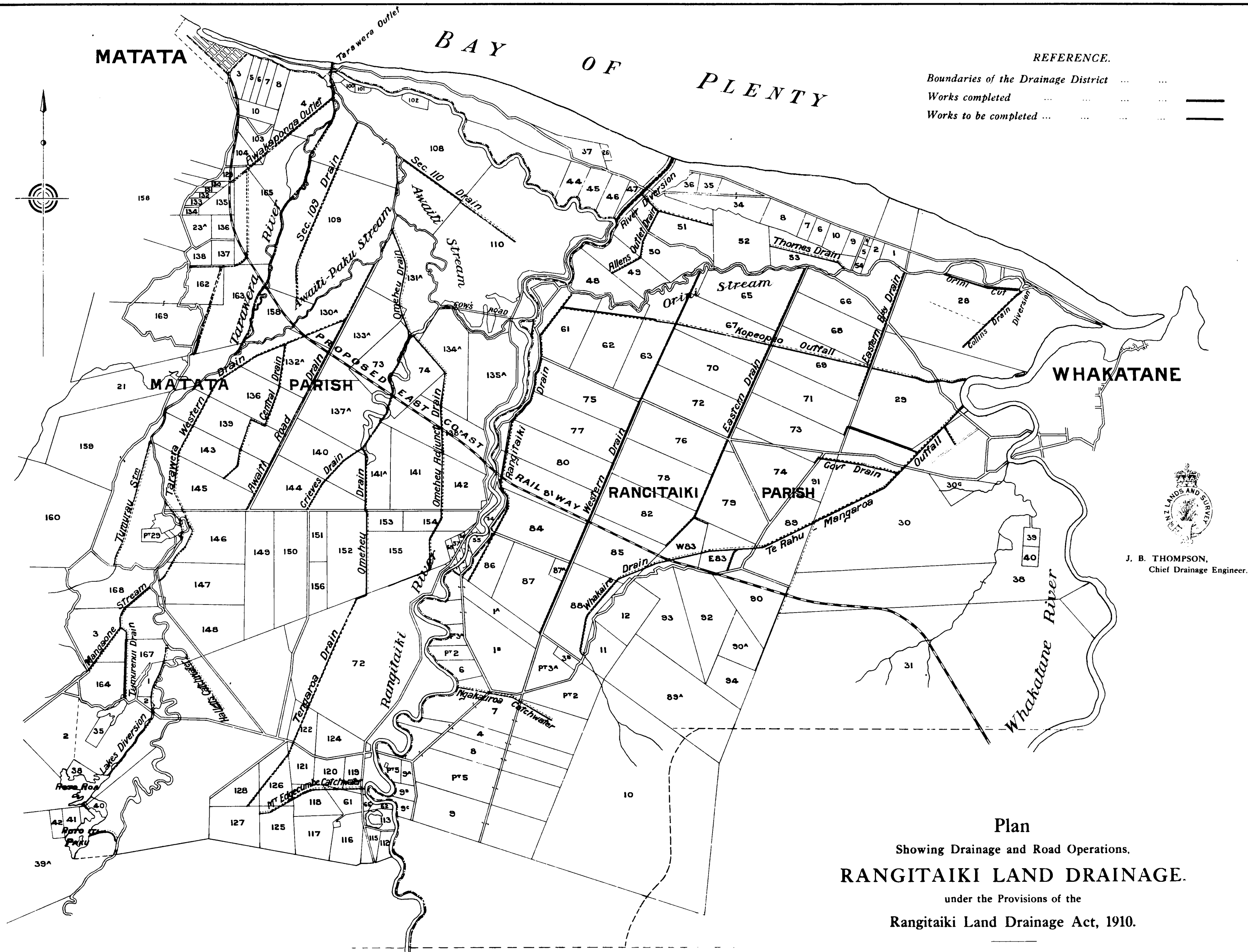
I have the honour, in accordance with the provisions of the Rangitaiki Land Drainage Act, 1910, to report on the various services performed during the financial year ending 31st March, 1917.

Good progress has been made with the various works throughout the year, but much more could be done were more men available, the dearth of suitable labour consequent upon the war and its exigencies being severely felt in this district.

For the above reasons it has not been possible to proceed with certain proposals in connection with Te Rahu and Whakaire outfalls. It is very manifest that the latter will require a diversion direct to the Rangitaiki River, as the late floods have overtaxed its capacity in times of abnormal conditions.

The weather for the last twelve months has been exceedingly wet for the Bay of Plenty district, and has caused a considerable growth of raupo, &c., necessitating much more maintenance than in former years. A flood occurred at the end of February and was considered to be the highest for some years, but no great damage was done, and the Rangitaiki River did not overflow in the lower reaches at all. Stop-banking is now being done where the river overflowed in its upper reaches, and this should help matters considerably.

The new Taperera cut should relieve the northern end of the swamp, and it will certainly lower the old Rangitaiki and Awaitei Streams considerably and make a large expanse of country comparatively dry.





## DREDGES.

The three dredges have been busily engaged in carrying out the various outfall drains. During the year under review a total of 261,751 cubic yards of spoil has been excavated, at a total cost of £4,764 15s. 5d., or an average cost of 4·36d. per cubic yard. This includes all charges—wages, supplies, repairs, &c.—and must be considered very satisfactory, especially as coal charges, freights, and wages have considerably increased during the last twelve months.

The Hammond dredge has been straightening the Tarawera River, and has put in several cuts; the dredgemaster also supervised the erection of a good many chains of stop-banks necessitated by the subsidence of the old banks. One Priestman dredge was occupied in the Kopeopeo outfall, but owing to the treacherous nature of the country causing slips it was idle for some time. However, during the enforced idleness advantage was taken to overhaul the machinery. A spillway was erected in the Kopeopeo outfall to raise the water-level there, but the foundations of the spillway gave considerable trouble, scouring out to a depth of fully 10 ft. in front, the rotten nature of the country traversed by the dredge, together with heavy freshes, being contributing factors. Nevertheless, I am now pleased to say that everything is all right, and the dredge is making good progress. The other Priestman dredge has been busy towards the latter end of the year taking out the Tarawera cut, and good progress has been made with this work both by dredges and scoops, and shortly after the end of the year I anticipate letting the water through to the new outlet.

## TARAWERA RIVER DREDGING.

The Hammond dredge has during the year excavated a total of 50,727 cubic yards of spoil, having been engaged in straightening different bends of the river. Unfortunately a great deal of pumice is on the move in this river, and has caused silting-up in several places, which has necessitated the raising of stop-banks; but great hopes are entertained that the new Tarawera outlet will cause a considerable scour and so do away with this source of trouble. After widening out one or two cuts near Hallett's flax-mill it is intended to cut off several bends above same. Surveys have been made and cuts laid off on the ground. When these are put through the river will have good straight runs, and river-overflowing should be a thing of the past.

## KOPEOPEO OUTFALL.

Good progress has been made with this cut, but owing to the difficulty of taking coal to the dredge a new spillway was erected. Unfortunately, the country was of a very treacherous nature, and the foundations were washed out—although driven 10 ft. in the ground—by scouring-out at the bottom. However, after a lot of work the scour has been stopped, and things are going ahead very smoothly, although further trouble may be expected. For a good portion of the cut considerably more material was taken out, to prevent slips crushing dredge and impeding proper working, than would otherwise have been necessary.

## MAIN OUTLET DRAINS.

During the year seven miles of new drains, thirty-two miles of cleaning, widening, and deepening, and three miles and a half of dredging, and also three miles of snagging on the Rangitaiki River, have been carried out. Maintenance will be a considerable item in the future until the works are finally completed.

## ROADS.

Very little formation has been done in connection with the works, the only two being about 60 chains on the Tarawera Cross Road and Gow's Road, but the latter is not quite finished. Nothing has been done so far in connection with proposed main arterial road which is to be constructed adjacent and parallel to the East Coast Railway, owing to the centre-line and station-yards, &c., not having been finally located. This road will be of great benefit to the settlers, and its completion is eagerly looked forward to by them, as several are completely isolated until such time as this road is formed.

## BRIDGES.

No bridges of any importance have been erected, but several small sill bridges have been constructed.

## FLOATING PLANT.

This consists of two Priestman dredges, one Hammond bucket dredge, two ferry-pontoons, one snagging-barge, three coal-barges, one towing-barge, two oil-launches, and several small boats and punts. All the above are in first-class order, the second ferry-pontoon having been reconstructed for use in connection with the new outlet on the Tarawera River.

## BUILDINGS.

All buildings on the works, including workshops, stores, &c., are in fair order and up to requirements, the total being the same as last year—viz., seventeen.

## SURVEYS.

Most of the engineering surveys necessary for the carrying-out of the works are well up to date, and one or two land surveys have been carried out by the staff.

## SUMMARY OF WORKS PERFORMED.

Excavation by wheel-scoop teams	...	...	...	58,000 cubic yards.
Excavation of canals by dredges	...	...	...	261,751 „
New outlet drains	...	...	...	7 miles 0 chains.
Cleaning and deepening outlet drains	...	...	...	32 „ 0 „
Roads formed	...	...	...	1 „ 40 „
Fencing	...	...	...	4 „ 47 „
General improvements, snagging, &c., of Rangitaiki River; general maintenance and improvements to existing works, together with many minor services too numerous to mention.				

## WORKS EXPENDITURE FOR THE YEAR.

The total works expenditure for the year, including supplies, repairs, &c., amounts to £17,011 17s. 1d. On account of piecework contracts and day-labour of all descriptions the sum of £11,090 19s. 10d. was paid out of Whakatane Imprest. Piecework contracts contributed £1,317 15s. 8d., and day-labour works £9,773 4s. 2d.

## GENERAL.

The books in connection with the works are kept in the Thames office. Many road and engineering survey plans and tracings were made. Mr. O. N. Campbell, Land Drainage Engineer, who had local charge of works, enlisted for active service, and is now in training at Trentham. I regret the temporary loss of the services of so competent an assistant, and his duties are now being carried out in a very efficient manner by Mr. J. H. Treseder, Land Drainage Engineer, and late officer in charge of Poukawa Drainage-works.

I have, &c.,

J. B. THOMPSON,

The Under-Secretary for Lands, Wellington.

Chief Drainage Engineer.

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