

1948  
NEW ZEALAND

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DEPARTMENT OF LANDS AND SURVEY

# SWAMP DRAINAGE

REPORT FOR THE YEAR ENDED 31st MARCH, 1948

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*Presented to both Houses of the General Assembly pursuant to Section 13 of the Swamp Drainage Act, 1915*

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Department of Lands and Survey, Wellington, 23rd June, 1948.

SIR,—

In pursuance of section 13 of the Swamp Drainage Act, 1915, I have the honour to forward the report of the Chief Drainage Engineer covering operations on lands proclaimed under the Swamp Drainage Act and amendments.

I have, &c.,

D. M. GREIG,

Under-Secretary for Lands.

The Hon. the Minister of Lands.

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## REPORT OF THE CHIEF DRAINAGE ENGINEER

SIR,—

I have the honour to submit my annual report for the year ended 31st March, 1948, on the areas proclaimed under the Swamp Drainage Act, 1915, and its amendments.

### KAITAIA DRAINAGE AREA (61,430 ACRES), MANGONUI COUNTY

Work in this district has comprised the maintenance of drains, stop-banks, flood-gates, the deepening of a small portion of the main drains, and some land-development work. As the result of subsidence of the peat swamps, most of the drains require widening and deepening. A drag-line excavator ordered for this district about ten months ago has not yet arrived. This machine is required for urgent drain-improvement works, which include reconstruction of stop-banks and enlarging main drains. The work of replacing metal culverts and flood-gates with concrete structures has been commenced, and is to be continued next year. Repairs to the control weir at the head of the Whangatane Spillway have been completed. Considerable quantities of silt have been deposited in the bed of the spillway during recent years, particularly between the weir and the Kareponia Bridge, where there is a prolific growth of weeds. It will therefore be necessary to redredge this portion in the near future.

No major flooding occurred during the year, with the exception of the lower-lying areas bounding the Tangonge Lake, the lower end of the Waihou Canal, and the lower portions along Puckeys Drain, which were under water for considerable periods. A resurvey of the peat area is to be made. This will give an indication of the amount of further subsidence in the land to be expected in the future.

The rainfall for the year ended 31st March was 54.35 in.; the wettest month was July, 1947, with a fall of 7.76 in., and the driest, February, with 1.33 in.

*Expenditure and Rates.*—Maintenance expenditure charged against the Rate Account for the year, £2,282.

Rates struck : Special, £2,741 ; general, £2,238.

Rates collected, including arrears : Special, £2,031 ; general, £2,152.

Rebates ( $33\frac{1}{3}$  per cent.) allowed on special rates on account of prompt payment, £623.

Maori rates struck (gross) were £324. Of this amount, £181 has been paid, and rebates allowable amount to £31. Arrangements to pay a further sum of £93 were made on properties under the Mangonui Maori Development Scheme, and payment was received immediately following the close of the financial year.

#### HIKURANGI DRAINAGE AREA (50,000 ACRES), WHANGAREI COUNTY

No work was carried out in this area.

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

Only slight inroads have been made this year into the arrears of drain-maintenance work in this district. Two excavators have been used in the district this year. One was a larger Speeder drag-line hired from the Public Works Department for use on the lower Pongakawa River. This machine worked from 2nd July to 8th December and then broke down before completing the job and had to be returned to the Public Works Department for complete overhaul. The other plant was the small R.B. 10 purchased by the Department second-hand. Though extensively overhauled last year, this machine still gave a lot of trouble again this year and had to be laid up several times for repairs. It is too small for most of the work in this district, which involves the removal of considerable quantities of heavy timber from many of the drains.

As mentioned above, a Speeder excavator was hired from the Public Works Department to improve the lower reaches of the Pongakawa River. This stream had silted up badly, and the sand and silt was removed by the excavator and placed on the right bank to be formed into a stop-bank at a later date. The machine started work on 2nd July and worked down-stream from the railway-line and made quite good progress until it broke down on the 8th December and had to be returned to the Public Works Department for overhaul. During the five months that it operated this plant completed 108 chains of the right bank of the Pongakawa Stream and removed 42,450 cubic yards of spoil.

No. 34 R.B. 10 excavator continued with the preliminary dredging of the Wharere Canal. This work was of an emergency nature only and was designed to reduce flooding in the canal. Most of the weed-growth and part of the accumulated silt and sand were removed. Work started at the railway-line in March, 1947, and proceeded down-stream. The work was completed on the 18th July, when 110 chains of the right bank and 10 chains of the left bank had been completed for the year under review, and 19,780 cubic yards of spoil handled. The machine then made a start on the Wharere Road Drain, west side, working south from Waerenga Road. This is one of the drains required for the new

pumping scheme. The machine made fair progress until near the end of August, when it was held up for some days owing to a breakdown. It was then decided that the work of removing heavy timber from this drain was too severe a strain on this plant, and it was shifted to the Kaikokopu Stream. At this time 31 chains of the Wharere Road Drain had been completed and 3,050 cubic yards of spoil shifted. On the Kaikokopu Stream the work consisted of the improvement of the stream-bed by the removal of accumulations of sand which was placed on the right bank to form a stop-bank for the purpose of preventing flood overflow on to adjoining settled land. This work proceeded fairly steadily, although there were several delays for repairs to the machine, and difficulty was experienced in forming the stop-bank in the restricted space available between the edge of the stream and the roadway. A further complication was the presence of a high-tension power-line on the line of the proposed stop-bank. At the end of March 70 chains of this work had been completed and 16,600 cubic yards of spoil excavated.

The flood-pumping station constructed last year at the junction of the Wharere Canal and Waerenga Road has progressed one stage further during the year. The culvert pipes for the discharge of the pumps have arrived and have been installed, together with the necessary flood-gates and fluming into the canal. The pump, motor, and other gear arrived at the end of March, and will be installed immediately. A start will then be made with the excavation of the inlet drains, which have been left until the pump is in operation so as to facilitate the removal of any heavy deposits of timber.

The T.D. 35 tractor was employed in the district for about eight months during the year. From April to July the machine was employed crushing heavy blackberries, forming cattle-tracks, harrowing pastures, &c. It was then transferred to the Rangitaiki district for the winter and returned again in December, when it was engaged for a month on the pulling of willows and timber from 70 chains of the upper end of the Kaikokopu Stream to improve the channel. From January to March the machine carried on with heavy harrowing, carting of spoil and timber, levelling of dredge-tracks, &c. During the year 438 acres were harrowed and 21 miles 40 chains of tracks cleared through the swamp with this machine.

The normal amount of drain-cleaning was done during the year. The work was carried out mainly by contract, and the total length of main drains cleaned amounted to 35 miles 61 chains. A small amount of widening and deepening by hand labour was also carried out, 2 miles 10 chains being completed for the year.

During the year the survey party from Thornton carried out a topographical and soil survey of part of this district, covering the area of 1,600 acres between the Pongakawa Stream and the Wharere Canal. Other work included an engineering survey of part of the Upper Pongakawa River. In this district  $14\frac{1}{2}$  miles of levels were run and 24 bore-holes for soil sampling were made during the year.

The rainfall gauged at Pongakawa at 9 a.m. daily totalled 55.42 in. for the year. The wettest month was October, when 11.15 in. was recorded, and the driest was February, with a fall of 0.68 in. From the climatic angle the year has been very favourable. Though there was a certain amount of flooding in October, this was not unduly serious. The dry spell after Christmas has not been very pronounced in this area, and pastures are at present in good condition.

*Expenditure and Rates.*—Expenditure on maintenance for the year, £1,240.

Rates struck : Special, £765 3s. 5d. ; general, £1,607 13s. 2d.

Rates collected, including arrears : Special, £1,687 6s. 3d. ; general, £3,581 16s. 3d.

The fact that penalty dates for both 1946-47 and 1947-48 rates fell within the financial year ending 31st March, 1948, accounts for the abnormally large rate collection during the year under review.

## POUKAWA DRAINAGE AREA (15,567 ACRES), HAWKE'S BAY

Drain-maintenance work was carried out during the year, and I am again indebted to the Commissioner of Crown Lands, Napier, for the preparation and inspection of drain-cleaning contracts and payments made to contractors.

Maintenance expenditure charged against the Rate Account for the year, £458.

Rates struck : Special, £999 ; general, £311.

Rates collected, including arrears : Special, £725 ; general, £226.

Applications for charging-orders for outstanding Maori rates came before the Maori Land Court at Napier towards the close of the year, and it is hoped that this will result in some progress being made towards their collection.

The amounts shown in this report as expenditure on maintenance may be subject to slight variation on completion of accounts.

I have, &c.,  
E. TAYLOR,  
Chief Drainage Engineer.

The Under-Secretary for Lands, Wellington.

## STATEMENT OF ACCOUNTS

A statement of accounts is published in parliamentary paper B.-1 [Pt. IV].

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