

1887.  
NEW ZEALAND.

# PUBLIC WORKS TABLES

AND

## ANNUAL REPORTS

OF THE

## ENGINEER-IN-CHIEF.

MARCH, 1887.

---

*Laid on the Table by the Hon. Mr. Richardson, with Leave of the House, and ordered to  
be printed.*

---



## INDEX TO TABLES.

---

### IMMIGRATION AND PUBLIC WORKS LOAN.

ABLE 1.—SUMMARY SHOWING TOTAL EXPENDITURE AND LIABILITIES ON ALL PUBLIC WORKS OUT OF <i>Immigration and Public Works Fund</i> TO 31ST MARCH, 1887 .. .. .	Page 4
,, 2.—STATEMENT SHOWING TOTAL EXPENDITURE AND LIABILITIES ON RAILWAYS, INCLUDING VALUA- TION OF PROVINCIAL LINES, TO 31ST MARCH, 1887 .. .. .	5
,, 3.—STATEMENT SHOWING EXPENDITURE AND LIABILITIES ON ROADS TO 31ST MARCH, 1887 ..	7
,, 4.—STATEMENT SHOWING EXPENDITURE AND LIABILITIES ON ROADS UNDER THE CONTROL OF THE SURVEY DEPARTMENT TO 31ST MARCH, 1887 .. .. .	10
,, 5.—STATEMENT SHOWING EXPENDITURE AND LIABILITIES ON ROADS UNDER THE CONTROL OF THE MINES DEPARTMENT TO 31ST MARCH, 1887 .. .. .	14
,, 6.—STATEMENT SHOWING EXPENDITURE AND LIABILITIES ON PUBLIC BUILDINGS TO 31ST MARCH, 1887	14
,, 7.—STATEMENT SHOWING EXPENDITURE AND LIABILITIES ON WATER-RACES TO 31ST MARCH, 1887 ..	15
,, 8.—STATEMENT SHOWING EXPENDITURE AND LIABILITIES ON TELEGRAPHS TO 31ST MARCH, 1887 ..	16
,, 9.—STATEMENT SHOWING EXPENDITURE AND LIABILITIES ON LIGHTHOUSES AND HARBOUR WORKS TO 31ST MARCH, 1887 .. .. .	17

---

For Index to Appendices see page 19.

TABLE NO. 1.

SUMMARY showing the TOTAL EXPENDITURE on PUBLIC WORKS and OTHER SERVICES, out of *Immigration and Public Works Fund only*, to 31st March, 1887, and the LIABILITIES on that Date.

Number of Table containing Details.	Works.	Total Net Expenditure to 31st March, 1886.	Expenditure during 12 Months ended 31st March, 1887.	Total Expenditure to 31st March, 1887.	Liabilities on Authorities, Con- tracts, &c., 31st March, 1887	Total Expenditure and Liabilities.	Works.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
2	Railways:	12,169,782 11 11	*463,159 11 5	†12,623,942 3 4	486,376 3 2	13,110,318 6 6	Railways:
2	Government lines	188,300 0 0	166,187 7 11	354,487 7 11	...	354,487 7 11	Government lines.
3, 4, 5	District lines	2,858,582 6 3	265,716 19 10	3,124,299 6 1	173,680 12 6	3,297,979 18 7	District lines.
7	Roads	501,260 11 10	7,665 7 8	508,925 19 6	1,485 10 1	510,411 9 7	Roads.
8	Water-supply on goldfields	520,227 1 0	18,951 14 8	538,978 15 8	3,983 0 0	542,961 15 8	Water-supply on goldfields.
6	Telegraphs	1,507,773 13 8	80,598 5 1	1,597,371 18 9	55,161 2 9	1,652,533 1 6	Telegraphs.
9	Public buildings	596,594 6 9	148,705 4 3	745,299 11 0	80,724 0 0	826,023 11 0	Public buildings
...	Lighthouses, harbour works, and harbour defences	257,228 10 4	25,834 19 4	283,063 9 8	56 8 2	283,119 17 10	Lighthouses, harbour works, and harbour defences.
18 of 1878	Departmental	10,835 8 0	...	10,835 8 0	...	10,835 8 0	Departmental.
11 of 1877	Coal exploration and mine develop- ment	50,000 0 0	...	50,000 0 0	...	50,000 0 0	Coal exploration and mine develop- ment.
...	Aiding works on Thames Goldfields	2,105,617 4 3	12,453 17 11	2,118,071 2 2	5,000 0 0	2,123,071 2 2	Aiding works on Thames Goldfields.
...	Immigration	1,026,808 16 9	88,835 18 2	1,115,644 14 11	29,621 0 0	1,145,265 14 11	Immigration.
...	Purchase of Native land	417,218 19 3	12,500 0 0	429,718 19 3	...	429,718 19 3	Purchase of Native land.
...	Defence	85,619 1 3	922 7 5	857,113 11 1	...	857,113 11 1	Defence.
...	Charges and expenses of raising loans	218,500 0 0	...	218,500 0 0	...	218,500 0 0	Charges and expenses of raising loans.
...	Interest and sinking fund	...	...	25,138 18 1	10,668 0 0	35,806 18 1	Interest and sinking fund.
...	Rates on Native lands	...	7,813 14 5	7,813 14 5	3,650 0 0	11,463 14 5	Rates on Native lands.
...	Thermal Springs	...	...	...	...	...	Thermal Springs.
	TOTALS	23,275,720 13 8	1,333,484 6 2	24,609,204 19 10	†850,405 16 8	25,459,610 16 6	TOTALS.

\* Exclusive of £350,779 15s. 1d., transferred to the credit of Ways and Means Accounts.  
† Exclusive of value of provincial railways taken over by Government.  
‡ Exclusive of £120,144 prospective liabilities on account of purchase of Native land.

Public Works Department, 28th April, 1887.  
W. A. THOMAS,  
Accountant, Public Works.

TABLE No. 2.  
TOTAL EXPENDITURE ON RAILWAYS to 31st March, 1887, and Liabilities on that Date.

LINES OF RAILWAY.	Total Expenditure by General Government, 31st March, 1886.	EXPENDITURE DURING YEAR 1886-87 AND VALUE OF STOCK (£107,247 13s. 10d.) ISSUED TO LINES.									Total Expenditure on Government Lines to 31st March, 1887.	Expenditure on District Lines to 31st March, 1887.	Total Expenditure by General Government, 31st March, 1887.	LIABILITIES.				Total Expenditure by General Government, and Liabilities, 31st March, 1887.	Valuation of Works constructed by Provinces.	Total Expenditure and Liabilities, 31st March, 1887.	LINES OF RAILWAY.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
		New Works.			Works on Open Lines.			Surveys.	Rolling-stock.					New Works.	Works on Open Lines.	Surveys.	Total Liabilities.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		Construction.	Permanent- way.	Total New Works.	Additional Works.	Permanent- way.	Total Works on Open Lines.		Additions to.	Reductions from.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d



TABLE No. 3.

STATEMENT showing the EXPENDITURE on ROADS out of Immigration and Public Works Loan to 31st March, 1887, and the LIABILITIES on that date.

	Expenditure to 31st March, 1886.			Expenditure during 12 Months ended 31st March, 1887.			Total Expenditure to 31st March, 1887.			Liabilities on Authorities, Contracts, &c., 31st March, 1887.			Total Expenditure and Liabilities.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
ROADS, BRIDGES, and WHARVES, NORTH of AUCKLAND ... ..	195,264	14	5	30,738	2	6	226,002	16	11	3,302	19	11	229,305	16	10
MAIN ROADS:—															
Paeoro to Owaharoa ... ..	...			133	0	0	133	0	0	367	0	0	500	0	0
Cambridge to Taupo ... ..	1,314	1	0	27	9	7	1,341	10	7	212	11	2	1,554	1	9
Oxford to Rotorua ... ..	13,729	9	7	786	4	10	14,515	14	5	397	15	8	14,913	10	1
Tauranga, East Cape, Whakatane, Te Te-ko, and sundry roads, Bay of Plenty	4,766	14	9	1,445	16	6	6,212	11	3	1,335	5	0	7,547	16	3
Tauranga to Napier, <i>via</i> Taupo ...	14,031	5	6	2,992	4	3	17,023	9	9	203	17	4	17,227	7	1
Kurupapanga to inland Patea ...	5,000	0	0	...			5,000	0	0	...			5,000	0	0
Seventy-Mile Bush ... ..	60,326	5	7	720	0	0	61,046	5	7	280	0	0	61,326	5	7
Manawatu Gorge ... ..	116,813	12	2	435	6	2	117,248	18	4	...			117,248	18	4
Nelson, Tophouse, and Tairādale ...	3,674	1	3	392	7	3	4,066	8	6	119	8	0	4,185	16	6
Nelson, Westport, and Greymouth ...	39,229	0	8	4,778	18	1	44,007	18	9	3,143	6	11	47,151	5	8
Inangahua Bridge, maintenance ...	116	11	0	2	5	0	118	16	0	37	8	9	156	4	9
Pelorus District and Rai Valley ...	28,189	12	5	453	9	6	28,643	1	11	...			28,643	1	11
Haast Pass Track ... ..	2,454	17	10	928	3	4	3,383	1	2	...			3,383	1	2
Hokitika to Christchurch ... ..	86,342	14	7	9,113	2	6	95,455	17	1	1,180	7	6	96,586	4	7
Otira Toll ... ..	500	0	0	...			500	0	0	...			500	0	0
Native districts ... ..	11,300	11	3	85	17	0	11,386	8	3	447	13	9	11,834	2	0
Totals ... ..	387,788	17	7	22,294	4	0	410,083	1	7	7,674	14	1	417,757	15	8
MISCELLANEOUS ROADS AND BRIDGES:—															
Great South ... ..	764	5	8	...			764	5	8	...			764	5	8
Waikomiti Bridge ... ..	150	0	0	...			150	0	0	...			150	0	0
Payment to Ferryman, Port Waikato	7	10	0	...			7	10	0	...			7	10	0
Pukekohe Railway-station to Waiuku	5,274	2	1	...			5,274	2	1	...			5,274	2	1
Punt at Tuakau ... ..	270	9	6	...			270	9	6	...			270	9	6
Tuhikaramea to Hamilton ... ..	500	0	0	...			500	0	0	...			500	0	0
Raglan to Waipa ... ..	1,508	5	6	111	3	10	1,619	9	4	386	3	2	2,005	12	6
Bridge over Waikato at Hamilton ...	284	12	3	...			284	12	3	...			284	12	3
Cambridge to Tauranga ... ..	3,750	0	0	250	0	0	4,000	0	0	...			4,000	0	0
Katikati to Te Aroha (horse-track) ...	157	13	2	50	16	9	208	9	11	72	16	4	281	6	3
Katikati to Te Aroha (Thompson's track) ... ..	...			336	16	11	336	16	11	89	16	10	426	13	9
Thames to Tauranga ... ..	4,823	8	0	500	0	0	5,323	8	0	...			5,323	8	0
Opotiki to Whakatane ... ..	...			510	13	9	510	13	9	351	1	0	861	14	9
Repairing flood damages, Cook County	1,490	12	0	...			1,490	12	0	...			1,490	12	0
Sundry roads and bridges, Auckland...	9,134	18	2	1,277	14	4	10,412	12	6	348	6	5	10,760	18	11
Bay of Islands District ... ..	34,903	16	5	...			34,903	16	5	...			34,903	16	5
Mangere Bridge ... ..	15,486	7	8	...			15,486	7	8	...			15,486	7	8
Thames ... ..	75	2	9	...			75	2	9	...			75	2	9
Waikato ... ..	27,582	11	7	...			27,582	11	7	...			27,582	11	7
Bay of Plenty ... ..	90,048	19	11	...			90,048	19	11	...			90,048	19	11
Poverty Bay ... ..	21,499	5	4	...			21,499	5	4	...			21,499	5	4
Taupo ... ..	9,336	17	1	...			9,336	17	1	...			9,336	17	1
Tools, &c. ... ..	714	13	6	...			714	13	6	...			714	13	6
Mahurangi to Whangarei ... ..	129	15	3	...			129	15	3	...			129	15	3
Pukekohe Railway-station, through East Pukekohe, to Bombay ...	15	2	2	...			15	2	2	...			15	2	2
Buckland Station ... ..	300	0	0	...			300	0	0	...			300	0	0
Bridge over Waipa, on Raglan Main Road	1,006	4	8	...			1,006	4	8	...			1,006	4	8
Te Awamutu Station to Township ...	315	16	3	...			315	16	3	...			315	16	3
To free Hamilton Bridge from tolls ...	6,700	0	0	...			6,700	0	0	...			6,700	0	0
Waimapu Bridge ... ..	5,655	3	0	...			5,655	3	0	...			5,655	3	0
Repairing flood damages at the Thames															
Thames County ... ..	4,928	10	0	...			4,928	10	0	...			4,928	10	0
Thames Borough ... ..	2,452	10	0	...			2,452	10	0	...			2,452	10	0
Tararu Tramway ... ..	1,000	0	0	...			1,000	0	0	...			1,000	0	0
Tauranga to Opotiki ... ..	100	0	0	...			100	0	0	...			100	0	0
Ormond to Opotiki ... ..	912	18	8	...			912	18	8	...			912	18	8
Hamilton to Cambridge ... ..	100	0	0	...			100	0	0	...			100	0	0
Coromandel to Thames ... ..	200	0	0	...			200	0	0	...			200	0	0
Port Charles ... ..	100	0	0	...			100	0	0	...			100	0	0
Tairua ... ..	200	0	0	...			200	0	0	...			200	0	0
Maungatawhiri Valley ... ..	102	0	0	...			102	0	0	...			102	0	0
Maketu to Ararimu ... ..	100	0	0	...			100	0	0	...			100	0	0
To Ohaupo Station ... ..	250	0	0	...			250	0	0	...			250	0	0
Whau to Henderson's Creek ... ..	409	0	0	...			409	0	0	...			409	0	0
Rukuhia Swamp ... ..	693	1	8	...			693	1	8	...			693	1	8
South Bombay to Paparata ... ..	100	0	0	...			100	0	0	...			100	0	0
Tuakau to Waikato ... ..	50	0	0	...			50	0	0	...			50	0	0
Sundry roads, Waitoa District ...	400	0	0	...			400	0	0	...			400	0	0
Wade to Wainui ... ..	100	0	0	...			100	0	0	...			100	0	0
Helensville to Kaukapakapa ... ..	658	19	1	...			658	19	1	...			658	19	1
Komorau Bridge ... ..	250	0	0	...			250	0	0	...			250	0	0
Whangaroa to Kaco ... ..	250	0	0	...			250	0	0	...			250	0	0
Clark's Road ... ..	50	0	0	...			50	0	0	...			50	0	0
Road to Omaha Wharf ... ..	80	0	0	...			80	0	0	...			80	0	0
Carried forward ... ..	255,363	11	4	3,037	5	7	258,400	16	11	1,248	3	9	259,649	0	8

TABLE No. 3—continued.  
STATEMENT showing the EXPENDITURE on ROADS—continued.

	Expenditure to 31st March, 1886.			Expenditure during 12 Months ended 31st March, 1887.			Total Expenditure to 31st March, 1887.			Liabilities on Authorities, Contracts, &c., 31st March, 1887.			Total Expenditure and Liabilities.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
MISCELLANEOUS ROADS AND BRIDGES —continued.															
Brought forward ...	255,363	11	4	3,037	5	7	258,400	16	11	1,248	3	9	259,649	0	8
Stokes Point to Lucas Creek ...	100	0	0	...	...	...	100	0	0	...	...	...	100	0	0
Lake District ...	200	0	0	...	...	...	200	0	0	...	...	...	200	0	0
Removal of snags, Thames River ...	636	18	11	...	...	...	636	18	11	...	...	...	636	18	11
Whatawhata Bridge ...	34	17	0	...	...	...	34	17	0	...	...	...	34	17	0
Coromandel Wharf ...	3	9	0	...	...	...	3	9	0	...	...	...	3	9	0
Coromandel to Mercury Bay ...	14	4	8	...	...	...	14	4	8	...	...	...	14	4	8
Aroha Township to Gold Mines ...	500	0	0	...	...	...	500	0	0	...	...	...	500	0	0
Removal of punt, Te Rori to Churchill ...	40	14	9	...	...	...	40	14	9	...	...	...	40	14	9
Removal of Churchill punt ...	42	2	0	...	...	...	42	2	0	...	...	...	42	2	0
Manawatu and Makotuku Rivers, Ormondville ...	450	0	0	...	...	...	450	0	0	...	...	...	450	0	0
Sundry roads and bridges, Hawke's Bay ...	408	9	6	...	...	...	408	9	6	...	...	...	408	9	6
Roads, Napier District ...	32,189	19	2	...	...	...	32,189	19	2	...	...	...	32,189	19	2
Roads, Wairoa ...	1,212	7	8	...	...	...	1,212	7	8	...	...	...	1,212	7	8
Tools, &c. ...	248	15	0	...	...	...	248	15	0	...	...	...	248	15	0
Bridge over Ahuriri Harbour ...	625	16	1	...	...	...	625	16	1	...	...	...	625	16	1
Bridge over Wangaehu ...	1,000	0	0	...	...	...	1,000	0	0	...	...	...	1,000	0	0
Bridge approach, Orepuni ...	150	0	0	...	...	...	150	0	0	...	...	...	150	0	0
Foxton to Otaki, inland ...	599	10	9	...	...	...	599	10	9	...	...	...	599	10	9
Grant-in-aid for bridge over Manawatu River ...	2,002	16	0	...	...	...	2,002	16	0	...	...	...	2,002	16	0
Roads in Fitzherbert Block ...	1,050	5	3	...	...	...	1,050	5	3	...	...	...	1,050	5	3
Sundry roads, Wellington ...	340	0	9	3	6	8	343	7	5	30	16	8	374	4	1
Patea to Wanganui ...	36,275	18	9	...	...	...	36,275	18	9	...	...	...	36,275	18	9
Wanganui to Taupo ...	5,376	18	1	...	...	...	5,376	18	1	...	...	...	5,376	18	1
Hutt to Lowry Bay ...	290	0	0	...	...	...	290	0	0	...	...	...	290	0	0
Tools, &c. ...	504	9	8	...	...	...	504	9	8	...	...	...	504	9	8
Bridge over Waiohine ...	13	15	6	...	...	...	13	15	6	...	...	...	13	15	6
Parakarutu Block ...	149	0	0	...	...	...	149	0	0	...	...	...	149	0	0
To relieve Wanganui Bridge from tolls	17,000	0	0	...	...	...	17,000	0	0	...	...	...	17,000	0	0
Karori Road ...	153	1	8	...	...	...	153	1	8	...	...	...	153	1	8
Waverley to Patea Road ...	130	0	0	...	...	...	130	0	0	...	...	...	130	0	0
Manawatu Bridge at Foxton ...	0	18	0	...	...	...	0	18	0	...	...	...	0	18	0
Roads and bridges in unsettled dis- tricts, Patea and Taranaki ...	48,296	16	3	...	...	...	48,296	16	3	...	...	...	48,296	16	3
Great South Road between Opunake and Manaia ...	2,946	0	0	...	...	...	2,946	0	0	54	0	0	3,000	0	0
Bridge over Stony River, and approaches ...	1,151	6	2	...	...	...	1,151	6	2	...	...	...	1,151	6	2
Inglewood to Whitecliffs ...	5,000	0	0	...	...	...	5,000	0	0	...	...	...	5,000	0	0
Henwood and Upland ...	993	12	10	...	...	...	993	12	10	...	...	...	993	12	10
Sundry roads, Taranaki ...	250	3	0	...	...	...	250	3	0	...	...	...	250	3	0
New Plymouth, inland ...	3,760	17	3	...	...	...	3,760	17	3	...	...	...	3,760	17	3
Hawera to Waitara ...	14,469	19	2	...	...	...	14,469	19	2	...	...	...	14,469	19	2
Wai-iti to Patea ...	58,566	6	9	...	...	...	58,566	6	9	...	...	...	58,566	6	9
Tools, &c. ...	254	4	2	...	...	...	254	4	2	...	...	...	254	4	2
Waverley to Patea ...	70	0	0	...	...	...	70	0	0	...	...	...	70	0	0
General salaries, &c. ...	402	18	8	...	...	...	402	18	8	...	...	...	402	18	8
Refund expenses, T. Kelly, Mountain Road Commission ...	19	8	0	...	...	...	19	8	0	...	...	...	19	8	0
Roads, Lower Moutere, flood damages	1,661	18	10	...	...	...	1,661	18	10	89	16	4	1,751	15	2
Bridge over Granity Creek ...	762	19	11	...	...	...	762	19	11	...	...	...	762	19	11
Bridge over Owen Creek ...	1,797	10	1	...	...	...	1,797	10	1	...	...	...	1,797	10	1
Horse-bridge over Matakitaki ...	889	13	2	...	...	...	889	13	2	...	...	...	889	13	2
Bridge over Matiri River ...	2,841	16	0	...	...	...	2,841	16	0	...	...	...	2,841	16	0
Bridge over Inangahua, at Buller Junction ...	8,651	5	1	152	17	6	8,804	2	7	...	...	...	8,804	2	7
Bridges on road, Nelson to Reefton ...	19	17	0	5,153	14	10	5,173	11	10	3,287	9	4	8,461	1	2
Bridge over Little Grey, at Devery's ...	3,870	18	1	...	...	...	3,870	18	1	...	...	...	3,870	18	1
Bridge over Grey, at Cobden ...	4,971	8	5	...	...	...	4,971	8	5	...	...	...	4,971	8	5
Bridge over Waiau, in Amuri County ...	11,240	14	11	...	...	...	11,240	14	11	...	...	...	11,240	14	11
Bridge over Waiau, at Hammer Plain ...	2,677	1	2	7,980	1	4	10,657	2	6	3,321	13	3	13,978	15	9
Sundry roads and bridges, Nelson ...	418	15	7	365	10	5	784	6	0	21	1	4	805	7	4
Buller to Arnould ...	73,197	4	8	...	...	...	73,197	4	8	...	...	...	73,197	4	8
Boatman's ...	844	10	0	...	...	...	844	10	0	...	...	...	844	10	0
Westport to Lyell ...	7,273	13	10	100	0	0	7,373	13	10	4,450	0	0	11,823	13	10
Upper Buller Road ...	...	...	...	2	14	6	2	14	6	247	5	6	250	0	0
Ahaura to Amuri ...	6,210	13	10	...	...	...	6,210	13	10	...	...	...	6,210	13	10
Nile Bridge ...	1,115	16	4	...	...	...	1,115	16	4	...	...	...	1,115	16	4
Takaka Valley ...	2,000	0	0	...	...	...	2,000	0	0	...	...	...	2,000	0	0
Collingwood to Quartz Range ...	507	1	1	...	...	...	507	1	1	...	...	...	507	1	1
Takaka Road ...	21	6	0	...	...	...	21	6	0	...	...	...	21	6	0
Takaka Tramway ...	3,000	0	0	...	...	...	3,000	0	0	...	...	...	3,000	0	0
Bridge over Wairoa, in Waimea District	3	18	0	...	...	...	3	18	0	...	...	...	3	18	0
Bridge over Inangahua, at Reefton ...	2,099	6	7	...	...	...	2,099	6	7	...	...	...	2,099	6	7
Bridge over Ahaura ...	125	14	0	...	...	...	125	14	0	...	...	...	125	14	0
Tracks, Pelorus and Queen Charlotte Sounds ...	348	6	1	...	...	...	348	6	1	...	...	...	348	6	1
Bridge over Wairau, near Blenheim ...	4,162	15	9	199	12	6	4,362	8	3	50	7	6	4,412	15	9
Bridge over Clarence River ...	12,382	2	2	5,468	12	6	17,850	14	8	697	11	5	18,548	6	1
Kaikoura to Clarence ...	1,283	6	1	...	...	...	1,283	6	1	100	0	0	1,383	6	1
Carried forward ...	647,669	4	5	22,463	15	10	670,133	0	3	13,598	5	1	683,731	5	4



TABLE No. 3—continued.

STATEMENT showing the EXPENDITURE on ROADS—continued.

	Expenditure to 31st March, 1886.			Expenditure during 12 Months ended 31st March, 1887.			Total Expenditure to 31st March, 1887.			Liabilities on Authorities, Contracts, &c., 31st March, 1887.			Total Expenditure and Liabilities.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
<b>MISCELLANEOUS ROADS AND BRIDGES</b> —continued.															
Brought forward ...	647,669	4	5	22,463	15	10	670,133	0	3	13,598	5	1	683,731	5	4
Kaikoura to Waiau ...	22,345	15	10	7,403	14	0	29,749	9	1	2,093	16	9	31,843	6	7
Wharf at Havelock ...	441	6	10	...	...	...	441	6	10	...	...	...	441	6	10
Sundry Roads & Bridges, Marlborough	254	17	11	127	15	3	382	13	2	148	11	0	531	4	2
Greymouth to Okarito ...	103,447	12	11	...	...	...	103,447	12	11	...	...	...	103,447	12	11
Bridge over Teremakau, Kumara ...	1,079	18	0	...	...	...	1,079	18	0	...	...	...	1,079	18	0
Bridge over Donnelly's Creek ...	2,010	13	7	...	...	...	2,010	13	7	...	...	...	2,010	13	7
Extension south of Okarito ...	1,033	10	0	...	...	...	1,033	10	0	...	...	...	1,033	10	0
Sundry roads, &c., Westland ...	6	9	0	Cr. 3	0	7	3	8	5	53	18	1	57	6	6
Dray-road through Cheviot Hill	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Country ...	100	8	0	...	...	...	100	8	0	...	...	...	100	8	0
Bridge over Grey, at Cobden ...	13	10	0	...	...	...	13	10	0	...	...	...	13	10	0
Greymouth to Arnould ...	5,058	1	5	...	...	...	5,058	1	5	...	...	...	5,058	1	5
South Creek to Main Line ...	281	17	6	...	...	...	281	17	6	...	...	...	281	17	6
Junction Line ...	3,923	9	5	...	...	...	3,923	9	5	...	...	...	3,923	9	5
Greenstone to Lake Brunner ...	2,756	5	6	...	...	...	2,756	5	6	...	...	...	2,756	5	6
Marsden to Maori Creek ...	2,538	3	0	...	...	...	2,538	3	0	...	...	...	2,538	3	0
Marsden to Paroa ...	798	8	0	...	...	...	798	8	0	...	...	...	798	8	0
Stillwater to Maori Gully ...	1,869	2	0	...	...	...	1,869	2	0	...	...	...	1,869	2	0
Kamieri Forks, Kamieri Lakes ...	1,578	1	0	...	...	...	1,578	1	0	...	...	...	1,578	1	0
Hokitika to Bluespur ...	2,520	3	5	...	...	...	2,520	3	5	...	...	...	2,520	3	5
Kamieri Bridge ...	489	15	0	...	...	...	489	15	0	...	...	...	489	15	0
Waimca Bridge ...	207	12	6	...	...	...	207	12	6	...	...	...	207	12	6
Westland, general ...	2,613	13	3	...	...	...	2,613	13	3	...	...	...	2,613	13	3
Bridge over Upper Waitaki ...	510	18	3	...	...	...	510	18	3	...	...	...	510	18	3
Bridge, Ashburton, subsidy ...	7,000	0	0	...	...	...	7,000	0	0	...	...	...	7,000	0	0
Sundry roads, Canterbury ...	751	10	8	62	3	6	813	14	2	24	2	3	837	16	5
Waikari to Waitati ...	3,257	6	4	...	...	...	3,257	6	4	...	...	...	3,257	6	4
Maori Kaika to Taiaroa Head Light-house	753	2	9	128	5	9	881	8	6	...	...	...	881	8	6
Anderson's Bay ...	100	0	0	...	...	...	100	0	0	...	...	...	100	0	0
Green Island to Brighton ...	990	13	0	...	...	...	990	13	0	...	...	...	990	13	0
Bridge over Taieri, Main South Road	7,959	3	9	2,852	3	7	10,811	7	4	2,298	17	0	13,110	4	4
Bridges over Clutha at Beaumont and Roxburgh, grant-in-aid ...	8,272	9	3	6,388	2	10	14,660	12	1	1,704	18	11	16,365	11	0
Kaitangata to Wangaloa ...	...	...	...	...	...	...	...	...	...	500	0	0	500	0	0
Bridge over Mataura, Otama District	1,998	17	2	...	...	...	1,998	17	2	...	...	...	1,998	17	2
Martin's Bay Settlement ...	...	...	...	...	...	...	...	...	...	200	0	0	200	0	0
Sundry roads and bridges, Otago ...	493	16	8	325	10	0	819	6	8	204	12	10	1,023	19	6
Queenstown Jetty ...	453	2	3	...	...	...	453	2	3	...	...	...	453	2	3
Bridge over Kaikorai Stream ...	400	0	0	...	...	...	400	0	0	...	...	...	400	0	0
Grant in aid of bridge at Kaikorai, on Main South Road ...	456	0	0	...	...	...	456	0	0	...	...	...	456	0	0
Subsidy, Clutha Bridge ...	2,500	0	0	...	...	...	2,500	0	0	...	...	...	2,500	0	0
Bridge over Oreti at Elbow ...	9	0	0	...	...	...	9	0	0	...	...	...	9	0	0
Warrington ...	200	0	0	...	...	...	200	0	0	...	...	...	200	0	0
Bridge over Clutha at Alexandra, grant-in-aid ...	5,000	0	0	...	...	...	5,000	0	0	...	...	...	5,000	0	0
*Expenditure under Miscellaneous Public Works Votes (see Table No. 7 of 1884) ...	318,948	10	3	...	...	...	318,948	10	3	...	...	...	318,948	10	3
Totals ...	1,163,092	8	10	39,751	10	9	1,202,840	19	0	20,827	1	11	1,223,668	0	11
				Cr. 3	0	7									
<b>GRANTS-IN-AID :—</b>															
Grants-in-aid under "The Roads and Bridges Construction Act, 1882" ...	353,002	0	2	7,162	19	7	360,164	19	9	7,792	14	11	367,957	14	8
Grants to complete works already commenced ...	1,725	0	0	6,672	17	0	8,397	17	0	5,139	13	0	13,537	10	0
Portion of subsidies to local bodies ...	35,632	1	4	49,799	0	7	85,431	1	11	34,695	0	0	120,126	1	11
Contingencies and subsidies to local bodies for providing work for unemployed ...	4,066	14	4	16,628	13	4	20,695	7	8	1,136	9	11	21,831	17	7
Grant to Ohinemuri County ...	...	...	...	†1,000	0	0	1,000	0	0	...	...	...	1,000	0	0
Totals ...	394,425	15	10	81,263	10	6	475,689	6	4	48,763	17	10	524,453	4	2
<b>SUMMARY.</b>															
ROADS, BRIDGES, &c., North of Auckland	195,264	14	5	30,738	2	6	226,002	16	11	3,302	19	11	229,305	16	10
MAIN ROADS ...	387,788	17	7	22,294	4	0	410,083	1	7	7,674	14	1	417,757	15	8
MISCELLANEOUS ROADS AND BRIDGES	1,163,092	8	10	39,748	10	2	1,202,840	19	0	20,827	1	11	1,223,668	0	11
GRANTS-IN-AID ...	394,425	15	10	81,263	10	6	475,689	6	4	48,763	17	10	524,453	4	2
ROADS TO OPEN UP LANDS (see Table No. 4) ...	388,189	11	1	57,157	4	2	445,346	15	3	62,642	12	5	507,989	7	8
IMPROVEMENT OF VILLAGE SETTLEMENTS ...	...	...	...	1,890	15	4	1,890	15	4	1,389	4	8	3,280	0	0
THROUGH LANDS RECENTLY PURCHASED (see Table No. 5, 1883) ...	21,527	14	5	...	...	...	21,527	14	5	...	...	...	21,527	14	5
GOLDFIELDS ROADS (see Table No. 5) ...	83,293	4	1	32,624	13	2	115,917	17	3	29,080	1	8	144,997	18	11
PAYMENTS TO ROAD BOARDS (see Table No. 11, 1877) ...	225,000	0	0	...	...	...	225,000	0	0	...	...	...	225,000	0	0
GRAND TOTALS ...	2,858,582	6	3	265,716	19	10	3,124,299	6	1	173,680	12	6	3,297,979	18	7

\* For the distribution of this expenditure under the several roads, see Table No. 7 of 1884, which should be referred to in ascertaining the total expenditure on road-lines mentioned in this table.

† Charged as unauthorized.

TABLE No. 4.

STATEMENT showing the EXPENDITURE on ROADS under the Control of the Minister of Lands, to 31st March, 1887, and the LIABILITIES on that Date.

	Expenditure to 31st March, 1886.	Expenditure during 12 Months ended 31st March, 1887.	Total Expenditure to 31st March, 1887.	Liabilities on Authorities, Contracts, &c., 31st March, 1887.	Total Expenditure and Liabilities.
ROADS TO OPEN UP LANDS BEFORE SALE.					
<i>North Island.</i>	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Auckland—					
Kaihu to Kaikohe .. ..	385 1 0	..	385 1 0	..	385 1 0
Homestead blocks, Manganui ..	414 15 6	..	414 15 6	40 0 0	454 15 6
Pakiri Block .. ..	282 7 6	..	282 7 6	..	282 7 6
Wairua to Sandy Bay .. ..	1,540 3 6	..	1,540 3 6	..	1,540 3 6
Wairua to Helena Bay .. ..	1,041 10 2	9 11 5	1,051 1 7	890 8 7	1,941 10 2
Whangarei through Taheke ..	885 17 10	..	885 17 10	4 12 0	890 9 10
Purua and Mangakahia .. ..	1,411 5 3	..	1,411 5 3	..	1,411 5 3
Tangihua No. 3 .. ..	827 8 2	..	827 8 2	..	827 8 2
Manganui Bluff to Kaihu ..	4,018 15 0	..	4,018 15 0	..	4,018 15 0
Takahue to Mangonuiwae ..	2,931 7 7	..	2,931 7 7	..	2,931 7 7
Okaihui to Victoria Valley ..	5,444 5 1	816 3 4	6,260 8 5	2,000 0 0	8,260 8 5
Helensville to Kaipatiki ..	2,236 5 7	..	2,236 5 7	..	2,236 5 7
Waikato to Block XVI., Awaroa ..	3,806 19 11	..	3,806 19 11	..	3,806 19 11
Lake Whangape to Blk. VII., Awaroa	3,035 10 4	..	3,035 10 4	..	3,035 10 4
Hikutaia to Olinemuri .. ..	4,022 7 7	..	4,022 7 7	..	4,022 7 7
Tauranga to Te Puke and Matata ..	12,962 1 2	..	12,962 1 2	..	12,962 1 2
Opotiki to Waitohi .. ..	562 10 0	..	562 10 0	..	562 10 0
Opotiki to Ormond .. ..	12,948 15 11	675 10 5	13,624 6 4	125 0 0	13,749 6 4
Te Aroha Block .. ..	5,162 12 6	137 10 0	5,300 2 6	21 10 0	5,321 12 6
Takahue to Herd's Point ..	2,712 18 5	..	2,712 18 5	..	2,712 18 5
Block II., Tangihua .. ..	635 6 0	..	635 6 0	..	635 6 0
Wairoa and Waikaremoana bridle-track through the Waiau District, Poverty Bay	544 18 6	..	544 18 6	..	544 18 6
Huihuitaha to Patetere .. ..	705 8 2	..	705 8 2	..	705 8 2
Ruakituri Block .. ..	2,149 14 4	..	2,149 14 4	..	2,149 14 4
Ormond to Waiapu .. ..	12,462 6 1	..	12,462 6 1	..	12,462 6 1
Gisborne to Waimata .. ..	4,240 9 6	10 0 0	4,250 9 6	..	4,250 9 6
Gisborne to Wairoa .. ..	9,528 4 0	2,424 8 0	11,952 12 0	..	11,952 12 0
Taupo, <i>via</i> Rotoaira and Murimotu, to West Coast	6,274 4 9	3,820 6 8	10,094 11 5	150 0 0	10,244 11 5
Katikati to Te Aroha .. ..	785 11 1	..	785 11 1	..	785 11 1
Tolago Bay to Arakihī .. ..	53 1 0	1,794 10 0	1,847 11 0	155 10 0	2,003 1 0
Kohukohu to Rahutapu .. ..	253 2 0	231 11 6	484 13 6	13 8 6	498 2 0
Ohuka to Waikaremoana .. ..	100 0 0	..	100 0 0	..	100 0 0
Whangaroa to Kaluru .. ..	980 8 0	1,055 17 0	2,036 5 0	37 3 0	2,073 8 0
Hamilton-Whatawhata Drain ..	..	137 18 0	137 18 0	362 2 0	500 0 0
Warerenga Road .. ..	292 11 0	258 7 1	550 18 1	..	550 18 1
Waimamaku Bridge .. ..	577 7 9	29 1 0	606 8 9	90 19 0	697 7 9
Awaroa Swamp, drains and roads ..	372 15 6	29 8 0	402 3 6	..	402 3 6
Paparoa to Waikiekie .. ..	159 18 9	322 7 6	482 6 3	17 12 6	499 18 9
Otamarakau Bridge .. ..	378 19 0	..	378 19 0	5 0 0	383 19 0
Pakoka Bridge .. ..	..	..	..	50 0 0	50 0 0
Churchill Punt .. ..	2 14 0	147 11 2	150 5 2	..	150 5 2
Otonga Bridge .. ..	225 4 3	..	225 4 3	24 0 0	249 4 3
Kawhia to Waipa .. ..	1,366 15 8	1,521 15 2	2,888 10 10	340 0 0	3,228 10 10
Alexandria to Kawhia .. ..	..	..	..	..	..
Rotorua to Galatea <i>via</i> Rotomahana	543 3 6	1,683 9 11	2,226 13 5	436 10 0	2,663 3 5
Galatea to Te Kapu <i>via</i> Waikaremoana	777 17 6	1,070 6 3	1,848 3 9	24 19 8	1,873 3 5
Alexandria to Hikurangi .. ..	389 17 10	951 17 5	1,341 15 3	..	1,341 15 3
Wangaro to Akatea .. ..	..	50 4 4	50 4 4	449 15 8	500 0 0
Akaaka Swamp .. ..	..	592 0 0	592 0 0	52 10 0	644 10 0
Waihou Ferry through Komata ..	..	80 13 0	80 13 0	19 7 0	100 0 0
Draining Tatarariki .. ..	..	100 0 0	100 0 0	150 0 0	250 0 0
Drain, Te Aroha .. ..	..	..	..	150 0 0	150 0 0
Cabbage Bay to Cape Colville ..	..	350 0 0	350 0 0	..	350 0 0
Lower Waihou Road .. ..	..	11 11 0	11 11 0	288 9 0	300 0 0
Otama to Deeds .. ..	..	..	..	300 0 0	300 0 0
Mangapai to Mareretu .. ..	..	4 9 0	4 9 0	495 11 0	500 0 0
Hunua District Roads .. ..	..	..	..	500 0 0	500 0 0
Puriri to Tairoa .. ..	..	12 16 6	12 16 6	487 3 6	500 0 0
Whaingaroa to Waitetuna .. ..	..	143 17 2	143 17 2	856 2 10	1,000 0 0
Matawhero to Whangape .. ..	..	11 8 0	11 8 0	500 0 0	511 8 0
Mauku Bridge (subsidy) .. ..	..	36 0 0	36 0 0	40 0 0	76 0 0
Huka Falls .. ..	..	44 17 0	44 17 0	455 3 0	500 0 0
Miscellaneous .. ..	1,952 7 10	647 18 8	2,600 6 6	2,064 12 4	4,664 18 10
Taranaki—					
Road through bush, Waimate Plains	15,714 8 9	..	15,714 8 9	..	15,714 8 9
Roads east of Stratford .. ..	1,108 4 11	..	1,108 4 11	500 0 0	1,608 4 11
Bush land inland of Patea .. ..	1,340 14 11	..	1,340 14 11	1,000 0 0	2,340 14 11
Continuous Reserve (to be refunded)	5,045 10 4	..	5,045 10 4	..	5,045 10 4
Mountain Road to blocks under survey	890 14 0	..	890 14 0	..	890 14 0
Carried forward .. ..	136,484 16 11	19,213 4 6	155,898 1 5	13,097 9 7	168,795 11 0

TABLE No. 4—*continued.*  
STATEMENT showing the EXPENDITURE on ROADS, &c.—*continued.*

	Expenditure to 31st March, 1886.		Expenditure during 12 Months ended 31st March, 1887.		Total Expenditure to 31st March, 1887.		Liabilities on Authorities, Contracts, &c., 31st March, 1887.		Total Expenditure and Liabilities.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
ROADS TO OPEN UP LANDS BEFORE SALE										
— <i>continued.</i>										
Brought forward ..	136,484	16 11	19,213	4 6	155,898	1 5	13,097	9 7	168,795	11 0
North Island— <i>continued.</i>										
Taranaki— <i>continued.</i>										
Opening up Huiroa Block..	906	0 9	..	..	906	0 9	..	..	906	0 9
Huiroa Block, bridge over Manganui River	781	1 3	..	..	781	1 3	..	..	781	1 3
To complete bush-felling, Stratford..	34	0 0	..	..	34	0 0	..	..	34	0 0
Through parts of Blocks I., II., V., VI., X., Ngaira District	2,041	0 10	..	..	2,041	0 10	..	..	2,041	0 10
Through parts of Blocks III., V., X., Ngaira District	1,146	3 6	..	..	1,146	3 6	..	..	1,146	3 6
Block X., Huiroa ..	745	17 0	..	..	745	17 0	..	..	745	17 0
Egmont District ..	158	12 0	..	..	158	12 0	..	..	158	12 0
Kahouri Bridge ..	600	0 0	..	..	600	0 0	..	..	600	0 0
Eltham and Branch Roads ..	2,671	15 3	2,000	0 0	4,671	15 3	..	..	4,671	15 3
Native Trust Blocks ..	Cr. 50	4 1	1,150	0 0	1,099	15 11	..	..	1,099	15 11
Ironsand Blocks ..	254	15 6	259	4 8	514	0 2	85	5 0	599	5 2
Tariki Road ..	921	9 3	227	17 9	1,149	7 0	110	2 1	1,259	9 1
Road through bush, Waimate Plains	..	..	1,614	9 8	1,614	9 8	635	0 0	2,249	9 8
Pukearuru to Mokau ..	..	..	390	3 7	390	3 7	209	16 5	600	0 0
Bridge on Stratford to Opunake Road	..	..	376	19 8	376	19 8	23	0 4	400	0 0
Inglewood to Waitara ..	..	..	865	2 0	865	2 0	1,859	15 9	2,724	17 9
Roads east of Midhurst ..	..	..	..	..	..	..	250	0 0	250	0 0
Egmont Road ..	..	..	185	15 6	185	15 6	284	4 6	470	0 0
Hawke's Bay—										
Puketitiri Block ..	520	0 0	..	..	520	0 0	..	..	520	0 0
Norsewood District, Ngamoko, and Maharahara	2,709	16 6	..	..	2,709	16 6	..	..	2,709	16 6
Ahutoranga Block ..	1,883	7 11	..	..	1,883	7 11	..	..	1,883	7 11
Tautane and Tahoraite ..	10,193	14 9	2,353	1 4	12,546	16 1	1,345	12 0	13,892	8 1
Tukituki to Waipawa ..	985	1 5	..	..	985	1 5	..	..	985	1 5
Mohaka and Waitara ..	151	6 4	..	..	151	6 4	..	..	151	6 4
Waitara Block ..	781	0 6	..	..	781	0 6	..	..	781	0 6
Umutaoroa Block ..	1,441	11 7	647	3 9	2,088	15 4	..	..	2,088	15 4
Maharahara Block ..	1,755	10 11	172	1 9	1,927	12 8	..	..	1,927	12 8
Victoria and Bush-mills Settlements	636	7 6	163	12 6	800	0 0	100	0 0	900	0 0
Wairoa to Rotokakaranga..	268	14 7	870	8 3	1,139	2 10	400	0 0	1,539	2 10
Makaretu ..	19	19 0	961	17 0	981	16 0	319	3 0	1,300	19 0
Te Ohu ..	..	..	162	9 0	162	9 0	337	11 0	500	0 0
Miscellaneous ..	610	4 1	58	4 0	668	8 1	245	0 0	913	8 1
Wellington—										
Pahiatua, Mangaone, &c. ..	17,520	7 0	639	12 0	18,159	19 0	350	0 0	18,509	19 0
Repairs, Fitzherbert Bridge ..	500	0 0	..	..	500	0 0	..	..	500	0 0
Roads, Fitzherbert Block ..	400	0 0	..	..	400	0 0	..	..	400	0 0
Otamakapua and Waitapu ..	2,667	18 2	646	15 6	3,314	13 8	853	4 6	4,167	18 2
East side of Pohangina River ..	439	12 6	481	5 0	920	17 6	..	..	920	17 6
Momahaki Block ..	2,792	0 5	150	0 0	2,942	0 5	200	0 0	3,142	0 5
Tokomaru Block ..	1,255	10 1	36	15 3	1,292	5 4	650	0 0	1,942	5 4
Wanganui to Murimotu ..	2,216	17 0	..	..	2,216	17 0	783	0 0	2,999	17 0
Marton to Murimotu ..	2,070	6 6	500	0 0	2,570	6 6	200	0 0	2,770	6 6
Rangitumau Block ..	926	2 6	468	7 8	1,394	10 2	1,471	12 4	2,866	2 6
Sandon Township ..	1,430	7 9	..	..	1,430	7 9	..	..	1,430	7 9
Wairarapa East ..	1,500	0 0	..	..	1,500	0 0	..	..	1,500	0 0
Mungaroa to Waikanae ..	4,373	2 11	..	..	4,373	2 11	..	..	4,373	2 11
Miscellaneous ..	336	6 3	3	18 9	340	5 0	57	0 0	397	5 0
Blocks V., VI., IX., and XIII., Kairanga Survey Dist., Palmerston N.	3,738	8 0	..	..	3,738	8 0	..	..	3,738	8 0
Blocks V., VI., IX., X., and XIII., Kairanga Survey District, Palmerston N., 24 miles, to open 8,582 acres	1,524	7 2	..	..	1,524	7 2	..	..	1,524	7 2
Karewarewa Block ..	319	1 9	..	..	319	1 9	298	10 11	617	12 8
Paratieko ..	566	12 7	21	10 0	588	2 7	201	19 11	790	2 6
Kaiwhata and Pahaoa ..	..	..	6	0 0	..	6 0 0	1,063	0 0	1,063	0 0
Otairi Block ..	..	..	..	..	..	..	600	0 0	606	0 0
Makakahi Road ..	9	16 6	271	11 9	281	8 3	346	14 6	628	2 9
Road, Wairoa Survey District ..	..	..	..	..	..	..	250	0 0	250	0 0
Kairanga Drain ..	350	0 0	..	..	350	0 0	..	..	350	0 0
Kimbolton Road Extension ..	..	..	372	6 6	372	6 6	630	0 0	1,002	6 6
Kimbolton Road to Orua ..	..	..	3	0 0	3	0 0	497	0 0	500	0 0
Waitapu Block ..	..	..	22	6 3	22	6 3	577	13 9	600	0 0
Mangatainoko Roads ..	..	..	2,179	5 5	2,179	5 5	1,450	0 0	3,629	5 5
Tiraumea Bridge ..	..	..	6	12 6	6	12 6	..	..	6	12 6
Tutaekara Road ..	..	..	1	10 0	1	10 0	300	0 0	301	10 0
South Pahiatua Road ..	..	..	56	15 6	56	15 6	1,140	4 6	1,197	0 0
South Mangaone Road ..	..	..	35	6 0	35	6 0	1,100	0 0	1,135	6 0
Maungakaretu ..	..	..	122	19 3	122	19 3	877	0 9	1,000	0 0
Miscellaneous ..	371	9 4	..	..	371	9 4	..	..	371	9 4
Carried forward ..	213,960	9 8	37,697	12 3	251,658	1 11	33,199	0 10	284,857	2 9

TABLE No. 4—continued.

STATEMENT showing the EXPENDITURE ON ROADS, &amp;c.—continued.

	Expenditure to 31st March, 1886.		Expenditure during 12 Months ended 31st March, 1887.		Total Expenditure to 31st March, 1887.		Liabilities on Authorities, Contracts, &c., 31st March, 1887.		Total Expenditure and Liabilities.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
ROADS TO OPEN UP LANDS BEFORE SALE										
—continued.										
Brought forward .. ..	213,960	9 8	37,697	12 3	251,658	1 11	33,199	0 10	284,857	2 9
Middle Island.										
Nelson—										
Cobden to Seventeen-mile Diggings..	1,678	11 0	..	..	1,678	11 0	..	..	1,678	11 0
Hampden to Maruia .. ..	10,507	5 9	..	..	10,507	5 9	..	..	10,507	5 9
Grey Valley to Teremakau .. ..	2,688	2 1	..	..	2,688	2 1	..	..	2,688	2 1
Wakefield to Stanley Brook .. ..	200	0 0	..	..	200	0 0	..	..	200	0 0
Aorere Valley to Karamea .. ..	4,699	7 5	..	..	4,699	7 5	..	..	4,699	7 5
Tadmor and Sherry to Buller .. ..	3,757	11 2	1,441	17 3	5,199	8 5	365	0 0	5,564	8 5
Baton to Karamea .. ..	200	0 0	..	..	200	0 0	..	..	200	0 0
Maruia to Amuri .. ..	265	8 6	1,288	5 1	1,553	13 7	50	0 0	1,603	13 7
Takaka to Anatoki and Collingwood .. ..	2,890	3 10	1,843	2 7	4,733	6 5	..	..	4,733	6 5
Takaka to Karamea .. ..	289	3 4	..	..	289	3 4	..	..	289	3 4
Ahaura to Kopara and Amuri .. ..	1,965	1 8	100	0 0	2,065	1 8	..	..	2,065	1 8
Oronoko to Rosedale .. ..	963	14 0	..	..	963	14 0	..	..	963	14 0
Brooklands Valley Road .. ..	..	..	178	6 6	178	6 6	..	..	178	6 6
Karamea to Mokihinui .. ..	250	0 0	..	..	250	0 0	1,250	0 0	1,500	0 0
Maruia to Amuri .. ..	49	10 6	..	..	49	10 6	..	..	49	10 6
Ahaura (Mason's) to Haupiri .. ..	..	..	31	18 0	31	18 0	1,968	0 0	1,999	18 0
Takaka to Stockyard .. ..	..	..	..	..	..	..	250	0 0	250	0 0
Pigeon Valley to Motueka .. ..	..	..	88	10 9	88	10 9	411	9 3	500	0 0
Pretty Bridge Valley .. ..	..	..	56	18 9	56	18 9	143	1 8	200	0 0
Grey Valley, via Clarke, to Maruia..	..	..	..	..	..	..	200	0 0	200	0 0
Miscellaneous .. ..	656	2 3	150	0 0	806	2 3	350	0 0	1,156	2 3
Marlborough—										
Awatere Valley Road .. ..	8,484	11 1	..	..	8,484	11 1	..	..	8,484	11 1
Westland—										
Mapourika to Gillespie's .. ..	8,077	5 0	..	..	8,077	5 0	..	..	8,077	5 0
Mahitahi to Haast .. ..	16,234	16 9	..	..	16,234	16 9	..	..	16,234	16 9
Mathias Pass Road .. ..	336	18 0	..	..	336	18 0	..	..	336	18 0
In the County of Westland .. ..	1,980	0 0	..	..	1,980	0 0	..	..	1,980	0 0
Kumara to Beach .. ..	2,000	0 0	..	..	2,000	0 0	..	..	2,000	0 0
Kokatahi River to Hokitika River .. ..	970	0 0	..	..	970	0 0	..	..	970	0 0
Moeraki Crossing to Otumotu .. ..	1,510	18 5	..	..	1,510	18 5	..	..	1,510	18 5
Mount Bonar to Poenua River .. ..	900	0 0	..	..	900	0 0	..	..	900	0 0
Wataroa and Waitangi-taone .. ..	1,500	0 0	..	..	1,500	0 0	..	..	1,500	0 0
Teremakau to Bell Hill Road .. ..	..	..	1,484	11 0	1,484	11 0	500	0 0	1,984	11 0
Waikukupa to Cook's River Flat .. ..	..	..	440	15 0	440	15 0	559	5 0	1,000	0 0
Gillespie's to Cook's River Flat .. ..	..	..	470	0 0	470	0 0	1,450	0 0	1,920	0 0
Cascade Valley Road .. ..	..	..	62	17 8	62	17 8	1,807	2 4	1,870	0 0
Crooked River Road .. ..	..	..	..	..	..	..	1,000	0 0	1,000	0 0
Pounamou to Teramakau .. ..	..	..	..	..	..	..	500	0 0	500	0 0
Mahitahi to Paringa .. ..	..	..	..	..	..	..	1,400	0 0	1,400	0 0
Miscellaneous .. ..	279	15 6	..	..	279	15 6	..	..	279	15 6
Canterbury—										
Mathias Pass Road .. ..	2,046	15 10	..	..	2,046	15 10	..	..	2,046	15 10
To Upper Ashley over Kuku Pass .. ..	7,893	3 5	300	0 0	8,193	3 5	500	0 0	8,693	3 5
Irrigation works, Eyre & Waimakariri .. ..	3,250	0 0	..	..	3,250	0 0	150	0 0	3,400	0 0
Oxford Bush to Upper Ashley .. ..	3,996	2 3	..	..	3,996	2 3	..	..	3,996	2 3
Burke's Pass, Mackenzie County .. ..	249	18 10	..	..	249	18 10	350	0 0	599	18 10
To deferred-payment lands, Teviotdale .. ..	1,764	4 11	..	..	1,764	4 11	..	..	1,764	4 11
To deferred-payment lands, Waikari .. ..	784	19 1	..	..	784	19 1	..	..	784	19 1
To village & deferred-payment blocks .. ..	1,249	15 10	150	0 0	1,399	15 10	124	0 0	1,523	15 10
Blackford to Redcliffe .. ..	300	0 0	..	..	300	0 0	..	..	300	0 0
Blackhill's Road .. ..	220	0 0	750	0 0	970	0 0	..	..	970	0 0
Road to Mount Cook .. ..	760	0 0	440	0 0	1,200	0 0	..	..	1,200	0 0
Waihao to Hakateramea .. ..	71	9 10	441	8 6	512	18 4	486	11 11	999	10 3
Mount Grey Downs .. ..	..	..	..	..	..	..	500	0 0	500	0 0
Glentui Road .. ..	..	..	287	17 0	287	17 0	212	3 0	500	0 0
Miscellaneous .. ..	1,178	15 0	42	10 0	1,221	5 0	91	0 0	1,312	5 0
Otago—										
Beaumont to Miller's Flat .. ..	5,148	19 5	385	16 7	5,534	16 0	465	4 0	6,000	0 0
Through Blocks VIII. and X., Bengier .. ..	1,000	0 0	..	..	1,000	0 0	..	..	1,000	0 0
Run 106 .. ..	1,000	0 0	..	..	1,000	0 0	200	0 0	1,200	0 0
Kelso to Greenvale .. ..	500	0 0	..	..	500	0 0	..	..	500	0 0
Tapanui Railway to Run 140 .. ..	1,145	2 3	..	..	1,145	2 3	..	..	1,145	2 3
To open up Otago and Southland runs .. ..	12,941	15 7	..	..	12,941	15 7	..	..	12,941	15 7
Through Runs 171 and 171A .. ..	1,500	0 0	..	..	1,500	0 0	320	0 0	1,820	0 0
Otara to Waikawa, and bridge over .. ..	1,000	0 0	..	..	1,000	0 0	..	..	1,000	0 0
Tokanui Creek .. ..	..	..	..	..	..	..	..	..	..	..
Arrowtown to Crown Terrace .. ..	1,500	0 0	..	..	1,500	0 0	..	..	1,500	0 0
Waitahuna to Run 52c .. ..	1,200	0 0	..	..	1,200	0 0	..	..	1,200	0 0
Run No. 75 (Boyd's) .. ..	3,000	0 0	..	..	3,000	0 0	..	..	3,000	0 0
Education reserves .. ..	1,821	3 9	..	..	1,821	3 9	..	..	1,821	3 9
Through Runs 177 and 257 .. ..	2,559	1 8	442	18 4	3,002	0 0	2,000	0 0	5,002	0 0
Glenorchy up Rees and Dart .. ..	1,615	9 7	189	14 0	1,805	3 7	110	6 0	1,915	9 7
Carried forward .. ..	346,991	13 2	48,764	19 3	395,756	12 5	50,912	3 7	446,663	16 0

TABLE No. 4—continued.

STATEMENT showing the EXPENDITURE ON ROADS, &amp;c.—continued.

	Expenditure to 31st March, 1886.		Expenditure during 12 Months ended 31st March, 1887.		Total Expenditure to 31st March, 1887.		Liabilities on Authorities, Contracts, &c., 31st March, 1887.		Total Expenditure and Liabilities.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
ROADS TO OPEN UP LANDS BEFORE SALE										
—continued.										
Brought forward ..	346,991	13 2	48,764	19 3	395,756	12 5	50,912	3 7	446,668	16 0
Middle Island—continued.										
Otago—continued.										
Lauder Block ..	189	17 9	814	2 3	1,004	0 0	145	0 0	1,149	0 0
Upper Clutha Blocks ..	160	0 0	117	8 0	277	8 0	640	0 0	917	8 0
Waikaia Bush to Clutha Valley ..	3,000	0 0	250	0 0	3,250	0 0	250	0 0	3,500	0 0
Pembroke to Matukituki ..	..	..	937	2 8	937	2 8	782	17 4	1,720	0 0
Block II., Blackstone ..	..	..	200	0 0	200	0 0	..	..	200	0 0
Taieri Lake, Block XV., Maniototo ..	..	..	152	5 6	152	5 6	47	14 6	200	0 0
Taieri Bridge to Nenthorn Bridge ..	175	0 0	..	..	175	0 0	125	0 0	300	0 0
Waikaia Bush ..	..	..	..	..	..	..	500	0 0	500	0 0
Ida Valley ..	..	..	250	0 0	250	0 0	250	0 0	500	0 0
Kurow Run ..	..	..	927	13 8	927	13 8	72	6 4	1,000	0 0
Pyramid Bridge to Waikaia ..	..	..	300	0 0	300	0 0	..	..	800	0 0
Taieri River Road ..	..	..	200	0 0	200	0 0	..	..	200	0 0
Hummockside District ..	..	..	200	0 0	200	0 0	60	0 0	260	0 0
Athol to Nokomai Saddle ..	..	..	..	..	..	..	200	0 0	200	0 0
Block XIII., Moeraki ..	..	..	..	..	..	..	200	0 0	200	0 0
Blocks XVI., XIV., IX., Maniototo ..	..	..	..	..	..	..	540	0 0	540	0 0
Block VI., Gimmerburn ..	..	..	..	..	..	..	200	0 0	200	0 0
Blocks II. and VI., Taieri ..	..	..	..	..	..	..	200	0 0	200	0 0
Swinburn and Rock and Pillar ..	..	..	..	..	..	..	200	0 0	200	0 0
Run 210 ..	..	..	..	..	..	..	600	0 0	600	0 0
Silverpeak, &c. ..	..	..	..	..	..	..	320	0 0	320	0 0
Switzer's Track to Spylaw and Clutha ..	..	..	..	..	..	..	750	0 0	750	0 0
Bridge Tokomairiro River, North Branch ..	..	..	..	..	..	..	250	0 0	250	0 0
Glenomaru and Owake ..	..	..	..	..	..	..	500	0 0	500	0 0
Waikaka to Wendon and Greenvale ..	..	..	..	..	..	..	500	0 0	500	0 0
Wendon District ..	..	..	..	..	..	..	500	0 0	500	0 0
Miscellaneous ..	4,519	19 6	260	0 0	4,779	19 6	50	0 0	4,829	19 6
Seaward Forest to coast ..	5,114	15 11	950	0 0	6,064	15 11	..	..	6,064	15 11
Forest Hill Tramway ..	12,037	17 6	28	10 4	12,066	7 10	1,271	9 8	13,337	17 6
Waikawa to Catlin's ..	2	14 0	..	..	2	14 0	1,278	0 0	1,280	14 0
Orepuki to Waiau ..	900	0 0	..	..	900	0 0	..	..	900	0 0
Branch Road to Forest Hill ..	1,494	19 5	..	..	1,494	19 5	..	..	1,494	19 5
Tomogalak Creek to deferred-payment land ..	499	5 6	..	..	499	5 6	..	..	499	5 6
Bay Road to Otara Bush ..	1,179	18 3	..	..	1,179	18 3	..	..	1,179	18 3
Bush land east of Makarewa ..	520	0 0	..	..	520	0 0	..	..	520	0 0
Port William to Halfmoon Bay ..	250	0 0	..	..	250	0 0	..	..	250	0 0
Wynndham, via Mimihaui, to Otaraia ..	399	18 2	600	0 0	999	18 2	..	..	999	18 2
Waikaka to Pyramid ..	200	0 0	..	..	200	0 0	..	..	200	0 0
Pyramid Bridge to Waikaia ..	200	0 0	..	..	200	0 0	..	..	200	0 0
Wendonside ..	100	0 0	..	..	100	0 0	..	..	100	0 0
Pyramid Bridge ..	850	0 0	..	..	850	0 0	..	..	850	0 0
Otatara Bush ..	..	..	485	10 0	485	10 0	14	10 0	500	0 0
West's to Mokohua ..	..	..	100	0 0	100	0 0	..	..	100	0 0
Waimatuku Bush ..	..	..	300	0 0	300	0 0	200	0 0	500	0 0
Blackmount to deferred-payment land ..	..	..	250	0 0	250	0 0	100	0 0	350	0 0
Bush land, Makarewa ..	..	..	150	0 0	150	0 0	..	..	150	0 0
Seaward Moss to Awarua Bay ..	..	..	500	0 0	500	0 0	..	..	500	0 0
Blocks II. and III., Campbelltown..	..	..	..	..	..	..	100	0 0	100	0 0
Hedgehope Road ..	..	..	200	0 0	200	0 0	..	..	200	0 0
Waikiwi Suburban ..	..	..	..	..	..	..	150	0 0	150	0 0
Wallacetown to Tomoporakau ..	..	..	..	..	..	..	150	0 0	150	0 0
Winton Tramway to Winton Forest ..	..	..	..	..	..	..	200	0 0	200	0 0
Seaward Forest to D. P. Block ..	..	..	..	..	..	..	300	0 0	300	0 0
Halfmoon Bay, Stewart Island ..	..	..	219	12 6	219	12 6	30	7 6	250	0 0
Sundry roads ..	9,394	2 11	..	..	9,394	2 11	53	3 6	9,447	6 5
Sundry roads, Native labour ..	9	9 0	..	..	9	9 0	..	..	9	9 0
Totals ..	388,189	11 1	57,157	4 2	445,346	15 3	62,642	12 5	507,989	7 8
VILLAGE SETTLEMENTS:—										
Village settlements ..	..	..	1,890	15 4	1,890	15 4	1,389	4 8	3,280	0 0
SUMMARY.										
ROADS TO OPEN UP LANDS BEFORE SALE	388,189	11 1	57,157	4 2	445,346	15 3	62,642	12 5	507,989	7 8
VILLAGE SETTLEMENTS ..	..	..	1,890	15 4	1,890	15 4	1,389	4 8	3,280	0 0
GRAND TOTALS..	388,189	11 1	59,047	19 6	447,237	10 7	64,031	17 1	511,269	7 8

TABLE No. 5.

STATEMENT showing the EXPENDITURE on GOLDFIELDS ROADS (Class IV.) out of Immigration and Public Works Loan to 31st March, 1887, and LIABILITIES on that Date.

	Expenditure to 31st March, 1886.			Expenditure during Twelve Months ending 31st March, 1887.			Total Expenditure to 31st March, 1887.			Liabilities on Authorities, Contracts, &c., 31st March, 1887.			Total Expenditure and Liabilities.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
ROADS ON GOLDFIELDS—															
Subsidies towards the construction of roads and tracks in mining districts, and minor works for the development of minerals, upon a subscription of one-half being contributed ..	48,511	3	9	8,515	4	5	52,026	8	2	9,222	17	4	61,249	5	6
AUCKLAND—															
Assistance to Piako County Council towards constructing tramway from Te Aroha Mountain to batteries ..	6,000	0	0	..			6,000	0	0	..			6,000	0	0
Opening Mokau River for development of coal-mine ..	440	16	9	111	11	3	552	8	0	38	8	9	590	16	9
NELSON—															
Lyell to Mokihinui <i>via</i> Eight-Mile ..	3,499	17	6	1,515	10	4	5,015	7	10	3,984	9	8	8,999	17	6
Mokihinui Quartz Reefs to Specimen Creek ..	891	13	3	346	14	2	1,238	7	5	..			1,238	7	5
Mokihinui to Karamea <i>via</i> Rough-and-Tumble ..	6,648	16	5	3,862	19	9	10,511	16	2	3,916	4	10	14,428	1	0
Brighton to Seventeen-Mile Beach <i>via</i> Terraces ..	1,199	9	4	14	5	0	1,213	14	4	1,486	14	8	2,700	9	0
Cobden to Seventeen-Mile Beach ..	1,154	3	4	947	18	0	2,102	1	4	1,090	19	1	3,193	0	5
Wangapeka to Karamea ..	..			1,825	15	10	1,825	15	10	174	4	2	2,000	0	0
Aorere Valley to Karamea ..	250	0	0	150	0	0	400	0	0	600	0	0	1,000	0	0
Owen Valley Road ..	42	7	6	1,191	4	9	1,233	12	3	308	15	3	1,542	7	6
Hatter's Terrace to Bell Hill ..	..			100	0	0	100	0	0	300	0	0	400	0	0
Larry's Creek to Lyell Road, near Dee River (subsidy of £1 for £1) ..	..			..			..			750	0	0	750	0	0
Bridle-track to Upper Anatoki ..	..			..			..			600	0	0	600	0	0
Tracks for opening up and prospecting Collingwood and Takaka Districts ..	..			..			..			1,000	0	0	1,000	0	0
Hatter's Terrace Road (£1 for £1 subsidy) ..	..			..			..			400	0	0	400	0	0
Deep Creek to Bell Hill (£1 for £1 subsidy) ..	..			..			..			400	0	0	400	0	0
Irishman's to Lake Brunner (£1 for £1 subsidy) ..	..			300	0	0	300	0	0	300	0	0	600	0	0
Improving roads and tracks, Collingwood to Takaka, Motueka, and Karamea ..	248	19	7	5,004	0	6	5,253	0	1	2,842	5	10	8,095	5	11
Ahaura to Amuri ..	2,504	19	7	..			2,504	19	7	..			2,504	19	7
MARLBOROUGH—															
Wakamarina Valley ..	11	0	0	..			11	0	0	..			11	0	0
CANTERBURY—															
Road to open up Wilberforce Quartz Reefs ..	1,730	17	7	100	0	0	1,830	17	7	..			1,830	17	7
WESTLAND—															
Cedar Creek Road ..	442	14	0	2,347	7	0	2,790	1	0	209	19	0	3,000	0	0
Browning's Pass to Reef (subsidy of £2 for £1) ..	..			1,484	2	8	1,484	2	8	515	17	4	2,000	0	0
Jackson's Bay to Cascade and Gorge River Districts ..	..			556	4	3	556	4	3	939	5	9	1,495	10	0
OTAGO—															
Arthur's Point to Skipper's ..	5,204	3	5	2,343	10	8	7,547	14	1	..			7,547	14	1
Waikaia Bush Road ..	241	15	5	758	4	7	1,000	0	0	..			1,000	0	0
Arrowtown to Macetown Quartz Reefs and Motutapu Bush ..	9,270	6	8	..			9,270	6	8	..			9,270	6	8
Waitahuna Bridge, on account of reconstruction ..	..			750	0	0	750	0	0	..			750	0	0
SOUTHLAND—															
Tracks, Merrivale District ..	..			400	0	0	400	0	0	..			400	0	0
Totals ..	83,293	4	1	32,624	13	2	115,917	17	3	29,080	1	8	144,997	18	11

TABLE No. 6.

STATEMENT showing the EXPENDITURE on PUBLIC BUILDINGS out of Immigration and Public Works Loan to 31st March, 1887, and the LIABILITIES on that Date.

	Total Expenditure to 31st March, 1886.			Expenditure for Year ended 31st March, 1887.			Total Expenditure to 31st March, 1887.			Liabilities on Authorities, Contracts, &c., 31st March, 1887.			Total Expenditure and Liabilities.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Judicial ..	212,888	12	10	15,875	10	4	228,764	3	2	2,295	18	0	231,060	1	2
Postal and Telegraphic ..	186,420	17	0	2,772	6	3	189,193	3	3	1,626	5	10	140,819	9	1
Customs ..	4,749	2	2	..			4,749	2	2	13	5	7	4,762	7	9
Offices for Public Departments ..	144,928	6	8	946	11	7	145,874	18	3	13,428	6	3	159,303	4	6
Lunatic Asylums ..	230,049	15	11	*13,694	5	9	243,744	1	8	22,884	8	6	266,628	10	2
School-buildings ..	727,127	14	0	51,606	14	9	778,734	8	9	8,893	0	0	787,627	8	9
Hospitals ..	24,074	3	0	4,421	11	7	28,495	14	7	5,992	3	5	34,487	18	0
Miscellaneous ..	9,838	14	10	..			9,838	14	10	..			9,838	14	10
Quarantine Stations ..	3,251	8	5	273	11	10	3,525	0	3	0	8	2	3,525	8	5
Survey ..	514	13	2	..			514	13	2	..			514	13	2
Parliament Buildings ..	13,930	5	8	7	13	0	13,937	18	8	27	7	0	13,965	5	8
Totals ..	1,507,773	13	8	89,598	5	1	1,597,371	18	9	55,161	2	9	1,652,533	1	6

\* Includes £100 charged as unauthorized.

TABLE No. 7.

STATEMENT showing the EXPENDITURE for WATER-RACES on GOLDFIELDS out of Immigration and Public Works Loan to 31st March, 1887, and the LIABILITIES on that Date.

LOCALITY AND NAME OF RACE.	EXPENDITURE.					LIABILITIES.				Total Expenditure and Liabilities.	LOCALITY AND NAME OF RACE.						
	Survey and Construction, 1870-86.		Subsidies, 1870-86.		Survey and Construction 1886-87.		Subsidies, 1886-87.		Totals.								
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£			s. d.	£	s. d.	£	s. d.	
NORTH ISLAND.																	
AUCKLAND PROVINCIAL DISTRICT— Thames	80,708	19 3	..	..	..	..	80,708	19 3	..	..	..	..	..	..	80,708	19 3	
MIDDLE ISLAND.																	
WESTLAND PROVINCIAL DISTRICT— Subsidies—																	
Hohonu.	3 7 0	1,955	12 1	..	..	..	1,958	19 1	..	..	..	..	..	..	1,958	19 1	
Hibernian.	12 5 8	1,992	14 8	..	..	..	2,005	0 4	..	..	..	..	..	..	2,005	0 4	
New River.	21 5 0	3,496	0 3	..	..	..	3,517	5 3	..	..	..	..	..	..	3,517	5 3	
Kanieri.	1 5 6	10,310	18 4	..	..	..	10,312	3 10	..	..	..	..	..	..	10,312	3 10	
Ross Sludge-channel.	..	..	..	..	..	1,360	6 9	1,360	6 9	..	..	139	13 3	139	13 3	1,500	0 0
Kumara Sludge-channel No. 2	..	1,440	13 9	..	..	1,322	3 5	2,762	17 2	..	..	..	..	..	2,762	17 2	
Government Works—																	
Wainaea.	173,076	10 7	..	..	286	16 6	173,363	7 1	..	..	..	..	..	..	173,363	7 1	
Mikonui.	25,024	2 7	..	..	20	6 11	25,044	9 6	..	..	..	..	..	..	25,044	9 6	
NELSON PROVINCIAL DISTRICT— Government Works—																	
Nelson Creek.	90,151	19 1	..	..	569	5 7	90,721	4 8	..	..	..	..	..	..	90,721	4 8	
Napoleon Hill.	257	16 7	..	..	..	..	257	16 7	..	..	..	..	..	..	257	16 7	
Argyle (Charleston).	14,183	9 3	..	..	518	6 0	14,701	15 3	..	..	..	..	..	..	14,701	15 3	
Black's Point.	244	9 0	..	..	..	..	244	9 0	..	..	..	..	..	..	244	9 0	
OTAGO PROVINCIAL DISTRICT— Subsidies—																	
Arrow.	..	612	10 0	..	..	..	612	10 0	..	..	..	..	..	..	612	10 0	
Beaumont and Tuapeka.	4 6 2	640	0 0	..	..	..	644	6 2	..	..	..	..	..	..	644	6 2	
Carrick Range.	..	9,249	13 1	..	..	..	9,249	13 1	..	..	..	..	..	..	9,249	13 1	
Mount Pisgah.	..	200	0 0	..	..	..	200	0 0	..	..	..	..	..	..	200	0 0	
Lawrence Drainage-channel.	..	2,150	0 0	..	806	14 0	2,956	14 0	..	..	193	6 0	193	6 0	3,150	0 0	
Ophir Tail-race.	..	610	13 6	..	488	15 0	1,099	8 6	..	..	161	5 0	161	5 0	1,260	13 6	
Muddy Creek Channel.	..	550	5 11	..	299	14 1	850	0 0	..	..	200	5 11	200	5 11	1,050	5 11	
St. Bathans.	..	217	3 9	..	494	0 1	711	3 10	..	..	305	19 11	305	19 11	1,017	3 9	
Criffel.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Maerewhenua.	..	..	1,065	0 0	..	..	1,065	0 0	435	0 0	435	0 0	435	0 0	1,500	0 0	
Government Works—																	
Mount Ida.	65,766	3 8	..	..	..	..	65,766	3 8	..	..	..	..	..	..	65,766	3 8	
Waipori.	11,263	1 0	..	..	..	..	11,263	1 0	..	..	..	..	..	..	11,263	1 0	
SOUTHLAND PROVINCIAL DISTRICT— Subsidy—																	
Round Hill.	..	..	..	..	133	19 4	133	19 4	..	..	..	..	..	..	133	19 4	
GENERAL—																	
Increased water-supply.	..	..	..	..	100	0 0	100	0 0	..	..	..	..	..	..	100	0 0	
DEPARTMENTAL—																	
Salaries, travelling, advertising, &c.	6,515	6 2	..	..	200	0 0	6,715	6 2	..	..	50	0 0	50	0 0	6,765	6 2	
TOTALS.	387,125	7 3	333,426	5 4	2,659	15 0	5,005	12 8	428,217	0 3	485	0 0	1,000	10 1	1,485	10 1	
SUMMARY.																	
NORTH ISLAND.	80,708	19 3	..	..	..	..	80,708	19 3	..	..	..	..	..	..	80,708	19 3	
MIDDLE ISLAND.	387,125	7 3	333,426	5 4	2,659	15 0	5,005	12 8	428,217	0 3	485	0 0	1,000	10 1	1,485	10 1	
TOTALS.	467,834	6 6	633,426	5 4	2,659	15 0	5,005	12 8	508,925	19 6	485	0 0	1,000	10 1	1,485	10 1	

TABLE No. 8.

STATEMENT showing EXPENDITURE on TELEGRAPHS out of Immigration and Public Works Loan to 31st March, 1887, and the LIABILITIES on that Date.

Line.	Miles of		Expenditure during Twelve Months ended 31st March, 1887.	Total Expenditure and Liabilities.
	Poles.	Wire.		
			£ s. d.	£ s. d.
Expenditure to the 31st March, 1886 .. .. .	..	..	..	520,027 1 0
Telephone exchanges .. .. .	..	..	14,807 0 4	
Cambridge to Taupo .. .. .	..	..	1,481 1 5	
Waitangi .. .. .	..	..	2 2 6	
Omapere .. .. .	..	..	1 8 0	
Kawhia .. .. .	22	51	1,150 15 4	
Okete .. .. .	..	7	104 17 4	
Karangahake .. .. .	2	4	125 14 3	
Waima-Takeke .. .. .	..	18	352 19 4	
Waipu Junction .. .. .	..	1	37 8 8	
Kakaramea .. .. .	..	..	66 0 4	
Ngaire .. .. .	..	..	72 16 4	
Tahoraite .. .. .	..	84	2,097 2 9	
Mahia .. .. .	..	..	76 6 6	
Puketapu .. .. .	4	4	167 15 3	
Tologa Bay .. .. .	..	..	1,259 1 7	
Campbelltown .. .. .	..	..	102 4 0	
Carswell's .. .. .	..	..	242 0 5	
Thorndon Bureau .. .. .	..	..	20 10 0	
Nelson Creek .. .. .	3½	8	188 1 8	
Denniston .. .. .	13½	13½	124 17 7	
Doyleston .. .. .	..	..	0 12 9	
Orepuke .. .. .	..	..	0 10 6	
Macrae's .. .. .	13	13	371 7 2	
Nuggets .. .. .	..	..	13 18 3	
Ettrick .. .. .	..	..	5 2 6	
Maori Kaik .. .. .	..	..	0 3 0	
Taieri Beach .. .. .	18	18	725 3 2	
Colac Bay .. .. .	..	..	1 15 0	
Kyeburn, Hyde, and Hamilton's .. .. .	18	36	1,024 12 7	
Hill Creek .. .. .	..	..	10 9 0	
Inglewood-Normanby .. .. .	..	..	162 6 8	
Stratford-Midhurst .. .. .	..	..	1 14 0	
Kai Iwi .. .. .	..	..	83 12 0	
Kumeroa .. .. .	..	..	7 17 5	
Redwood .. .. .	..	..	0 8 3	
Tapanui .. .. .	1	1	9 19 6	
			24,899 15 4	
Deduct value of stock included in above, purchased in previous years .. .. .	..	..	5,948 0 8	18,951 14 8
Liabilities on 31st March, 1887 .. .. .	..	..	..	3,983 0 0
Total Expenditure and Liabilities .. .. .	..	..	..	£542,961 15 8



TABLE No. 9.

STATEMENT showing the EXPENDITURE on LIGHTHOUSES and HARBOUR WORKS out of Immigration and Public Works Loan to 31st March, 1887, and the LIABILITIES on that Date..

	Total Net Expenditure to 31st March, 1886.	Net Expenditure during 12 Months ended 31st March, 1887.	Total Expenditure to 31st March, 1887.	Liabilities on Authorities, Contracts, &c., to 31st March, 1887.	Total Expenditure and Liabilities.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<b>LIGHTHOUSES.</b>					
Akaroa .. .. .	7,148 16 5	..	7,148 16 5	..	7,148 16 5
Brothers .. .. .	6,241 0 0	..	6,241 0 0	..	6,241 0 0
Cape Egmont .. .. .	3,354 6 4	..	3,354 6 4	..	3,354 6 4
Cape Foulwind .. .. .	6,955 9 1	..	6,955 9 1	..	6,955 9 1
Cape Maria van Diemen .. .. .	7,028 14 8	..	7,028 14 8	..	7,028 14 8
Cape Saunders .. .. .	6,066 6 3	..	6,066 6 3	..	6,066 6 3
Centre Island .. .. .	5,785 19 0	..	5,785 19 0	..	5,785 19 0
Cuvier Island .. .. .	..	990 9 11	990 9 11	2,200 0 0	3,190 9 11
French Pass Beacon .. .. .	668 15 8	..	668 15 8	..	668 15 8
French Pass .. .. .	1,427 17 5	..	1,427 17 5	..	1,427 17 5
Hokitika .. .. .	801 9 7	..	801 9 7	..	801 9 7
Jackson's Reef Beacon .. .. .	991 11 11	1,681 5 2	2,672 17 1	500 0 0	3,172 17 1
Kaipara .. .. .	5,571 8 0	..	5,571 8 0	..	5,571 8 0
Manukau Heads .. .. .	..	600 13 11	600 13 11	..	600 13 11
Marine Store .. .. .	499 11 3	..	499 11 3	..	499 11 3
Moeraki .. .. .	2,943 1 11	..	2,943 1 11	..	2,943 1 11
Mokohinau .. .. .	8,185 11 0	..	8,185 11 0	..	8,185 11 0
Portland Island .. .. .	6,554 14 5	..	6,554 14 5	..	6,554 14 5
Puysegur Point .. .. .	9,958 19 5	..	9,958 19 5	..	9,958 19 5
Stephen's Island .. .. .	70 18 1	..	70 18 1	..	70 18 1
Timaru .. .. .	1,116 17 3	..	1,116 17 3	..	1,116 17 3
Tiritiri Cable .. .. .	1,085 19 6	..	1,085 19 6	..	1,085 19 6
Tory Channel .. .. .	353 7 7	..	353 7 7	..	353 7 7
Waipapapa Point .. .. .	5,969 18 11	..	5,969 18 11	..	5,969 18 11
Miscellaneous, including expenditure on s.s. "Hinemoa" and "Stella" ..	20,590 5 9	..	20,590 5 9	..	20,590 5 9
<b>HARBOUR WORKS.</b>					
Pollock Wharf, Manukau .. .. .	150 0 0	..	150 0 0	..	150 0 0
Whangarei Heads Wharf .. .. .	600 0 0	..	600 0 0	..	600 0 0
Matakana Wharf .. .. .	556 10 3	..	556 10 3	..	556 10 3
Waiuku Channel .. .. .	357 11 6	..	357 11 6	..	357 11 6
Coromandel Wharf .. .. .	Cr. 0 10 0	..	Cr. 0 10 0	..	Cr. 0 10 0
Waitara Harbour .. .. .	2,000 0 0	..	2,000 0 0	..	2,000 0 0
Removing eel-weirs, Patea River ..	50 0 0	..	50 0 0	..	50 0 0
Napier Harbour .. .. .	328 0 0	..	328 0 0	..	328 0 0
Castlepoint Jetty .. .. .	51 14 1	..	51 14 1	..	51 14 1
Kaikoura Jetty and Harbour .. .. .	2,912 16 10	..	2,912 16 10	..	2,912 16 10
Picton, removal of old wharf .. .. .	94 0 0	..	94 0 0	..	94 0 0
Collingwood Harbour .. .. .	745 18 8	..	745 18 8	..	745 18 8
Karamea Wharf .. .. .	75 0 0	..	75 0 0	..	75 0 0
Westport Harbour .. .. .	14,110 18 7	..	14,110 18 7	..	14,110 18 7
Greymouth Harbour .. .. .	127,230 3 6	3 16 0	127,233 19 6	..	127,233 19 6
Hokitika Harbour .. .. .	55,000 0 0	1,000 0 0	56,000 0 0	500 0 0	56,500 0 0
Timaru Harbour .. .. .	100,000 0 0	..	100,000 0 0	..	100,000 0 0
Oamaru Harbour .. .. .	..	*5,000 0 0	5,000 0 0	..	5,000 0 0
Martin's Bay, removal of rock .. .. .	5 0 0	..	5 0 0	..	5 0 0
Port Levy Jetty .. .. .	250 0 0	..	250 0 0	..	250 0 0
Toitois Jetty .. .. .	1,000 0 0	..	1,000 0 0	..	1,000 0 0
Balclutha Jetty .. .. .	250 0 0	..	250 0 0	..	250 0 0
Catlin's River, removal of rocks .. .. .	277 19 0	..	277 19 0	..	277 19 0
Catlin's River Jetty .. .. .	1,015 7 7	..	1,015 7 7	..	1,015 7 7
Queenstown Beacon .. .. .	35 0 0	..	35 0 0	..	35 0 0
Queenstown Jetty .. .. .	297 8 0	..	297 8 0	..	297 8 0
Jackson's Bay Jetty .. .. .	32 6 4	..	32 6 4	..	32 6 4
Miscellaneous .. .. .	400 0 0	..	400 0 0	..	400 0 0
Harbour Defences .. .. .	179,398 3 0	139,428 19 3	318,827 2 3	77,524 0 0	396,351 2 3
Totals .. .. .	596,594 6 9	148,705 4 3	745,299 11 0	80,724 0 0	826,023 11 0

\* Charged as unauthorized.



## INDEX TO APPENDICES.

### PUBLIC WORKS DEPARTMENT.

	Page
APPENDIX A.—AUDITED STATEMENT OF EXPENDITURE ON PUBLIC WORKS OUT OF THE IMMIGRATION AND PUBLIC WORKS LOAN FOR THE YEAR 1886-87 .. .. .	21
„ B.—STATEMENT OF ALL LIABILITIES IN RESPECT OF THE SERVICES OF THE PUBLIC WORKS DEPARTMENT OUTSTANDING AT THE CLOSE OF THE FINANCIAL PERIOD ENDED 31ST MARCH, 1887, PREPARED IN TERMS OF “THE PUBLIC REVENUES ACT, 1882,” AND FORWARDED AS THEREIN PROVIDED TO THE AUDIT OFFICE .. .. .	23
„ C.—SCHEDULE OF RAILWAY CONTRACTS CURRENT ON 1ST APRIL, 1886, AND CONTRACTS ENTERED INTO BY THE PUBLIC WORKS DEPARTMENT DURING THE YEAR ENDED 31ST MARCH, 1887 .. .. .	25
„ D.—SCHEDULE OF SLEEPER CONTRACTS CURRENT ON 1ST APRIL, 1886, AND CONTRACTS ENTERED INTO BY THE PUBLIC WORKS DEPARTMENT DURING THE YEAR ENDED 31ST MARCH, 1887 .. .. .	27
„ E.—SCHEDULE OF CONTRACTS FOR ROADS AND MISCELLANEOUS WORKS CURRENT ON 1ST APRIL, 1886, AND CONTRACTS ENTERED INTO BY THE PUBLIC WORKS DEPARTMENT DURING THE YEAR ENDED 31ST MARCH, 1887 .. .. .	28
F.—SCHEDULE OF CONTRACTS FOR ROADS AND MISCELLANEOUS WORKS CURRENT ON 1ST APRIL, 1886, AND CONTRACTS ENTERED INTO BY THE SURVEY DEPARTMENT DURING THE YEAR ENDED 31ST MARCH, 1887 .. .. .	29
„ G.—SCHEDULE OF CONTRACTS FOR GOLDFIELDS ROADS CURRENT ON 1ST APRIL, 1886, AND CONTRACTS ENTERED INTO BY THE MINES DEPARTMENT DURING THE YEAR ENDED 31ST MARCH, 1887 .. .. .	30
„ H.—SCHEDULE OF CONTRACTS FOR WATER-RACES CURRENT ON 1ST APRIL, 1886, AND CONTRACTS ENTERED INTO BY THE MINES DEPARTMENT DURING THE YEAR ENDED 31ST MARCH, 1887 .. .. .	30
„ I.—ANNUAL REPORT ON RAILWAYS BY THE ENGINEER-IN-CHIEF .. .. .	31
„ J.—ANNUAL REPORT ON ROADS, MISCELLANEOUS WORKS, AND BUILDINGS, BY THE ENGINEER-IN-CHIEF, WITH ENCLOSURES .. .. .	40
„ K.—ANNUAL REPORT ON LIGHTHOUSE WORKS BY THE MARINE ENGINEER .. .. .	49
ENCLOSURES IN APPENDIX H. AND MAPS .. .. .	



## APPENDICES TO THE PUBLIC WORKS STATEMENT, 1887.

## APPENDIX A.

AUDITED STATEMENT OF EXPENDITURE ON PUBLIC WORKS  
OUT OF THE IMMIGRATION AND PUBLIC WORKS LOAN  
FOR THE YEAR 1886-87.*Prepared in compliance with Section 8 of "The Public Works Act, 1882."*

SIR,—

Public Works Department, Wellington, 7th May, 1887.

In compliance with the 8th section of "The Public Works Act, 1882," I enclose a statement of the expenditure during the preceding financial year upon all Government works authorized by Parliament under "The Immigration and Public Works Appropriation Act, 1885."

I have, &amp;c.,

EDWARD RICHARDSON,

Minister for Public Works.

The Controller and Auditor-General, Wellington.

STATEMENT of NET EXPENDITURE on GOVERNMENT WORKS for the Year 1886-87 out of IMMIGRATION and PUBLIC WORKS LOAN, to be forwarded to the Audit in compliance with Section 8 of "The Public Works Act, 1882."

Class.	Votes.	Summary.	Appropriation.	Expenditure.	Credits.	Net Expenditure.
		PUBLIC WORKS FUND.	£	£ s. d.	£ s. d.	£ s. d.
		PART I.				
		<i>Chargeable to the Unexpended Balance of Loans raised prior to the 31st March, 1886.</i>				
III.	73-77	Railways .. .. .	17,200	16,974 8 11	245 14 4	16,728 14 7
IV.	78-84	Roads .. .. .	356,040	276,608 15 0	11,891 15 2	264,716 19 10
V.	85	Water-races .. .. .	15,100	7,665 7 8	..	7,665 7 8
VII.	87	Telegraph Extension .. .. .	21,700	20,749 4 1	1,797 9 5	18,951 14 8
VIII.	88-96	Public Buildings .. .. .	119,600	90,300 7 7	802 2 6	89,498 5 1
IX.	97-99	Lighthouses, Harbour Works, and Harbour Defences .. .. .	129,300	146,717 17 9	3,012 13 6	143,705 4 3
XII.	102	Thermal-Springs .. .. .	10,000	7,813 14 5	..	7,813 14 5
			668,940	566,829 15 5	17,749 14 11	549,080 0 6
		Services not provided for .. .. .	..	..	..	6,100 0 0
		PART II.				
		<i>Chargeable to the £1,000,000 authorized to be raised under "The North Island Main Trunk Loan Act, 1882."</i>				
II.	104-106	Railways .. .. .	167,000	114,890 11 1	136 10 0	114,754 1 1
		PART III.				
		<i>Chargeable to the £1,325,000 raised under "The New Zealand Loan Act, 1886."</i>				
I.	108-125	Railways .. .. .	519,000	389,264 0 3	58,768 16 0	330,495 4 3
II.	128	Surveys New Lines .. .. .	3,000	1,231 16 3	50 4 9	1,181 11 6
			735,000	390,495 16 6	58,819 0 9	331,676 15 9

W. A. THOMAS,  
Accountant, Public Works.

Public Works Department, 4th May, 1887.

Examined and found correct.

JAMES EDWARD FITZGERALD,  
Controller and Auditor-General.

Vote No.	Name of Vote.	Appropriation.	Expenditure.	Credits.	Net Expenditure.	Expended in Excess of Appropriation.
	<b>PUBLIC WORKS FUND.</b>		£ s. d.	£ s. d.	£ s. d.	£ s. d.
	<i>Chargeable to the Unexpended Balance of Loans raised prior to the 31st March, 1886.</i>					
	<b>Railways—</b>					
73	New Plymouth-Foxton .. ..	5,500	5,179 16 11	..	5,179 16 11	..
74	Wellington-Foxton .. ..	500	0 3 3	..	0 3 3	..
75	Hurunui Northwards .. ..	1,600	1,556 16 6	2 11 0	1,554 5 6	..
76	Lincoln-Little River.. ..	8,800	10,237 12 3	243 3 4	9,994 8 11	1,194 8 11
77	Additions to Open Lines .. ..	800	..	..	..	..
		17,200	16,974 8 11	245 14 4	16,728 14 7	..
	<b>Roads—</b>					
78	Roads, Bridges, and Wharves, North of Auckland	34,600	30,823 8 0	85 5 6	30,738 2 6	..
79	Main Roads .. ..	25,750	22,294 4 0	..	22,294 4 0	..
80	Miscellaneous Roads and Bridges ..	57,450	39,846 10 1	97 19 11	39,748 10 2	..
81	Grants in aid .. ..	109,740	91,432 2 0	11,168 11 6	80,263 10 6	..
82	Roads to open up Lands before Sale ..	66,500	57,619 12 5	462 8 3	57,157 4 2	..
83	Improvements of Village Settlements ..	5,000	1,890 15 4	..	1,890 15 4	..
84	Roads on Goldfields .. ..	57,000	32,702 3 2	77 10 0	32,624 13 2	..
		356,040	276,608 15 0	11,891 15 2	264,716 19 10	..
	<b>Water-races—</b>					
85	Water-races, Middle Island .. ..	15,100	7,665 7 8	..	7,665 7 8	..
	<b>Telegraph Extension—</b>					
87	Telegraph Extension .. ..	21,700	20,749 4 1	1,797 9 5	18,951 14 8	..
	<b>Public Buildings—</b>					
88	Parliamentary Buildings .. ..	2,000	7 13 0	..	7 13 0	..
89	General Departmental Offices.. ..	9,200	946 11 7	..	946 11 7	..
90	Judicial .. ..	21,200	16,027 8 10	151 18 6	15,875 10 4	..
91	Postal and Telegraph .. ..	4,550	2,772 6 3	..	2,772 6 3	..
92	Customs .. ..	500	125 0 0	125 0 0	..	..
93	Lunatic Asylums .. ..	18,400	13,612 5 9	18 0 0	13,594 5 9	..
94	Hospitals and other Charitable Institutions	8,350	4,928 15 7	507 4 0	4,421 11 7	..
95	Quarantine Stations .. ..	400	273 11 10	..	273 11 10	..
96	School Buildings .. ..	55,000	51,606 14 9	..	51,606 14 9	..
		119,600	90,300 7 7	802 2 6	89,498 5 1	..
	<b>Lighthouses, Harbour Works, and Harbour Defences—</b>					
97	Lighthouses .. ..	7,700	3,272 9 0	..	3,272 9 0	..
98	Harbour Works .. ..	1,600	1,013 16 0	10 0 0	1,003 16 0	..
99	Harbour Defences .. ..	120,000	142,431 12 9	3,002 13 6	139,428 19 3	19,428 19 3
		129,300	146,717 17 9	3,012 13 6	143,705 4 3	..
102	Thermal Springs .. ..	10,000	7,813 14 5	..	7,813 14 5	..
	<i>Services chargeable to the £1,000,000 authorized to be raised under "The North Island Main Trunk Loan Act, 1882."</i>					
	<b>Railways—</b>					
104	Main Trunk Line, Marton-Te Awamutu	130,000	77,840 3 1	..	77,840 3 1	..
106*	Permanent-way, Sleepers, and Rolling-Stock	37,000	37,050 8 0	136 10 0	36,913 18 0	..
		167,000	114,890 11 1	136 10 0	114,754 11 1	..
	<i>Services chargeable to the £1,325,000 authorized to be raised under "The New Zealand Loan Act, 1886."</i>					
108	Extension North of Auckland.. ..	4,000	238 15 5	..	238 15 5	..
109	Auckland—Doubling Line .. ..	5,000	..	..	..	..
110	Hamilton—Grahamstown .. ..	20,000	11,380 7 5	301 7 1	11,079 0 4	..
111	Auckland-Rotorua .. ..	15,000	4,632 17 10	9 18 10	4,622 19 0	..
112	Napier-Palmerston .. ..	40,000	29,186 11 10	..	29,186 11 10	..
113	Wellington—Woodville .. ..	40,000	39,682 15 3	103 13 6	39,579 1 9	..
114	Greymouth-Hokitika .. ..	30,000	12,096 14 1	..	12,096 14 1	..
115	Picton Southwards .. ..	15,000	4,324 17 0	0 2 0	4,324 15 0	..
116	Upper Ashburton Branch .. ..	8,000	3,973 9 6	..	3,973 9 6	..
117	Livingstone Branch .. ..	15,000	9,448 16 6	11 0 0	9,437 16 6	..
118	Catlin's River Branch .. ..	13,000	602 3 9	..	602 3 9	..
119	Edendale-Toitoto .. ..	5,000	344 2 9	..	344 2 9	..
120	Otago Central .. ..	87,000	54,169 1 1	142 17 10	54,026 3 3	..
121	Lumsden-Mararoa .. ..	5,000	5,029 0 8	..	5,029 0 8	29 0 8
122	Seaward Bush .. ..	6,000	5,492 3 1	..	5,492 3 1	..
123	Riversdale-Switzerland (including Assessors' fees, £13 12s.)	5,000	354 1 10	..	354 1 10	..
124	Additions to Open Lines .. ..	93,000	81,150 13 11	1,889 14 5	79,260 19 6	..
125*	Permanent-way, Sleepers, and Rolling-stock	113,000	127,157 8 4	56,810 2 4	70,347 6 0	..
		519,000	389,264 0 3	58,768 16 0	330,495 4 3	..
	<b>Surveys, New Lines—</b>					
128	Miscellaneous expenses .. ..	3,000	1,231 16 3	50 4 9	1,181 11 6	..

\* So much of these votes as were appropriated to recoup expenditure out of Part I. in former years, and have been transferred to that account, have been omitted from this statement.

## APPENDIX B.

STATEMENT of all LIABILITIES in respect of the Services of the Public Works Department outstanding at the Close of the Financial Period ended 31st March, 1887, prepared in terms of Section 9, Subsection (2), of "The Public Revenues Act, 1882," and forwarded, as therein provided, to the Audit Office.

Class.	Votes.	Summary.										Total.	
PUBLIC WORKS FUND.													
PART I.													
Chargeable to the Unexpended Balance of Loans raised prior to the 31st March, 1886.													
II.	72	Public Works Departmental	..	..	..	..	..	..	..	..	..	£	s. d.
III.	73-77	Railways .. .. .	..	..	..	..	..	..	..	..	..	56	8 2
IV.	78-81	Roads .. .. .	..	..	..	..	..	..	..	..	..	1,364	17 11
VIII.	88-95	Public Buildings .. .. .	..	..	..	..	..	..	..	..	..	80,568	13 9
IX.	98	Harbour Works .. .. .	..	..	..	..	..	..	..	..	..	46,268	2 9
												500	0 0
												128,758	2 7
PART II.													
Chargeable to the £1,000,000 authorized to be raised under "The North Island Main Trunk Loan Act, 1882."													
II.	104, 106	Railways .. .. .	..	..	..	..	..	..	..	..	..	158,360	5 9
PART III.													
Chargeable to the £1,325,000 raised under "The New Zealand Loan Act, 1886."													
I.	108-125	Railways .. .. .	..	..	..	..	..	..	..	..	..	326,290	6 0
II.	128	Surveys New Lines .. .. .	..	..	..	..	..	..	..	..	..	360	13 6
												326,650	19 6
CONSOLIDATED FUND.													
XI.	55-57	Government Gardens, Public Buildings, and Miscellaneous Services .. .. .	..	..	..	..	..	..	..	..	..	9,320	10 6

Vote No.	Name of Vote.	Works under Contract.	Material, Wages, Salaries, &c.	Material from England.	Total.
PUBLIC WORKS FUND.					
Chargeable to the Unexpended Balance of Loans raised prior to the 31st March, 1886.					
Departmental—					
72	Head Office .. .. .	..	..	56 8 2	56 8 2
Railways—					
73	New Plymouth-Foxton .. .. .	..	125 1 9	..	125 1 9
74	Wellington-Foxton .. .. .	..	478 4 7	..	478 4 7
75	Hurunui Northwards .. .. .	..	25 19 11	..	25 19 11
76	Lincoln-Little River .. .. .	..	735 11 8	..	735 11 8
77	Additions to Open Lines .. .. .	..	..	..	..
		..	1,364 17 11	..	1,364 17 11
Roads—					
78	Roads, Bridges, and Wharves, North of Auckland .. .. .	73 0 0	3,229 19 11	..	3,302 19 11
79	Main Roads .. .. .	251 5 0	7,423 9 1	..	7,674 14 1
80	Miscellaneous Roads and Bridges.. .. .	14,422 2 2	6,404 19 9	..	20,827 1 11
81	Grants in aid .. .. .	..	48,763 17 10	..	48,763 17 10
		14,746 7 2	65,822 6 7	..	80,568 13 9
Public Buildings—					
88	Parliamentary Buildings .. .. .	..	27 7 0	..	27 7 0
89	General Departmental Offices .. .. .	13,356 15 0	71 11 3	..	13,428 6 3
90	Judicial .. .. .	144 13 9	2,141 10 7	9 13 8	2,295 18 0
91	Postal and Telegraph .. .. .	928 0 0	698 5 10	..	1,626 5 10
92	Customs .. .. .	..	13 5 7	..	13 5 7
93	Lunatic Asylums .. .. .	19,445 4 7	3,039 3 11	400 0 0	22,884 8 6
94	Hospitals and other Charitable Institutions .. .. .	..	5,992 3 5	..	5,992 3 5
95	Quarantine Stations .. .. .	..	0 8 2	..	0 8 2
		33,874 13 4	11,983 15 9	409 13 8	46,268 2 9
Harbours—					
98	Harbour Works .. .. .	..	500 0 0	..	500 0 0

## STATEMENT of all LIABILITIES—continued.

Vote No.	Name of Vote.	Works under Contract.	Material, Wages, Salaries, &c.	Material from England.	Total.
	<i>Services chargeable to the £1,000,000 authorized to be raised under "The North Island Main Trunk Loan Act, 1882."</i>				
	Railways—				
104	Main Trunk Line, Marton-Te Awamutu ..	120,701 7 3	15,274 15 9	..	135,976 3 0
106	Permanent-way, Sleepers, and Rolling-stock	1,619 5 10	3,310 0 0	17,454 16 11	22,384 2 9
		122,320 13 1	18,584 15 9	17,454 16 11	158,360 5 9
	<i>Services chargeable to the £1,325,000 authorized to be raised under "The New Zealand Loan Act, 1886."</i>				
108	Extension North of Auckland .. ..	..	152 4 7	..	152 4 7
109	Auckland—Doubling Line .. ..	..	..	..	..
110	Hamilton—Grahamstown .. ..	5,236 16 3	1,603 1 2	..	6,839 17 5
111	Auckland—Rotorua .. ..	34,785 14 2	15,248 7 8	619 0 0	50,653 1 10
112	Napier—Palmerston .. ..	47,383 16 2	6,017 17 5	..	53,401 13 7
113	Wellington—Woodville .. ..	44,402 12 6	3,000 10 5	..	47,403 2 11
114	Greymouth—Hokitika .. ..	7,374 16 0	1,572 7 8	346 15 0	9,293 18 8
115	Picton Southwards .. ..	4,949 6 8	355 16 7	..	5,305 3 3
116	Upper Ashburton Branch .. ..	..	1,833 8 7	..	1,833 8 7
117	Livingstone Branch .. ..	4,096 15 5	303 4 1	..	4,399 19 6
118	Catlin's River Branch .. ..	..	44 9 4	..	44 9 4
119	Edendale-Toitois .. ..	..	163 1 4	..	163 1 4
120	Otago Central .. ..	59,693 19 3	6,860 9 0	..	66,554 8 3
121	Lumsden—Mararoa .. ..	..	..	..	..
122	Seaward Bush .. ..	..	528 2 8	..	528 2 8
123	Riversdale—Switzers (including Assessors' fees, £13 12s.) .. ..	..	91 12 11	..	91 12 11
124	Additions to Open Lines.. ..	5,437 3 3	31,483 10 2	..	36,970 13 5
125	Permanent-way, Sleepers, and Rolling-stock	25,157 8 9	16,665 16 11	832 2 1	42,655 7 9
		238,568 8 5	85,924 0 6	1,797 17 1	326,290 6 0
	Surveys New Lines—				
	Miscellaneous expenses .. ..	..	360 13 6	..	360 13 6
	CONSOLIDATED FUND.				
55	Government Gardens .. ..	..	136 16 11	..	136 16 11
56	Public Buildings .. ..	331 10 0	8,423 11 4	408 7 3	9,163 8 7
57	Miscellaneous Services .. ..	..	20 5 0	..	20 5 0
		331 10 0	8,580 13 3	408 7 3	9,320 10 6

Public Works Department, 28th April, 1887.

W. A. THOMAS,  
Accountant, Public Works.



## APPENDIX C.

SCHEDULE of RAILWAY CONTRACTS CURRENT on the 1st April, 1886, and CONTRACTS ENTERED INTO by the Public Works Department during the Year ended 31st March, 1887.

Date of Contract.	Lines of Railway and Branches.	Name of Contract.	Particulars.	Length of Contract.	Length of Sidings in Contract.	Name of Contractor.	Contract to be completed.	Date Contract was completed.	Amount of Contract.	Remarks.
April 20, 1885	Main Trunk Line, Marton-Te Awamutu ..	Porewa ..	F. & P.L.	M. ch. lk. 12 54 0	M. ch. lk. 1 30 0	J. A. Johnston	April 11, 1886	Mar. 12, 1887	£ 27,300 0 0	(Contract assigned to Bell and Howe, 26th September, 1885.
" 30, "	" " " " " " " "	Punui ..	"	15 2 9	1 10 0	Isaac Coates ..	April 13, "	Feb. 7, "	28,920 8 3	
Aug. 14, 1886	" " " " " " " "	Poro-o-taroa Tunnel ..	Formation	1 34 0	0 0 0	J. J. O'Brien ..	Aug. 11, 1887	" " " "	46,849 0 0	
Sept. 10, "	" " " " " " " "	Hunterville ..	F. & P.L.	5 57 0	0 62 0	Jesse Coates ..	June 19, "	" " " "	14,242 14 8	
Dec. 13, "	" " " " " " " "	Te Kuiti ..	"	10 59 40	0 60 0	Coates and Metcalfe	" " " "	" " " "	17,273 13 0	
March 10, 1887	" " " " " " " "	Punui Station-buildings ..	"	" " " "	" " " "	G. T. Worthington	Feb. 17, "	" " " "	647 0 0	
" 26, "	Extension North of Auckland ..	Waiteti ..	F. & P.L.	8 53 0	0 25 0	J. and A. Anderson	Dec. 10, 1888	" " " "	57,858 17 0	
" "	Hamilton-Grahams-town—	Kaipara ..	Formation	4 12 0	" " " "	Hugh Fulton ..	Oct. 22, 1887	" " " "	6,875 4 8	
April 7, 1885	Hamilton-Te Aroha ..	Te Aroha ..	F. & P.L.	12 25 0	2 41 0	J. Livingstone	Feb. 2, 1886	May 12, 1886	7,373 17 0	
Feb. 17, 1886	" " " " " " " "	Te Aroha Station-buildings ..	"	" " " "	" " " "	W. Cameron ..	April 26, "	May 27, 1886	1,874 4 0	
Aug. 3, 1885	Grahams town - Te Aroha ..	Hikutia ..	Formation	8 25 0	" " " "	Larkins and O'Brien	Jan. 28, 1887	" " " "	10,879 9 0	
Jan. 4, 1887	" " " " " " " "	Ohinemuri ..	"	6 15 0	" " " "	Irvine and Heath	Oct. 29, "	" " " "	3,973 8 0	
March 19, "	Auckland-Rotorua ..	Ngatira ..	F. & P.L., & Bldgs.	8 0 0	0 50 0	Daniel Fallon	June 11, 1888	" " " "	34,785 14 2	
May 15, 1885	Napier-Palmerston ..	Tanaki ..	F. & P.L.	13 43 28	1 10 0	Mullenger and Brett	Feb. 8, 1887	" " " "	35,550 0 0	
March 23, 1886	" " " " " " " "	Woodville Station-fencing ..	"	" " " "	" " " "	McDonald and Harris	April 29, 1886	July 5, 1886	143 2 6	
Oct. 19, "	" " " " " " " "	Woodville ..	"	1 41 60	" " " "	Sally and McGrath	Jan. 9, 1887	" " " "	3,319 16 8	
Nov. 6, "	" " " " " " " "	Manawatu Gorge ..	Formation	4 32 0	" " " "	Jones and Peters	Oct. 23, 1888	" " " "	45,156 3 1	
Dec. 10, "	" " " " " " " "	Tanaki and Woodville Station-buildings ..	"	" " " "	" " " "	Munro Brothers	Feb. 18, 1887	" " " "	1,675 0 0	
Feb. 19, "	Wellington-Woodville ..	Opaki Station-buildings ..	"	" " " "	" " " "	Wrigley and Rose	May 17, 1886	Oct. 30, 1886	1,742 13 6	
June 30, "	" " " " " " " "	Mangamahoe ..	P.L.	3 72 0	0 28 0	John Shanahan	Sept. 21, "	Jan. 13, 1887	2,071 0 0	
Aug. 23, "	" " " " " " " "	Wi Waka ..	F. & P.L.	6 15 0	0 50 0	Martin Danaher	Aug. 23, 1888	" " " "	60,500 0 0	
Oct. 25, "	" " " " " " " "	Cottages, Wi Waka Section ..	"	" " " "	" " " "	Wrigley and Rose	Dec. 9, 1886	Jan. 13, 1887	410 0 0	
May 18, 1885	New Plymouth-Foxton ..	Moturoa ..	F. & P.L.	2 34 0	1 37 0	George J. Newman	Nov. 15, 1885	April 28, "	8,990 0 0	
Jan. 19, 1886	" " " " " " " "	Goods-shed, Moturoa Section ..	"	" " " "	" " " "	George Cliff ..	March 29, 1886	April 29, 1886	665 18 0	
Aug. 30, "	Greymouth-Hokitika ..	Bridge over Ararua River ..	"	" " " "	" " " "	McKenzie and O'Connor	Feb. 28, 1888	" " " "	7,160 12 0	
Feb. 18, 1887	" " " " " " " "	Freight on Bridge Material, Wellington to Hokitika ..	"	" " " "	" " " "	J. H. Cock ..	March 16, 1887	" " " "	219 12 0	
July 9, 1884	Picton Southwards ..	Dashwood ..	Formation	3 40 0	" " " "	Parker and Maddock	July 9, 1886	" " " "	17,746 6 8	
March 19, 1886	Hurunui-Waipara ..	Painting Hurunui Bridge ..	"	" " " "	" " " "	W. A. Taylor ..	May 17, "	May 18, 1886	365 0 0	
April 24, "	Upper Ashburton Branch ..	Mount Somers Extension ..	F. & P.L., & Station	0 75 0	0 22 0	Winsley and Bignell	Aug. 13, "	Sept. 10, "	2,245 10 7	

(Contract assigned to Henderson, Wraith, & Sidey, 18th December, 1887.



# APPENDIX D.

SCHEDULE of SLEEPER CONTRACTS and DELIVERIES on 1st April, 1886, and CONTRACTS ENTERED INTO by the Public Works Department during the Year ended 31st March, 1887.

Date of Contract or Agreement.	Contractor's Name.	Address.	No. of Sleepers contracted for, and Class of Timber.	Rate per Sleeper.	Place of Delivery.	Rate per Month.	Date of Completion.	Total delivered to Date.	Remarks.
NORTH ISLAND.									
AUCKLAND DISTRICT.									
20 March, 1885	John Moore ..	Mauku ..	{ 2,000 totara* 4,000 puriri†	s. d. 3 6 }	Pukekohe and Onehunga ..	..	27 Feb., 1886	6,000	Completed.
5 " "	New Zealand Timber Co. ..	Auckland ..	{ 30,000 totara* 30,000 kauri*	4 6 3 9	Ngaurawahia ..	..	27 " "	30,000	"
6 " "	Waikato Timber Co. ..	" ..	30,000 kauri*	3 6	Auckland ..	..	27 " "	30,000	"
WANGANUI DISTRICT.									
14 March, 1887	Alexander Bell ..	Halcombe ..	4,000 totara*	2 9	Halcombe ..	Per arrangement ..	4 March, 1887	4,000	Completed.
14 " "	W. W. Corpe ..	Makino ..	3,000 totara*	2 9	Makino ..	1,000 ..	14 June, "	2,000	"
14 " "	Nils Mortensen ..	Palmerston North ..	2,000 totara†	2 5	Longburn ..	666 ..	14 " "	..	"
14 " "	Bailey Brothers ..	Taonui, Feilding ..	550 totara*	2 9	Cliff Road ..	183 ..	14 " "	..	"
14 " "	George Searle..	Ashurst ..	500 totara†	2 6	Terrace End, Palmerston N. ..	166 ..	14 " "	..	"
14 " "	A. H. Ihle ..	Palmerston North ..	3,000 totara†	2 5	Bunnythorpe ..	1,000 ..	14 " "	..	"
14 " "	H. C. Nissen ..	" ..	2,000 totara†	2 7½	Bunnythorpe and Terrace End ..	666 ..	14 " "	..	"
WELLINGTON DISTRICT.									
21 January, 1886	Alexander McLeod ..	Masterton ..	3,000 totara	3 11	Dreyertown ..	1,000 ..	21 April, 1886	3,000	Completed.
21 " "	N. Campbell ..	Woodside ..	6,000 totara	3 3	" ..	2,000 ..	21 " "	6,000	"
MIDDLE ISLAND.									
OTAGO DISTRICT.									
10 June, 1885	Campbell and Co. ..	Dunedin ..	150,000 creosoted	3/11½	Woodend ..	10,000 per month after the first nine months	27 May, 1887	88,200	..
WESTLAND DISTRICT.									
22 March, 1887	G. Perotti ..	Greymouth ..	300 black birch*	3 3	Greymouth Wharf..	Two-thirds ..	30 April, 1887	Nil.	..

\* Sawn. † Split.

NOTE.—The 55,000 puriri sleepers purchased at 4s. 2d. each in November, 1886, and February, 1887, are not included in the above schedule.

## APPENDIX E.

SCHEDULE of CONTRACTS for ROADS and MISCELLANEOUS WORKS CURRENT on the 1st April, 1886, and CONTRACTS ENTERED INTO by the Public Works Department during the Year ended 31st March, 1887.

Date of Contract.	Line of Road or Work.	Name of Contract.	Name of Contractor.	Contract to be completed.	Date Contract was completed.	Amount of Contract.	Remarks.
June 2, 1886	Roads and bridges North of Auckland	Cox's Creek Road	Allen Maguire	Dec. 1, 1886	Dec. 16, 1886	£ 1,452 0 0	
Jan. 9, 1885	Main Roads— Tauranga-East Cape	Bridle-road, Hawai River to Maraenui	Te Tataua Ngatatori and another	May 9, 1885	..	450 0 0	
Feb. 17, "	"	Repairs, &c., Opape-Torere Section	Wiremu Kingi	Feb. 17, "	..	150 0 0	
Dec. 11, "	"	Reforming, &c., Matata-Te Puke Road	Pirika Tieri and another	April 11, 1886	..	200 0 0	
May 9, "	"	Bridge over Taupo River	J. M. Watson	March 8, "	June 29, "	5,972 3 0	Completed.
May 3, 1886	Miscellaneous Roads— Sundry Roads, Auckland	Painting Whatawhata and Te Rore Bridge	George Gapes	June 29, "	Sept. 12, "	280 0 0	
May 7, "	"	Section 1, Waiohaki Section	Sandeman and Abbot	Nov. 7, "	..	50 0 0	
May 7, "	"	Sections 2, 3, 5, and 6, Waiohaki Section	W. Parkinson and Co.	Nov. 7, "	..	443 0 0	
May 7, "	"	Section 4, Waiohaki Section	N. McDonald	Nov. 7, "	..	90 0 0	
May 7, "	"	Section 7, "	Sandeman and Abbot	Nov. 7, "	..	69 0 0	
Jan. 17, 1887	"	Section 2, Buller Road Improvement	Ungheher and Kahl	April 10, 1887	..	935 6 0	
Jan. 17, "	"	Section 3, "	Stephen Garvin	May 28, 1887	..	1,263 0 6	
Mar. 5, "	"	Section 4, "	Thomas Howard	May 21, "	..	468 2 0	
May 26, 1886	Bridges on Road, Nelson to Reefton	Motueka and Motupiko Cart-bridge	James W. Thomas	May 21, "	..	3,578 5 4	
June 12, "	"	Bridge over Waitahu River	Robert Cochrane	March 4, "	..	3,815 16 10	
Aug. 19, 1885	"	Upper Waiau Road-bridge	J. Anderson	April 28, 1887	..	13,482 15 0	
March 15, 1884	Bridge over Clarence	Clarence Bridge	Blackie and Malcolm	May 16, 1886	..	11,871 15 1	
March 24, 1886	Kaikoura-Waiau	Repairs, &c., Southward Section	R. Johnstone	July 16, "	July 12, 1886	677 16 0	
March 24, "	"	"	"	June 23, "	Nov. 30, "	470 12 8	
May 18, "	"	"	William Workman	Nov. 30, "	Dec. 9, "	1,900 0 0	
May 27, "	"	"	Peter Honeybone	Nov. 15, "	March 26, 1887	4,502 14 6	
May 4, "	"	"	Meikle and Hale	July 20, 1885	Oct. 18, 1886	529 0 0	
Jan. 10, 1885	Bridge over Taieri	Taieri Bridge	Watson Rhodes	Oct. 9, 1885	..	5,731 19 8	(Contract assigned to John McCormick, 5th July, 1886.)
May 11, "	Bridges over Clutha, &c.	Beaumont Bridge Superstructure	J. Anderson	July 23, 1886	March 4, 1887	4,643 12 6	
Feb. 8, "	"	Roxburgh Bridge	Daulby and Millar	Sept. 20, "	..	3,340 4 8	
Feb. 8, "	"	Traversing Gear, Wellington	Robertson and Co.	April 13, "	July 24, 1886	232 7 0	
March 3, "	"	400 Yards Road Metal, Wellington	Henry Cole	April 16, "	May 12, "	95 0 0	
March 11, "	"	Officers' Quarters, Auckland	Ephraim Mills	May 18, "	May 18, "	456 5 0	
April 25, "	"	Torpedo Shed, Mining Dépôt, Wellington	Clark and Thompson	April 25, "	May 22, "	186 16 0	
July 27, "	"	Ironwork No. 1, Wellington	Robertson and Co.	Sept. 26, "	Dec. 23, "	276 0 0	
June 2, "	"	Torpedo Shed, Point Gordon, Wellington	John Rose	Aug. 7, "	Dec. 1, "	457 10 0	
Aug. 2, "	"	Cable Tank, Mining Dépôt, Wellington	M. Murdoch	Sept. 4, "	Oct. 16, "	288 6 0	
Sept. 29, "	"	Quarantine Station Removal, and Erection of Buildings, Lyttelton	Hollis, Williams, and Green	Feb. 9, "	..	3,151 1 11	
Oct. 19, "	"	Submarine Mining Dépôt, Deborah Bay, Dunedin	Sutherland and Nelson	Jan. 18, "	Feb. 19, 1887	1,756 16 7	
Jan. 18, 1887	"	Cottage at Kaiwarra Magazine, Wellington	Davis and Hopwood	Feb. 19, 1887	..	200 3 0	

## APPENDIX F.

SCHEDULE of CONTRACTS for ROADS and MISCELLANEOUS WORKS current on the 1st April, 1886, and CONTRACTS entered into by the MINISTER of LANDS during the Year ended 31st March, 1887.

Date of Contract.	Name of Contract.	Name of Contractor.	Contract to be completed.	Date when Contract was completed.	Amount of Contract.
AUCKLAND.					
30 Jan., 1886	Okaihu to Victoria, No. 138	W. McGeechie	30 June, 1886	30 Sept., 1886	£ s. d. 380 0 0
HAWKE'S BAY.					
12 Aug., 1886	Tautane Roads, No. 19	J. McCarthy and Co.	31 Dec., 1886	...	374 9 2
9 Oct., "	" No. 18	M. Tracey	30 Nov., "	30 Nov., 1886	94 5 0
9 Oct., "	" No. 17	Ready and McFall	31 Jan., 1887	...	595 0 0
24 Nov., "	" No. 21	E. McMahon	28 Feb., "	28 Feb., 1887	131 17 10
11 Jan., 1887	" No. 20	W. Hood	31 May, "	...	694 10 0
25 March, "	" No. 22	Butler and Browne	30 June, "	...	453 12 0
5 Dec., 1885	" No. 13	J. Cripps	31 Mar., 1886	15 April, 1886	245 16 6
29 Dec., "	" Nos. 14-16	Sidwell and Co.	30 April, "	16 June, "	632 0 0
6 Nov., "	Umutaoroa Block, Nos. 9, 10	P. McCarthy	31 Mar., "	30 June, "	163 16 8
23 Nov., "	" No. 11	J. Henry	31 Mar., "	30 June, "	159 2 3
July, 1886	Makaretu, Nos. 7-9	W. and A. Berkahu	31 Dec., "	...	435 0 0
Dec., 1887	" Nos. 10-14	C. Bolton and Co.	30 April, 1887	...	376 5 7
Jan., 1887	Te Ohu, No. 1	J. Sorenson	31 May, "	...	158 13 1
Jan., "	" No. 2	W. Lehdorff	31 May, "	...	112 14 0
TARANAKI.					
7 Feb., 1887	Mount Egmont Road, Nos. 92-94	— Lelirk	31 May, 1887	...	147 15 6
WELLINGTON.					
25 March, 1886	Mangaone Roads, Nos. 6, 7	Tanguay and Co.	30 Sept., 1886	31 Jan., 1887	1,243 17 6
16 Nov., "	" No. 24	J. Coleman	31 Mar., "	31 Mar., 1886	216 17 6
1 April, "	" No. 3	C. Sheehyn	30 June, "	30 June, "	136 16 0
Feb., "	" No. 5	Brightwell and Newberry	30 June, "	30 June, "	234 8 9
April, "	" No. 2	J. Hennelly and Co.	31 Aug., "	20 Sept., "	225 15 0
April, "	"	B. Sheerin and Co.	30 June, "	20 July, "	108 8 3
April, "	"	F. Handbrook and Co.	30 June, "	20 July, "	125 19 0
Oct., "	Mangatamoka, Nos. 20, 21	F. Girdwood and Co.	Feb., 1887	...	1,886 0 6
Feb., 1887	Otamakapua, Nos. 27-29	Younger Laing	31 July, "	...	430 17 0
Feb., "	Makakahi, Nos. 25, 26	F. Petterson and Co.	30 June, "	...	234 5 0
March, "	South Pahiatua, No. 31	C. Sheehyn	30 June, "	...	337 19 0
1 March, 1886	Pohangina	A. Pringle	30 June, 1886	15 June, 1886	613 1 2
26 Feb., "	Otamakapua, No. 2	Jameson Brothers	30 April, "	31 May, "	253 13 0
5 April, "	Makakahi, No. 16	F. Girwood	31 July, "	20 Sept., "	161 12 0
5 April, "	" No. 17	T. Chisholm	31 July, "	20 Sept., "	89 15 7
1 June, "	Awakino Bridge	T. Dawson	30 Sept., "	30 Sept., "	210 5 6
NELSON.					
31 March, 1885	Takaka Bridge	Manson Brothers	31 Oct., 1885	July, 1886	3,308 10 4
1 Feb., 1886	Cannibal Gorge	Connington & Searight	31 Aug., 1886	June, "	1,175 0 0
20 March, "	Tadmor Road, No. 20	J. Lawson	30 Sept., "	Aug., "	710 0 0
20 March, "	" No. 22	F. Needham	30 Sept., "	June, "	520 0 0
31 March, 1887	" No. 21	J. Robson	31 July, 1887	...	406 0 0
11 March, "	Ahaura to Kopara, No. 32	P. Hampson	30 June, "	...	563 0 0
11 March, "	" No. 33	A. Smith	30 June, "	...	744 0 0
OTAGO.					
Oct., 1886	Glendhu Bluff	Romans and Henderson	June, 1887	...	1,531 5 4

## APPENDIX G.

SCHEDULE of CONTRACTS for ROADS on GOLDFIELDS current on the 1st April, 1886, and entered into by the MINISTER of MINES during the Year ended 31st March, 1887.

Date of Contract.	Name of Road.	Name of Contract.	Name of Contractor.	Contract to be completed.	Date Contract was completed.	Amount of Contract.	Addi- author
June 7, 1886	Mokihinui to Lyell ..	Section 1 ..	Thomas Watt and Co.	Oct. 7, 1886	Jan. 25, 1887	£ s. d. 286 17 6	£ ..
June 7, "	" ..	" 2 ..	Ditto ..	Oct. 7, "	Jan. 25, "	268 7 0	..
May 18, "	Mokihinui to Specimen Creek	" 4 ..	Romigio Negri ..	Sept. 18, "	Feb. 28, "	275 0 0	..
May 18, "	Ditto ..	" 5 ..	O'Brien and Cunningham	Sept. 18, "	Feb. 28, "	292 0 0	..
Jan. 15, "	Mokihinui to Karamea	" 3 ..	Stephen Garven..	June 15, "	May 6, 1886	826 14 0	18
May 22, "	" ..	" 5 ..	John Davine ..	Aug. 18, "	Dec. 28, "	390 0 0	..
May 22, "	" ..	" 6 ..	Clapton and Sullivan	..	Dec. 4, "	520 0 0	..
June 22, "	" ..	" 7 ..	Timothy Corby and Co.	..	Dec. 22, "	479 7 6	..
June 22, "	" ..	" 8 ..	Fred. Ray ..	..	..	492 0 0	..
Jan. 13, 1887	" ..	Completion of Section 8	William Tavendale	Feb. 23, 1887	..	101 0 0	..
Oct. 29, 1886	" ..	Section 9 ..	Stephen Garven..	Jan. 24, "	..	432 15 0	..
Dec. 31, "	" ..	" 10 ..	Nicholas Ungherer	Mar. 17, "	..	560 0 0	..
Dec. 31, "	" ..	" 11 ..	" ..	Mar. 17, "	..	670 0 0	..
Dec. 23, "	" ..	" 12 ..	Robert Bush ..	Mar. 17, "	..	512 10 0	..
Dec. 1, "	" ..	" 13 ..	Stephen Garven..	Feb. 25, "	..	530 14 0	..
Oct. 29, "	" ..	" 14 ..	Con Dean ..	Jan. 29, "	..	542 10 0	..
Oct. 29, "	" ..	" 15 ..	Timothy Corby and Co.	Jan. 29, "	..	580 0 0	..
Dec 13, "	" ..	" 16 ..	Sams and Burke	Feb. 29, "	..	1,639 2 0	..
July 23, "	" ..	Removal of Slips..	Fred. Ray ..	..	Oct. 25, 1886	43 0 0	..
Nov. 20, "	Brighton to Seventeen-Mile Beach	Section 15 ..	William Price and Co.	Oct. 16, 1886	..	242 10 0	..
Nov. 20, "	Ditto ..	" 16 ..	Ditto ..	Oct. 16, "	..	202 10 0	..
Mar. 9, "	Cobden to Seventeen-Mile Beach	" 1 ..	William McIntyre	June 8, "	Sept. 25, 1886	746 0 0	21 1
Feb. 20, "	Motueka to Takaka ..	Waterfall ..	R. Lyon ..	July 14, "	Aug. 23, "	559 0 0	176
April 1, "	" ..	Ryder's Dip ..	Goodall and Brougham	Sept. 29, "	Dec. 7, "	869 0 0	48
June 15, "	" ..	Stockyard ..	Henry Wratten ..	April 2, 1887	..	1,274 0 0	..
Sept. 8, "	" ..	Banfield ..	William Mollison	Mar. 8, "	..	828 15 0	..
Nov. 8, "	" ..	Nikau ..	" ..	July 18, "	..	1,469 13 4	..
Dec. 29, "	" ..	Main Creek ..	Mace and Basset	June 20, "	..	896 0 0	..
Sept. 7, "	Collingwood to Karamea	Sections 1, 2, and 3	Dolphin and O'Connor	Dec. 13, 1886	..	700 0 0	..
Dec. 21, "	Ditto ..	Section 4 ..	Henry Hawes ..	Feb. 29, 1887	..	110 0 0	..
July 25, 1885	Arthur's Point to Skipper's	..	Davis, Welch, and Co.	Jan. 25, 1886	Dec. 6, 1886	3,972 1 8	504
Jan. 8, 1887	Jackson's Bay to Cascade River District	Sections 1, 2, 3, and 4	Patrick Jamieson	Aug. 8, 1887	..	729 10 0	..

## APPENDIX H.

SCHEDULE of CONTRACTS for WATER-RACES current on the 1st April, 1886.

Date of Contract.	Name of Water-race.	Name of Contract.	Name of Contractor.	Contract to be completed.	Date Contract was completed.	Amount of Contract.	Addition authorized
May 20, 1886	Argyle Water-race Extension	Section 13 ..	James Murphy and Co.	July 29, 1886	Nov. 23, 1886	£ s. d. 202 7 0	£ s. 243 15

## APPENDIX I.

## ANNUAL REPORT ON RAILWAYS

BY

## THE ENGINEER-IN-CHIEF.

The ENGINEER-IN-CHIEF to the Hon. the MINISTER for PUBLIC WORKS.

Sir,—

Public Works Office, 31st March, 1887.

I have the honour to submit the following report on railway works executed and in progress throughout the colony during the year ending 31st March, 1887 :—

## ABSTRACT.

The following statement shows the expenditure and liabilities on Government railways in New Zealand up to the 31st March, 1887 :—

Name of Railway.	Total Length of Railway or Section.	Open for Traffic.	Expenditure to 31st March, 1887.	Liabilities on 31st March, 1887.
	M. ch.	M. ch.	£ s. d.	£ s. d.
Kawakawa.. .. .	7 41	7 41	90,527 15 2	852 4 0
Whangarei-Kamo .. .. .	9 20	6 52	69,960 11 0	41 13 9
Extension North of Auckland .. .. .	4 25	..	238 15 5	152 4 7
Kaipara-Waikato, with Branches .. .. .	172 36	151 1	1,366,675 7 8	6,994 16 11
Waikato-Thames .. .. .	62 55	30 55	190,590 11 7	6,912 12 10
Morrinsville-Rotorua .. .. .	73 36	41 60	166,705 3 8	50,945 12 1
Wellington-Napier and Palmerston North .. .. .	230 22	181 67	1,616,078 0 3	108,552 11 5
Wellington-Foxton .. .. .	..	..	41,815 7 2	478 4 7
Foxton-New Plymouth .. .. .	202 63	197 60	1,398,737 5 9	1,901 8 3
Main North Island Trunk .. .. .	210 0	14 20	182,868 2 2	135,976 3 0
Nelson-Roundell .. .. .	52 0	22 73	176,464 3 3	7 11 5
Greymouth-Nelson Creek .. .. .	16 3	7 69	205,351 6 11	63 10 2
Greymouth-Hokitika .. .. .	24 0	..	54,548 19 2	9,293 18 8
Westport-Ngakawau .. .. .	19 63	19 19	214,803 9 11	..
Picton-Hurunui—Picton-Awatere Section .. .. .	34 40	17 73	226,699 14 7	5,397 18 1
Red Post Section .. .. .	9 50	9 50	39,025 14 6	25 19 11
Hurunui-Waitaki, with Branches .. .. .	474 41	429 30	2,468,107 18 4	4,195 10 2
Oxford-Malvern .. .. .	11 44	11 44	59,210 11 0	..
Waitaki to Bluff, with Branches .. .. .	560 53	416 38	3,308,104 16 7	20,881 14 2
Otago Central—Chain Hills-Blair-Tairi Section .. .. .	37 0	..	328,211 12 8	66,554 8 3
Invercargill-Kingston, with Mararoa Branch .. .. .	117 4	97 44	317,753 0 4	1,357 6 10
Western Railways .. .. .	57 56	57 56	223,616 0 7	390 10 1
Preliminary Surveys .. .. .	..	..	54,428 3 7	360 13 6
Miscellaneous .. .. .	..	..	10,336 19 11	..
Stock of permanent-way and rolling-stock on hand .. .. .	..	..	162,594 18 6	65,039 10 6
Total .. .. .	2,387 12	1,721 52	12,973,454 9 8	486,376 3 2
PROVINCIAL GOVERNMENT LINES.				
Canterbury (lengths included above) .. .. .	..	..	731,753 0 0	..
Otago .. .. .	..	..	372,522 2 5	..
Grand Total .. .. .	..	..	14,077,735 12 1	486,376 3 2

Including certain lines purchased by Government from private companies, a total length of 106 miles 67 chains has been opened during the year—59 miles in the North Island, and 47 miles 67 chains in the Middle Island. The sections making up these lengths are as follows :—

Railway.	Section.	Length.	Date of Opening.
		M. ch.	
North Island Main Trunk ...	Puniu section ...	14 20	9 March, 1887.
Thames Valley-Rotorua ...	Oxford-Lichfield...	11 0	21 June, 1886.*
Foxton-New Plymouth ...	Breakwater Branch ...	2 35	28 April, 1886.
Napier-Woodville ...	Tahoraite-Woodville ...	15 10	22 March, 1887.
Wellington-Woodville ...	Masterton-Mauriceville ...	12 8	14 June, 1886.
Wellington-Woodville ...	Mauriceville-Mangamahoe	4 7	10 January, 1887.
Ashburton Branch ...	Cavendish to Mount Somers	1 48	4 October, 1886.
Wairarapa Plains ...	Gore to Lumsden ...	36 39	1 April, 1886.†
Seaward Bush Branch ...	Appleby to Waimatua ...	5 50	9 July, 1886.
Lumsden-Mararoa ...	Murray Creek to Mossburn	4 10	22 January, 1887.
Total ...	...	106 67	

\* Private line completed by Government.

† Private line, opened in 1880; purchased by Government as from 1st April, 1886.

Appended to this report is a coloured diagram showing the length of railway opened each year from the commencement of the Public Works.

#### KAWAKAWA AND WHANGAREI-KAMO RAILWAYS.

The expenditure on these lines during the past year has been confined to minor improvements and additions to works and plant.

#### RAILWAY FROM HELENSVILLE NORTHWARDS.

*Kaipara Section.*—A contract has just been entered into for the formation-works on the first length of this line, called the Kaipara section. The section extends from the Helensville Station to a point about  $2\frac{1}{2}$  miles up the Kaukapakapa Valley, the total length being 4 miles 12 chains. The alignment and levels are particularly good, and the works light.

*Surveys.*—The detailed survey is in progress for a further length of this railway, extending from the end of the Kaipara section to the Makarau River, a distance of about  $6\frac{3}{4}$  miles.

#### KAIPARA-WAIKATO RAILWAY.

*Minor Improvements.*—A considerable amount has been expended during the year on minor improvements and additions to the works, stations, and plant all along the railway.

*Surveys.*—A survey has been made of the proposed railway through the city and suburbs of Auckland from the main station *via* Customhouse Street West and Freeman's Bay to Kingsland; the object being to give a direct connection with the Kaipara line, and relieve the traffic through the Domain Tunnel. The surveys show the line to be quite feasible; but the work will be heavy and costly, and the land compensation excessive.

The survey of the Kaipara-Waikato Railway as constructed is completed all the way from Kaipara to Te Awamutu, and the plans are nearly finished.

#### WAIKATO-THAMES RAILWAY.

*Hamilton-Te Aroha Section.*—The station-works which remained unfinished at the end of last year were duly completed at the end of May, and a few minor additions have been made since.

A survey of the line as constructed has been completed, and the plans are well advanced.

*Grahamstown-Te Aroha Section.*—The formation-works on the Hikutaia section—8 miles 25 chains—are practically finished, except the making-up of about  $1\frac{1}{2}$  miles of embankment where there has been considerable subsidence.

The formation on a further length of 6 miles 15 chains, called the Ohinemuri section, was contracted for in December, and the works are making fair progress.

The working-survey of the remaining portion of this railway to Te Aroha has been completed, and shows the total length of the railway from Grahamstown to Te Aroha to be 32 miles. The alignment and levels throughout are good, and the works are remarkably light.

*Hamilton-Cambridge Branch.*—The survey of this line as constructed is finished, and the plans are well advanced.

#### THAMES VALLEY-ROTORUA RAILWAY.

*Oxford-Lichfield Section.*—This section, which is 11 miles in length, was opened for public traffic on the 21st June, 1886. It comprises 6 miles 77 chains of the main line to Rotorua—Oxford to Putaruru—and the Lichfield Branch, 4 miles 3 chains.

*Ngatira Section.*—This is the first section past Putaruru Junction on the way to Rotorua. It is 8 miles in length. A contract for formation, permanent-way, and buildings has just been entered into. The earthworks on the Ngatira section are very heavy, but the bridging and other works are comparatively light. The curves are easy; but, in consequence of the elevation to be surmounted, it was necessary to adopt steep gradients, the steepest being 1 in 35.

*Maori Piecework.*—About 5 miles at the Rotorua end of the railway have been set apart for Maori labour, and several formation sections let. The works on them are progressing favourably, the Natives being particularly expert at earthwork.



*Surveys.*—Working-surveys have now been made of the whole of the Thames Valley-Rotorua Railway. They show that the portion not yet undertaken is of much the same character as the Ngatira section, heavy earthworks and steep gradients being unavoidable.

#### MAIN TRUNK RAILWAY, NORTH ISLAND.

*General.*—The following statement shows generally the state of the works and surveys:—

		Miles	ch.	Miles	ch.
Line complete, north end, Puniu section...	...	15	2		
" south end, Porewa section	...	12	54		
				27	56
Sections nearly finished, north end, Te Kuiti section	...	10	59		
" " south end, Hunterville section	...	5	57		
				16	36
Works in progress, north end, Waiteti section	...	8	53		
" " Poro-o-tarao tunnel	...	1	34		
				10	07
Total finished and in progress	...			54	19
Line set out for contract, north end	...			15	29
" " south end	...			20	51
Total	...			36	00

Service-roads and tracks made by Government and contractors, exclusive of pack-tracks, about ... 140 miles

*Puniu Section.*—The contract for this section included the formation and permanent-way on 15 miles 2 chains southward from Te Awamutu. Another contract included the buildings at four stations. The works were finished in February, and the line opened to Otorohanga—14½ miles—on the 8th instant.

The formation on 5 miles of the Puniu section was done by Maori piecework in a very satisfactory manner, and at a reasonable cost. About 125,000 cubic yards of earthwork—mostly very long leads—were executed by the Natives at an average of 1s. 3d. per yard—labour only).

*Te Kuiti Section.*—This is a continuation of the line southwards from the Puniu section for a distance of 10 miles 59 chains. A contract for the formation, bridges, and platelaying was entered into on the 19th August, 1886, and the works are progressing favourably. The formation is nearly finished, the bridges are well advanced, and the platelaying has been commenced. It is expected that all the works will be completed in August.

As in the case of the Puniu section, the formation on five miles of the Te Kuiti section has been carried out by Maori piecework. In addition to other works, 71,000 cubic yards of earthwork have been done in this way, at an average cost of 1s. for labour: 120 Natives have been employed on the works.

The completion of the Te Kuiti section will bring the railway 25 miles into the King-country, and right up to the Native village of Te Kuiti.

*Waiteti Section.*—After the Te Kuiti comes the Waiteti section, 8 miles 53 chains, which brings the railway into the Mokau watershed. A contract was entered into on the 9th instant for formation, bridges, and permanent-way. The works on this section are rather expensive. They comprise heavy earthworks, and a viaduct over the Waiteti Gully 468ft. long and 119ft. high in the middle, there being 4 spans of 106ft. The piers and girders are to be of malleable iron, the same design as the Wingatui Viaduct on the Otago Central Railway.

*Poro-o-tarao Tunnel.*—The length of the tunnel is 53 chains, and of the approaches included in the present contract 61 chains: total, 1 mile 34 chains. The contract was entered into on the 11th August, 1885, two years being given for completing the works. The tunnel is 46 miles south of Te Awamutu, and pierces the dividing-ridge between the Mokau and Wanganui watersheds. In consequence of the remoteness of the situation and the difficulty of access, more than the ordinary obstacles had to be surmounted in carrying out the work. Still, making every allowance for these drawbacks, the progress made has been anything but satisfactory. Instead of being nearly finished, the actual driving of the tunnel is only beginning. The delay is mainly attributable to want of energy on the part of the contractor, and steps would have been taken by this time to terminate the contract were it not that arrangements are in progress by which a better result is anticipated.

The approaches at both ends of the tunnel are nearly complete. Several slips have occurred in the cuttings, but they are not of a serious nature. The tunnel is expected to be all through papa or soft sandstone rock, easily excavated, but requiring lining.

*Porewa Section.*—This is the first section at the south end of the main trunk line. It is 12 miles 54 chains long. The first contract, including formation, bridges, and platelaying, was completed on the 12th instant. The junction station near Marton is also finished; but the buildings at the other stations have not yet been put in hand.

*Hunterville Section* (5 miles 57 chains).—This is the continuation of the line beyond Porewa section: it brings the line to Hunterville, a new township, well situated in a good district. A contract was entered into for formation, bridges, and permanent-way on the 19th August, 1886. The works are progressing favourably.

*Service-roads.*—The country traversed by the main trunk line is altogether unsettled and difficult of access. It was therefore necessary to open up roads and tracks in various directions to facilitate the survey and construction of the railway. The following is a general statement of the work done to date:—

At the north end the Puniu River has been bridged, and an approach-road made of about half a mile in length from the district road near Kihikihi, also a branch 4 miles long from the main road south of the Puniu to the Kawa Station. The earthwork and fencing on these roads were done by Natives.

The contractor for the Poro-o-tarao Tunnel has made a rough dray-road from Te Kuiti to the tunnel, a distance of about 25 miles. The gradients are, however, so steep that it will be of little use permanently except as a bridle-track.

The Ongaruhe, a branch of the Wanganui River, is navigable for canoes to Te Koura, 16 miles from Poro-o-tarao; and a dray-road has been made to the Waimaha Plain, 14 miles up the valley from Te Koura.

A dray-road has been set out from the Upper Wanganui Valley at Totaratatia, five miles above Taumaranui, to the Waimarino Plain, a distance of  $23\frac{1}{2}$  miles. It follows generally the course of the Piopotea River. A horse-track is in course of construction along this line, and rapidly approaching completion.

Before the commencement of the railway surveys the only communication between the Waimarino and Murimotu Plains for horse-traffic was round Ruapehu. Now a direct road is in course of construction on the western side of the mountain. It has been graded as a dray-road, but is only formed at first as a horse-track. The distance between the two open plains is  $24\frac{1}{2}$  miles. There are large bridges of a total length of 505ft. at the Makatoke and Manganui-a-te-ao; they are made for dray-traffic. With the exception of these bridges, which are well advanced, the road is practically complete.

From Ohakune, a point on the Waimarino-Murimotu, a branch road is in course of construction to Pipiriki, on the Wanganui River, a distance of 25 miles. The road is of the same character as the one just described, and in much the same state of progress. Three large streams crossed have been bridged—total length, 175ft.

At the south end of the Main Trunk Railway a service-road has been made from Pukeore, near Hunterville, to the Hautapu Valley, a distance of 22 miles. It also is graded for dray-traffic, but formed only as a horse-track. Detached pieces have also been made at difficult places up the Hautapu River. This road will be finished through in a few months—in fact, it may be expected that there will be no difficulty next summer in riding along the whole railway route from Marton to Te Awamutu.

A survey is in progress, and nearly complete, of the continuation of the dray-road from Napier to Murimotu. The distance from the Rangitikei to where the railway is struck at Turangarere is about 28 miles. A small section, 60 chains in length, of the worst part is in course of construction.

The above statement gives the present position of the roads undertaken in connection with the railway, and includes works done prior to the 31st March, 1886. The principal works done since that date are the northern approach to the Puniu Bridge,  $\frac{1}{2}$  mile; Upper Wanganui Valley to Waimarino,  $23\frac{1}{2}$  miles; Waimarino to Murimotu,  $24\frac{1}{2}$  miles; Pukeore to Hautapu, and in Hautapu Valley,  $10\frac{1}{2}$  miles; Pipiriki to Ohakune, 16 miles; Rangitikei towards Turangarere,  $\frac{3}{4}$  mile: total,  $75\frac{1}{2}$  miles.

*Clearing Wanganui River.*—At the end of last year a channel had been cleared as far as the Kaiwaka rapid, 46 miles above Wanganui. The Mataiwi and Karatia rapids, which occur between the 43 and 44 miles, were not, however, cleared to the full width. The river is now cleared all the way to Pipiriki,  $56\frac{1}{2}$  miles, except at one place, the Te Puha rapid, at 55 miles, and this also would have been done had the river continued low a fortnight longer. The work can only be done when the river is at its summer-level, from December to March. In addition to snags, large quantities of boulders and rock have been removed from the rapids, necessitating the use of a Priestman dredge and dynamite.

The clearing of the rapids to Pipiriki, the establishment of a steamer on the river, and the construction of the road from Pipiriki to Waimarino and Murimotu will be important factors in settling the interior of the North Island.

*Surveys.*—During the past year a contract survey was made of the Mokau section, extending from the end of the Waiteti section to the beginning of the Poro-o-tarao section, a distance of 11 miles 9 chains. This completes the working-survey at the north end of the line from Awamutu to the Ohinemoa Valley, a distance of 51 miles. The works on the Mokau section are rather heavy, much the same as the Waiteti contract. In addition to large cuttings and embankments, there will be a moderate-sized viaduct and one or two small tunnels. On the other hand, the detailed surveys up to the Poro-o-tarao show a saving in distance of 2 miles over the first trial-survey.

At the south end of the railway the contract surveys have been carried into the Hautapu Valley, 39 miles from Marton Junction—corresponding with 32 miles on the first trial-survey. This section is very heavy—probably the heaviest on the whole line. Ten out of the 21 miles between the Hunterville section and the Hautapu Valley are easy, but the remaining 11 are far above the average. The country is exceedingly rough; and heavy earthworks, a considerable amount of tunnelling, and several high viaducts are unavoidable.

As the country continues rough at intervals for 20 or 25 miles up the Hautapu, it was considered advisable to have the line properly located without delay. Two additional survey-parties were accordingly set to work, one in January and the other in February. Their surveys will be sufficiently far advanced in three or four months to give a good idea of the works required. Although much lighter than those on the section just referred to, the works up the Hautapu Valley cannot be considered otherwise than heavy.

At the end of last year a second trial-survey had been run through the bush from Murimotu to Waimarino. It is generally easy, but shows rather heavy works at several places—notably for about two miles in the Mangawhero watershed, and at the crossing of the Manganui-a-te-ao and Makatote Rivers. I believe, however, that much of the work may be eliminated in making the final survey, and under any circumstances the cost of the section will not be excessive.

During the past year most of the engineers' time in the interior has been taken up in surveying and making roads to facilitate future work, but two parties have recently been started to run trial-gradients from the Waimarino Plateau to the Upper Wanganui Valley. The works on this section are not expected to be very heavy, but it will possibly be necessary to adopt a somewhat steeper gradient than on the portions of the line now under construction: There is a fall of about 2,000ft. in one drop, so it is difficult to find suitable ground on which to run out the incline, and a steeper gradient will give less work. It was at first expected that a ruling gradient of 1 in 70 could be got all the way from Marton to Te Awamutu; but for the reason just given it may become necessary to increase it to 1 in 50, as on the Main Trunk Railway of the Middle Island. By confining the steeper gradient to one locality, and that near the centre of the island, where the traffic will always be lightest, the carrying-capacity of the railway will be but little impaired.

#### FOXTON-NEW PLYMOUTH RAILWAY.

*Works on Open Lines.*—The works executed under this head during the past year consist chiefly of fencing and minor additions to sidings and station-buildings.

*Moturoa Contract.*—This contract was for the construction of a branch railway from New Plymouth Station to the Breakwater, 2 miles 35 chains. The works were finished at the end of April, 1886, and the line opened for public traffic on the 28th April, 1886.

#### NAPIER-PALMERSTON RAILWAY.

*Open Lines.*—The Spit Station is being remodelled, and a few unimportant additions and improvements have been carried out at wayside stations and other places.

*Tahoraite-Woodville Section.*—This section, which includes the Tamaki and Woodville contracts, was opened for public traffic on the 22nd March, 1887. Its length is 15 miles 10 chains, and the total length of railway now open from the Spit to Woodville is 96 miles 65 chains.

The Tamaki and Woodville contracts included formation, bridges, and platelaying. They were respectively 13 miles 43 chains and 1 mile 47 chains long. There were also separate contracts for station-buildings and fencing. With the exception of some fencing and a few minor details to stations, all the works were finished when the line was opened.

*Manawatu Gorge Section.*—This section, which is 4 miles 32 chains, was contracted for on the 23rd October, 1886, and the works have since been carried on in the most energetic manner, about three hundred men being employed. The contract extends over the whole of the Gorge proper, and includes the heaviest works on the Woodville-Palmerston section. There is a large amount of rock-cutting and earth-work, 35½ chains of tunnelling, and 26 iron and masonry bridges of various sizes. So far there have been no slips in the slopes of the Gorge, the ground having turned out more solid than was expected.

*Surveys.*—The remainder of the line between Woodville and Palmerston has been set out for contract. The distance between Woodville and the Gorge is 3 miles 3 chains, two miles over flat ground, and one along a steep sidling in limestone rock.

The link between the Gorge and Palmerston is 8 miles 11 chains. The two miles next the Gorge contain heavy earthworks and a large bridge over the Pohangina River, but the works on the remainder of the section are comparatively light.

The total length of railway to finish and make from the present terminus of the Napier line at Woodville to the Terrace-end Station on the Foxton-New Plymouth Railway is 15 miles 46 chains.

The land-plan survey of the Tahoraite-Woodville section has been completed, and the continuation to the Gorge is in progress.

#### WELLINGTON-WOODVILLE RAILWAY.

*Open Lines.*—The usual minor improvements and additions to works, buildings, and plant have been carried out during the year.

*Opaki and Kopuaranga Section.*—The Opaki section, and part of the Kopuaranga one, as far as Mauriceville, was opened for traffic on the 14th June, 1886, the distance from Masterton being 12 miles 8 chains. The remainder of the Kopuaranga section, to Mangamahoe, 4 miles 7 chains, was opened on the 10th January. This makes a continuous length of railway from Wellington to Mangamahoe of 81 miles 75 chains.

The works on the Kopuaranga section were greatly retarded by slips in the porous calcareous strata through which the line passes. The slips have, however, been removed or stopped, and it is not anticipated that they will give much trouble in future.

*Wiwaka Section.*—A contract for formation, bridges, and permanent-way, on the Wiwaka section was entered into on the 23rd August, 1886. The length of the section is 6 miles 15 chains: it brings the railway to the Village of Eketahuna. This section, which is the heaviest between the Rimutaka and Woodville, comprises very heavy earthwork and rock-cuttings, five bridges and large culverts, and a tunnel 7½ chains long. The works have been carried on with great vigour, upwards of two hundred men being constantly employed.

*Awapurua Bridge.*—The bottom and banks of the Manawatu River, at the site of this bridge, are composed of light shingle and alluvium, easily washed away by floods. The extra scour engendered by the erection of the bridge tends to damage the foundations and approaches. Five of the piers have been strengthened by concrete blocks, and the embankments have been protected by groins. These measures have so far been successful; but further protection will be required at other places.

*Surveys.*—In view of the early settlement of the adjoining lands, the remaining portion of the Wellington-Woodville Railway—the Eketahuna and Woodville section—has been set out for contract. The line follows generally the western margin of the Mangatainoko and Makahihi valleys, the Manawatu River being crossed by the Awapurua Bridge. As far as possible the railway is located

clear of the heavy floods to which these valleys are subject. The gradients and curves are good, and the works generally light: the heaviest work is in crossing the Mangatainoko, where 11 or 12 chains of bridging will be required.

The length of the Eketahuna-Woodville section is 26 miles 54 chains. This makes the distance from Wellington to Woodville by the Wairarapa 114 miles 64 chains, as against 105 miles 17 chains by the Manawatu Railway Company's line and Palmerston.

#### NELSON-BELGROVE RAILWAY.

The expenditure on this line during the past year has been mostly for land-compensation, with a few minor additions to stations.

A reconnaissance survey has been made of an alternative route for the Nelson-West Coast line. It leaves the Nelson-Belgrove Railway at Richmond and runs by Motueka, Tadmor, and the Hope to the Buller Valley.

#### PICTON-AWATERE RAILWAY.

*Open Line.*—The only work in progress during the year that need be noticed is the improvements at Picton. The wharf has been lengthened 100ft., and a goods-shed built on it, and the sidings leading thereto have been improved and extended. Accommodation has also been provided for the Harbourmaster.

*Dashwood Section.*—A contract for the formation of this section, which is  $3\frac{1}{2}$  miles long, was entered into on the 9th July, 1884. The works were to be finished on the 9th July, 1886, but they are still far from completion. At the present rate of progress they will not be out of the contractor's hands before December next. The contractor has throughout carried on the works in anything but a satisfactory manner.

The land-plan survey of the Dashwood section has been finished, and a contract has been prepared for the next section,  $2\frac{1}{2}$  miles.

#### WESTPORT-NGAKAWAU RAILWAY.

There have been no works chargeable to construction executed on this line during the past year.

#### GREYMOUTH-BRUNNERTON RAILWAY.

*Greymouth Wharf.*—Under an arrangement with the Harbour Board, a contract was entered into in June, 1886, for the extension of the Greymouth wharf. The extension is 650ft. in length, and it will be provided with two hydraulic cranes for lifting the bodies of the coal-wagons and depositing the coal in the ship's hold. About 450ft. of the wharf are finished, and the erection of the cranes is in progress. The hydraulic machinery, which is of the most improved description, was manufactured at Sir William Armstrong's works. The Harbour Boards pay the cost of these works.

*Surveys.*—In view of the necessity of having better communication between the line and the coal-mines on the northern side of the Grey at Brunnerton, surveys have been made for a railway-bridge. As the valley is narrow and deep, it is difficult to give the necessary accommodation at a reasonable cost. Several bridge-sites have been surveyed, but a final decision has not yet been come to in the matter.

#### GREYMOUTH-HOKITIKA RAILWAY.

*Formation.*—A considerable amount of formation-work has been done on this line during the year. With the exception of about a mile near the Greymouth end, a quarter of a mile near the Arahura River, and the spaces at bridge and culvert sites, there is little formation unfinished between Hokitika and the Kapitea—about 10 miles—and, again, between the Teremakau and Greymouth—about 8 miles. The intervening portion—about 5 miles—has been postponed pending a decision as to the proposed deviation towards Kumara.

*Bridges.*—A contract was entered into on the 28th August, 1886, for the erection of a bridge over the Arahura River. It is to consist of seven 80ft. spans and eleven 11ft. spans. The larger spans are to have piers of cast-iron cylinders filled with concrete, the superstructure being the ordinary timber-and-iron truss. The small spans are to be entirely of timber. A portion of the timber-work has been executed, but the large spans were delayed for some time by the non-arrival of the cylinders from England.

A contract is now ready to be advertised for the bridge over the Teremakau. As the river is a very large one, and subject to heavy floods, it was necessary to prepare a special design. A structure entirely of concrete and iron was accordingly determined on. There are six spans of 121ft. The abutments are of concrete, and the piers consist each of two cast-iron cylinders filled with concrete. The superstructure is a wrought-iron lattice-girder, carrying the roadway on the lower chord.

*Surveys.*—During the year a number of trial-surveys have been run to ascertain whether the Greymouth-Hokitika Railway could with advantage be brought nearer Kumara. They all show that the advantages to be gained are more than balanced by the deterioration in the character of the line, steep gradients and sharp curves being unavoidable on all the deviations proposed.

#### HURUNUI-WAITAKI RAILWAY AND BRANCHES.

*Works on Open Lines.*—Minor improvements and additions amounting in the aggregate to a considerable sum have been carried out during the year by the Working Railways Department.

*Timaru.*—The cliff-protection at Timaru, which has been in progress at intervals for many years, was entirely suspended during the greater part of 1886-87. But recently a further encroachment of the sea has taken place, so it is necessary to deposit more stone.

*Little River Branch.*—Shortly after the opening of the railway to Little River an extraordinary rainfall caused Lake Forsyth to fill rapidly. The railway-works along the margin were considerably damaged, but the damage has since been made good.

*Mount Somers Branch.*—The Mount Somers contract, which included the works necessary to finish the railway to Mount Somers Township, was completed in September, and the section from Cavendish to Mount Somers opened on the 4th October, 1886. The length of the section is 1 mile 48 chains, which makes the total length of the branch 23 miles 21 chains.

A working-survey has been made for the extension of the Mount Somers Branch to Springburn, a distance of four miles, and the work of formation was commenced on the 21st March, 1887. The works on the extension are very light, and the curves and gradients easy.

*Surveys.*—A land-plan survey has been made of the Rakaia and Ashburton Forks Railway, recently purchased by Government, and a similar survey for the Waimate Gorge line is in progress.

#### WAITAKI-BLUFF RAILWAY AND BRANCHES.

*Works on Open Lines.*—In minor improvements and additions a considerable amount of work has been done by the Working Railways Department.

*Dunedin Station Overbridge.*—This work has been carried on in anything but a satisfactory manner. Notwithstanding much pressing, the contractor for the superstructure has not displayed sufficient energy in finishing the work. The contract-time expired nearly two years ago, and there is still at least three months' work to be done. All the ironwork has been manufactured, and the erection is now proceeding. The filling-in of the western approaches to the bridge was completed during the year together with the supply of road-metal for all the approaches. The north-eastern approach is in progress by petty contract, and will be finished before the superstructure. The south-eastern approach, which will for the present be the least used, is being done gradually by prison-labour.

A considerable extent of street-formation has been done round the Dunedin Station during the past two years by "unemployed" labour under the direction of the Corporation, but at the cost of the Government.

*River-protection at Balclutha.*—These works, which have stood well for many years, were slightly injured by floods in 1886–87. The damage has been made good.

*Livingstone Branch.*—The first four miles of this line, known as the Rakis section, was finished in July, 1886; but its opening has been held over, pending the completion of a further length.

The Awamoko section, which follows next, brings the line to the Awamoko Stream at 11 miles 75 chains, the terminus for the present of the Livingstone Branch. A contract for the completion of the line and stations was entered into on the 20th July, 1886. The works have not been carried on so energetically as they ought to have been. The contract-time expired on the 20th March, 1886; but the works will not be finished before July or August.

*Catlin's River Branch.*—A contract was prepared for the formation and bridging on five miles of this line, but on further consideration it was decided to keep the work in hand, so as to furnish work during the winter, when there is always so much surplus labour available. Arrangements are now being made to commence the work.

*Waimea-Switzer's Branch.*—Tenders are now advertised for laying the permanent-way on the two miles between Riversdale Junction and the Mataura River. A contract for the Mataura Bridge and approaches is in preparation, and nearly ready to advertise.

*Edendale-Toitois Branch.*—A contract is now advertised for the Glenham section, 1 mile 66 chains in length. It includes a tunnel 10 chains long and some heavy earthwork, together with the formation of a station-yard at the terminus. This section brings the line to the crossing of the main road near Glenham Station, 9 miles 36 chains from Edendale Junction.

*Seaward Bush Branch.*—The Kilbrony section,  $5\frac{1}{2}$  miles in length, was completed and opened for traffic on the 9th July, 1886. A further length of 5 miles 48 chains, called the Oteramika section, has been cleared and formed by petty contract.

*Surveys.*—In addition to those already referred to, a working and land-plan survey has been made of the continuation of the Seaward Bush line to the Toitois district, the total length of the branch being 23 miles 26 chains. It joins the extension of the Edendale-Toitois line at a point 18 miles 57 chains from Edendale. The works on the Invercargill-Toitois line are light throughout, and the alignment and levels good. A land-plan survey has been made for the Walton Park Branch, and the land-plans for the Invercargill-Bluff section have been completed. A preliminary survey has been made of the proposed extension of the Heriot and Lawrence Branches up the Clutha Valley to Roxburgh. It formed the subject of a special report presented to Parliament in 1886 (Parliamentary Paper, D-16).

#### INVERCARGILL-KINGSTON RAILWAY, WITH BRANCHES.

*Works on Open Lines.*—The usual amount of additions and improvements of a minor character have been carried out during the year. A small groin built at the Ringway Station to prevent the encroachment of the Aparima River was injured by the same floods that damaged the Clutha works; it has been repaired.

*Lumsden-Mararoa Branch.*—The Mossburn section, 4 miles 10 chains in length, was finished and opened for traffic on the 22nd January, 1887. This brings the line to the new township of Mossburn, on the Aparima watershed, 10 miles 40 chains from Lumsden Junction.

The land-plan survey of the Mossburn section has been completed.

#### OTAGO CENTRAL RAILWAY.

*General.*—The works on this line have been carried on with considerable vigour during the past year, and the formation from Chain Hills to Strath Taieri may now be considered as finished.

The following contracts have been completed during the year: (1) Wingatui section—permanent-way; (2) Wingatui Viaduct—foundations and masonry; (3) Hindon section—formation; (4) Hindon tunnels; (5) Nenthorn section—formation.

The following contracts are in progress: (1) Wingatui Viaduct—iron piers and superstructure; (2) Silver Peak Bridges—masonry; (3) Mount Hyde Bridges—masonry; (4) Taieri Gorge Bridges—superstructure; (5) Deep Stream section—formation. Of the above, the Wingatui Viaduct and the Deep Stream section are expected to be finished in June or July, but the other works are only commencing. The contracts in progress comprise the whole of the formation and bridges to and across the Deep Stream, 19 miles 57 chains from Chain Hills Junction on the main line.

The works still required to be put in hand to complete the Otago Central Railway to Strath Taieri are: (1) Barewood Bridges—masonry; (2) Barewood Bridges—iron piers and superstructure; (3) Permanent-way and stations from Mullocky Gully to Strath Taieri. The masonry contract is nearly ready for advertising, and the one for superstructure will quickly follow. It is proposed to do the platelaying piecemeal, by petty contracts, as the bridges are finished. The station works are a very small matter, which can be done at any time on short notice.

With reference to the opening of the first section of the Otago Central Railway, it has hitherto been taken for granted that no portion should be opened till Strath Taieri was reached; but it has lately been suggested that the section to Deep Stream, 20 miles, might be opened when the bridges are finished that far. This brings the line to within 4 miles of the Township of Hindon, around which there is a considerable agricultural settlement and some mining, from whence a small traffic may be expected. Hindon stands on a plateau about 900ft. above the level of the railway; but a good road could be graded up at moderate cost. Pending the completion of the line to Deep Stream, excursion-trains may be run up the Taieri Gorge as soon as the rails are laid on the successive lengths. They can be run to Wingatui Viaduct, 8 miles, at once, and to the beginning of the Gorge, at 10½ miles, before Christmas. It is proposed to have a small station at the latter place. The Wingatui Viaduct and the scenery of the Taieri Gorge will be a great attraction to sightseers.

*Wingatui and Mullocky Sections.*—These sections bring up the line to the Wingatui Viaduct, at 8 miles. The platelaying on them was completed in April, 1886, and since then the line has been used in carrying material for the viaduct and other works. An exceptionally heavy fall of rain last winter caused a number of slips and considerable subsidence in embankments, but the damage was quickly made good. The slopes of larger embankments have been soiled, and sown with grass and other seeds. When the vegetation gets a fair hold the danger from slips will be lessened.

*Wingatui Viaduct.*—This viaduct is 649ft. long over the girders, and 691ft. over the abutments. It is 150ft. from the bed of the stream to the level of the rails. There are three spans 106ft. to centres, and five spans 66ft. to centres. The abutments are of rubble masonry, built of grey-schist stone found near the site. The first two piers from the ends are of concrete. The five intermediate piers consist of malleable-iron columns, well braced. The iron piers stand on large bases of concrete and rubble masonry, which in turn rest on the solid rock or piled foundations. The superstructure consists of malleable-iron lattice main girders, and rolled cross-girders carrying the roadway on the top. Altogether the viaduct contains 3,600 cubic yards of masonry and 584 tons of iron, and its cost is £22,440, exclusive of supervision.

There were two contracts for the erection of the Wingatui Viaduct. The first, which included the masonry and concrete abutments, piers, and foundations, was completed on the 4th September, 1886. The second, which includes the ironwork, is now drawing to a close—it is expected to be finished in June. With the exception of being somewhat behind time, the works on both contracts have been carried out in a very satisfactory manner, and reflect great credit on all connected with them.

*Hindon Section.*—This section originally extended from the end of the Wingatui contract, at 8 miles 5 chains, to Deep Stream, at 19 miles 52 chains. Most of the formation-works on the section were done by piecework at various times between 1879 and 1884. 280,000 cubic yards of earthwork, 620,000 cubic yards of rock-cutting, and 4,700 cubic yards of masonry were executed in this way. In March, 1884, the works remaining unfinished were—(1) Five small tunnels to be pierced; (2) special cuttings at various places, mostly rock; and (3) the completion and general trimming-up of earthwork left unfinished when the piecework was stopped.

The tunnels were let by contract on the 19th November, 1884, and they are now practically complete. With the exception of being behind time, the work has been done in a satisfactory manner. A piece of bad ground in the Duck Point Tunnel necessitates the rebuilding of about 9 yards of the lining; with that exception, the ground throughout has been favourable, and there is a large saving in lining at other places.

The special cuttings were let by contract on the 5th March, 1885, and the works were completed in November, 1886.

It was at first proposed to complete the piecework sections by contract at so much per chain or mile, the cost of making plans to show the state of the work being so great. The Mullocky section, 69 chains long, was let in this way, and the work duly carried out, although not in a very satisfactory manner. Subsequently two other sections were advertised; but the tenders received were so much above the estimate that it was determined to do all the work by day labour and piecework. This was done, and in nearly every case the works have been carried out for the estimate. With the exception of a small piece at the extreme end, and a few slips on the portion done by contract, all the formation on the Hindon section is finished.

*Deep Stream Section.*—After the failure by both the original contractor and his sureties to carry out the work, the contract for this section, 4 miles 22 chains, was let to the present contractors on the 24th December, 1884. The works have been carried on energetically, and otherwise in a satisfactory manner throughout. With the exception of a few extras they are now complete.

*Nenthorn Section.*—This section extends from the Deep Stream section to near the Sutton and is 9 miles 13 chains in length. It brings the line to the flat country at the Sutton, the beginning of Strath Taieri. The works have just been completed and taken off the contractors' hands. They have throughout been carried on in a very satisfactory manner.

*Bridges.*—In addition to the Wingatui Viaduct there are 16 bridges on the Otago Central Railway between North Taieri and Strath Taieri. Their aggregate length is 3,067ft., comprising 2 spans of 106ft., 1 of 100ft., 29 of 66ft., 3 of 55ft., 3 of 44ft., and 5 of 33ft. They are all as much as possible to the same pattern. Five of the piers of the Flat Creek Bridge are to be of malleable iron, but all the other piers and abutments are masonry aboveground, with concrete or masonry foundations. The superstructures are malleable-iron girders.

These bridges have been divided into five contracts—three for masonry and two for ironwork. Two of the former and one of the latter have been let. They finish the work to and across the Deep Stream.

The first of the masonry contracts, called the Silver Peak Bridges, includes the abutments and piers of three bridges. It was let on the 10th November, 1886; but the contractors failed to go on with the work. After some delay fresh tenders were called for, and the work was relet on the 10th March, 1886. A commencement is just being made.

The next masonry contract, called the Mount Hyde Bridges, includes the piers and abutments of five bridges. The contract was let on the 5th January, 1887, and the works have since been carried on energetically. The foundations for the Taieri Bridge piers, one of the principal difficulties of the contract, have been put in.

A contract for the superstructure of the bridges in the Silver Peak and Mount Hyde masonry contracts was entered into on the 19th February, 1886. Beyond arranging for importing materials and erecting plant, no work has yet been done. This is called the Taieri Gorge Bridges Superstructure Contract.

The remaining bridges extending from the Deep Stream to Strath Taieri will be let in two contracts, one each for masonry and ironwork.

#### GENERAL.

*Plant.*—In addition to the large quantity made at the Government workshops, various articles of plant have been manufactured for the department by private firms in the principal centres—for instance, steam-cranes at Wellington, and points and crossings at Dunedin.

*Sleepers.*—As shown by the schedule of contracts, a considerable quantity of sleepers has been obtained during the year. The creosoting works in Southland have been quite successful: 88,000 of the 150,000 sleepers contracted for have now been supplied. The creosoting-plant can turn out 15,000 sleepers a month when working full time.

*Labour and Wages.*—As will be gathered from previous remarks, there have been more workmen than work all over the colony during the past year. There have been "unemployed" agitations in all the large cities except Wellington, and relief-works of greater or less extent have been provided. The question has not, however, assumed anything like so large proportions as it did in 1879. As a consequence of the surplus of labour, wages have gone down. Artisans now seldom get more than 10s., and labourers 6s. 6d. or 7s. On the West Coast of the Middle Island, where there is more broken time, labourers still get from 8s. to 10s.

*Number of Men on Works.*—The following statement gives approximately the average number of men employed under the department on works and surveys during the past year, exclusive of contractors' men engaged away from the works:—

District.							Number of Employés.
Auckland	...	...	...	...	...	...	461
Wanganui	...	...	...	...	...	...	249
Hawke's Bay	...	...	...	...	...	...	244
Wellington	...	...	...	...	...	...	409
Nelson and Marlborough	...	...	...	...	...	...	152
Westland	...	...	...	...	...	...	174
Canterbury	...	...	...	...	...	...	459
Otago...	...	...	...	...	...	...	882
Miscellaneous	...	...	...	...	...	...	150
Total	...	...	...	...	...	...	3,180

#### ENCLOSURES.

This report is accompanied by the following enclosures:—

1. Maps of the North and Middle Islands showing the railways open, in progress, and proposed.
2. Diagram showing mileage of railways opened each year.
3. Statement showing lengths of railways authorized, constructed, and surveyed.

I have, &c.,

JOHN BLACKETT,

Engineer-in-Chief.

The Hon. the Minister for Public Works.



## APPENDIX J.

## ANNUAL REPORT ON ROADS, MISCELLANEOUS WORKS, BUILDINGS, AND DEFENCE WORKS, BY THE ENGINEER-IN-CHIEF.

The ENGINEER-IN-CHIEF to the Hon. the MINISTER for PUBLIC WORKS.

SIR,—

Public Works Office, 31st March, 1887.

I have the honour to submit the following report on roads and bridges, miscellaneous works, buildings, and defence works for the year ending the 31st March, 1887:—

## ROADS AND BRIDGES.

## AUCKLAND DISTRICT.

*Cox Creek Road.*—A contract for the bridge-approaches was entered into on the 1st June, 1886, and the works were finished in December.

*Drury-Mauku Road.*—Some necessary repairs to the Mauku Bridge have been carried out.

*Tuakau Ferry, Waikato River.*—The punt has been put in good working order, and an approach-road made for about a quarter of a mile up the incline.

*Katikati-Te Aroha Track.*—Small repairs have been executed on this track during the year. Reconnaissance surveys have been made of Thompson's Track and the one now in use to determine their relative merits as a route for a dray-road. Further surveys with the same object have been undertaken by the county.

*Whatawhata and Te Rore Bridges.*—A contract was entered into on the 29th April, 1886, for painting and screwing up these bridges. The work was finished in September.

*Waipa-Raglan Road.*—The maintenance of this road has been upheld during the year. Metal-ling has been done at bad places, and necessary repairs made to bridges.

*Cambridge-Taupo Road.*—This road has been maintained in its usual state of repair.

*Oxford-Rotorua Road.*—This road has been maintained during the past year in the usual manner. The traffic cuts up the surface badly in winter, and, as metal or gravel is not procurable, the worst places are being covered with trachyte sand from the cuttings. Although not a first-class covering, this will probably keep the road passable till the railway is made.

## BAY OF PLENTY AND NAPIER.

*Tauranga-East Cape.*—This road is open as a dray-road from Tauranga to a little beyond Opotiki, after which there is only a horse-track. It is maintained by the Public Works Department from Te Puke to Cape Runaway. Like all the roads in the volcanic district, it suffered considerably by the Tarawera eruptions.

Three cart-bridges, 80ft. in total length, have been erected on the Te Puke-Matata section during the year. The maintenance was done by a Maori contractor, who did not, however, give unqualified satisfaction.

On the Matata-Te Teko section half a mile of new siding-cutting and a quarter of a mile of fascine-work have been done, and a small bridge built during the year. A survey has also been made for 4 miles of deviations to improve the gradients. At present the section is only passable for horse-traffic.

The Te Teko-Whakatane section has been greatly improved by raising, fascining, and draining. It is now in fair order for light wheeled traffic.

Five small bridges and thirty box-culverts have been built between Whakatane and Opotiki during the year, also  $5\frac{1}{2}$  miles of side-cutting and 5,000 cubic yards of embankment. The road is now open for vehicles 3 miles beyond Opotiki.

The main horse-track from Opotiki to Whangaparawa, near Cape Runaway, and the branch track from Whakatane to Ohope, have been maintained in fair order during the year. There is still  $1\frac{1}{2}$  miles unfinished on the new track between Hawaii and Maraenui, and  $2\frac{1}{2}$  miles between Raukore and Whangaparawa.

*Opotiki-Ormond Track.*—The section from Opotiki to Motu (44 miles), under charge of this department, has been maintained during the year, and is now in fair order for horse-traffic.

*Te Teko-Galatea Road* (length, 33 miles).—This road was maintained up till September last. Since then it has not been considered necessary to continue the work. The road is very heavy for wheeled traffic where the volcanic deposit is thick, but otherwise it is in good order.

*Tauranga-Napier Road.*—This road is maintained by the Government all the way from Oropi, 12 miles from Tauranga, to Kaiwaka, 16 miles from Napier. There is also an alternative road from Tauranga to Rotorua, *via* Te Puke, and a branch road from Rotorua to Tarawera.

The main road has been maintained in fair order during the year. Bridges and culverts have been repaired, swampy places fascined, and minor improvements effected. The section through the bush between Oropi and Rotorua was very much cut up in August by exceptionally heavy traffic during very wet weather; but extra men were put on, and substantial repairs effected without delay. There



has been a considerable increase in the traffic to Taupo since the destruction of the terraces; so it will probably become necessary to increase the expenditure on this road. In addition to better maintenance, the road will require improving in many places if a large traffic is to be carried expeditiously and safely.

The alternative road between Rotorua and Tauranga *via* Te Puke was considerably damaged by the eruptions and the floods which subsequently occurred. The Waingahea Bridge was carried away, the bed of the stream being silted up 12ft. All the streams were more or less affected in the same manner. Even now a small rainfall causes a large flood, and a small flood brings down immense quantities of the volcanic deposits. The Te Puke Road has been made available for light vehicles, but a large expenditure is required before it can accommodate heavy traffic.

The branch road from Rotorua to Tarawera is in almost exactly the same position as the Te Puke Road; but, on account of the greater deposit of volcanic matter on the adjoining hills, it will be worse to maintain.

#### TARANAKI AND WELLINGTON.

*Taranaki-Taumaranui*.—A reconnaissance survey has been made for a road to connect Taranaki with Auckland. Two routes have been proposed, one commencing on the coast at the Mimi River and the other at Stratford. A special report with map, on the subject is hereto appended. (Enclosure No. 1.)

*Manawatu Gorge Road*.—This road was maintained by the department till the 31st December, 1886, at which date it was handed over to the local authorities.

*Awakino Bridge*.—The new bridge, completed in January, 1886, was destroyed by a bush-fire on the 23rd of the same month. It was immediately rebuilt, the work being finished on the 2nd July, 1886.

*Tiraumea Bridge*.—A contract is in preparation for a bridge over the Tiraumea River, in the Pahiatua District. It will have three spans, 80ft., 40ft., and 20ft. respectively.

#### NELSON DISTRICT.

*Clarence Bridge*.—This bridge, commenced in March, 1884, was satisfactorily completed on the 25th January, 1887. The bridge has four spans of 120ft. and one of 60ft. It consists of composite girders—wood and iron—supported on piers of cast-iron cylinders filled with concrete.

*Wairau Bridge*.—The work of painting this bridge was completed in December.

*Roads in the Sounds*.—A contract has been let for the track between Waikawa and Waitamunga. The work is nearly finished.

A reconnaissance survey has been made for a road between Mahakipawa and Havelock.

*Rai Valley Road*.—The only work done on this road during the year is the improvement of the gradient at Collins Hill, which was finished in July, 1886.

*Belgrove-Tarndale Road*.—Sundry repairs have been done during the year between Belgrove and Tophouse, and again in the Wairau Gorge.

*Riwaka-Collingwood Road*.—Out of the 16½ miles to make over the Takaka Range, 8 miles are finished and 6½ in progress, and tenders have just been received for the last 2 miles. With the exception of half a mile in swampy ground, none of the road has been metalled.

The Takaka Bridge, with one mile of approach-roads, was satisfactorily finished in June, 1886. The bridge has two spans of 80ft. and three of 40ft. One of the piers is of concrete, and another of iron cylinders, the remainder being timber. The superstructure is of wood and iron, of the usual type.

A section of this road between Takaka and Anahau has been completed during the year. It is formed for 2 miles 29 chains, and gravelled for one mile.

*Eve's Valley Road*.—The improvement of the gradient at the saddle, referred to in last annual report, was duly completed in July, 1886.

*Nelson-Lyell Road*.—The section of this road from Belgrove to Hope Junction has been put in repair and maintained by the Public Works Department during the last three months. The improvements at the Hope Saddle in progress during 1885-86 were finished early this year.

A track has been made from the main Buller Road up the Owen River to the quartz reefs, a distance of 9¼ miles. It is formed for a width of 8ft., and gravelled for 3ft. in the centre. The track was only intended for horse- and sledge-traffic, but since the fresh activity displayed at the reefs it has been used by wagons. If the present prospects of the reefs are realized, it will be necessary to widen and metal the track.

The most important work in progress on the Belgrove-Lyell Road during the past year is the Motueka-Motupiko Bridge, which is just about finished. It will be taken off the contractors' hands next week. The work has been carried out in a satisfactory manner, and will be finished seven weeks before the contract-time.

A contract was entered into on the 26th November for the erection of a small bridge over the Upper Buller, to replace a bridge built many years ago by the Provincial Government of Nelson. The work is progressing satisfactorily.

The Owen, Granity Creek, and Matiri Bridges have been painted during the year.

#### WESTLAND DISTRICT.

*Buller Road*.—A detailed survey of the portion of this road between the Nine-mile Ferry and Inangahua Junction has been made, with the view to its improvement. It has been divided into nine sections; contracts have been let for four of them, and tenders for the remaining five have just been received.

*Lyell Bridge.*—Tenders are advertised for a bridge to be built over the Buller River, near the Lyell Township. The superstructure is to be of iron, with two principal spans of 120ft. and 156ft., and two smaller spans of 41ft. and 20ft. The piers and abutments are to be of masonry and concrete. In consequence of the great force of current and height of flood it is necessary to make the central pier of great strength. The bridge-contract includes 20 chains of heavy road-approach on the northern side, on which occurs a timber bridge 75ft. long.

*Waitahu Bridge.*—A contract for the erection of a bridge over the Waitahu River was entered into on the 12th June, 1886. The work has been retarded by a delay in getting land and the exceptional hardness of the ground for pile-driving. But these difficulties have now been overcome, and the work is expected to be finished within three months.

*Minor Bridge-works.*—The Little Grey Bridge has been tarred, and the Inangahua Bridge tarred and maintained during the year.

#### CHRISTCHURCH-HOKITIKA ROAD.

This road was maintained in its usual good order during the year, notwithstanding a number of heavy floods. A breach has, however, just been made by the Teremakau River which will cause some interruption to the traffic. It will probably necessitate a deviation of the road.

The Taipo Bridge was completed on the 29th June, 1886. It has since stood several heavy floods in a satisfactory manner. A bridge that resists the Taipo floods without damage cannot be other than a substantial one.

#### CANTERBURY DISTRICT.

*Kaikoura-Waiau Road.*—Five sections of this road have been under construction during the past year. The last of them was taken off the contractors' hands on the 28th instant; and the road is now open right through from Kaikoura to the Amuri and Canterbury.

*Upper Waiau Bridge.*—With the exception of being somewhat behind time, this work is progressing satisfactorily. The approach-roads are formed and metalled, and the concrete abutments and piers are finished. The work of fitting and erecting the ironwork of the columns, struts, and girders is well in hand, and the columns and struts on the north side are in position. The ironwork is manufactured not only in the colony, but on the spot. The bridge is expected to be finished in July.

#### OTAGO DISTRICT.

*Haast Pass Track.*—The improvements on this track unfinished last year were brought to a close in October. Since then nothing has been done beyond some repairs of an urgent character.

*Taiaroa Heads Road.*—This road has been put in thorough repair during the year.

*Lower Taieri Bridge.*—Traffic has been turned on to this bridge early in January; but the work was not quite finished till the 16th March, 1887. As stated in last year's report, there was some trouble in getting a good foundation for the cylinders, the bottom of the river being very soft to a great depth. The difficulty was eventually overcome in a very satisfactory manner, old rails with plates over them being placed under the cylinders in a bell shape, to increase the bearing. Generally the works on this bridge have not been carried out in the satisfactory manner that the importance of the structure demands. The contractors worked with very indifferent plant, and otherwise tried to do the work too cheaply.

*Beaumont Bridge.*—This bridge was finished and opened for traffic on the 4th March, 1887. Beyond being considerably behind time, the work has been carried out in a very satisfactory manner. This is one of the first four iron bridges manufactured in the colony, and the first of them actually finished. Like the Upper Waiau Bridge, made by the same contractor, all the ironwork was manufactured on the ground.

*Roxburgh Bridge.*—This work was delayed through the inability of the original contractor to carry it out. A transfer to a more trustworthy contractor was, however, made on the 23rd July, 1886, and since then the work has progressed favourably. It is expected to be finished in four or five weeks.

#### GENERAL.

The officers of the Public Works Department have done a considerable amount of work in connection with roads and bridges not directly under their control—for instance, those in which grants-in-aid have been given, and lands and goldfields roads intrusted to the local bodies. A large number of these have been dealt with all over the colony, but more particularly in Westland and Otago.

#### MISCELLANEOUS WORKS.

*Auckland.*—The surplus labour has been employed sloping the gravel-pit at Mount Eden, and doing some other minor works under this head.

*Nelson.*—The deepening of a channel leading to the Ferntown Coal-mines, in the Aorere River is in progress by petty contracts. The work is expected to be finished in May.

*Canterbury.*—At Christchurch men out of work have been engaged in levelling the sand-hill on the Drainage Board Reserve, to form irrigation-paddocks for the city sewage. A large amount of useful work has been done.

The greater portion of the Small-pox Hospital Reserve has been levelled and soiled by the same means.

In Hagley Park about twenty old men have been employed in general improvements, and a new drain is being cut through the park by another party of thirty men. It is intended to drain and relieve from floods the Addington workshops.

The surplus labour of Christchurch has also formed a new rifle-range, and carried out a few other unimportant works.

## BUILDINGS.

## AUCKLAND.

*Public Offices.*—A contract for this building has been prepared by Messrs. Mahoney and Sons, architects, Auckland, and tenders are now under consideration. The building, which is to be erected at the corner of Customhouse and Albert Streets, provides accommodation for all the principal departments, except Post, Telegraph, and Justice.

*Lunatic Asylum.*—Extensive additions are in progress and proposed at this institution. A contract was entered into on the 9th December, 1886, for a female wing and airing-court, kitchen, offices, boiler-house, and bath-houses, with other adjuncts. The works are progressing favourably. The female wing is up to the base course, and the kitchen block to the first floor. Improved cooking and drying apparatus have been ordered from England for the kitchen and laundry.

*Mount Eden Prison.*—This building, in course of erection by convict-labour, has made good progress during the past year. The walls of the block now in hand are up to the first floor, and the floor, which is of concrete on iron joists, is in progress. These works are carried on under favourable circumstances, and in a very systematic manner. The stone is found close by, and all the mason-work is carried on within the gaol-walls.

*Police-buildings.*—A new police-station has been erected at Ngaurawahia, and additions of two rooms made to the station at Mercury Bay. Lock-ups have been built at Whangarei and Kihikihi, and a constable's cottage at Rotorua.

*Postal and Judicial.*—A post and telegraph office has been erected at Whangarei, and a post-office and Courthouse combined at Mercury Bay. Additions have also been made to the post and telegraph station at Opotiki.

*Native Schools.*—The Public Works Department has supervised the erection of Native schools at Kopua, Tapapa, Maotu, Te Matai, and Ruakokore.

## TARANAKI, MANAWATU, AND HAWKE'S BAY.

*Public Offices.*—A water-service has been laid on to the public offices at New Plymouth, and the drainage improved.

*Prisons.*—The new prison built by contract at Wanganui was completed on the 12th October, 1886. It contains twenty-two cells, with the necessary kitchen, offices, and accommodation for warders, male and female. A drain has been laid from the gaol to the town-sewer on Taupo Quay, and water and gas laid on. A gaoler's residence of six rooms has been erected near the gaol; it was finished on the 7th February, 1887.

The front offices and rooms at New Plymouth Gaol are finished, and the central area roofed over. This work is being done principally by convict-labour.

*Courthouses and Police-buildings.*—At Manaia old military barracks have been converted into a Courthouse and police-station.

A Courthouse has been erected at Wairoa, and a lock-up, with offices at Ormond.

An old blockhouse at Pungarehu has been converted into a police-station, a lock-up with two cells being added.

The drains from the Wanganui Courthouse have been connected with the town drainage, and the Courthouse and other public buildings at Woodville have been fenced in.

*Postal.*—The Woodville Post and Telegraph Office, in progress at the end of last year, was completed on the 11th April, 1886.

A post and telegraph office has been erected at Waipawa; it was completed on the 9th December, 1886.

## WELLINGTON.

*Government House.*—A new approach has been made to Government House, and a number of improvements made in the grounds.

*Parliament Buildings.*—A few minor additions and improvements have been made during the past year at the Parliament Buildings.

*Mount Cook Prison.*—This building, which is being erected principally by convict labour, has made good progress during the past year. In addition to casuals from the Terrace Gaol, about seventy convicts are regularly employed on the works. The brickwork of the south wing is up 35ft. above the basement, and the second story is in progress. 564,000 bricks, making 1,600 cubic yards of walling, have been placed during the year. The other materials used are—cement, 370 casks; lime, 1,500 bushels; sand, 470 cubic yards; timber, 55 C.B.M.; and iron, 31,000lb. In addition to the quantity used in the building, 982,000 bricks have been disposed of in other works. In all, 1,533,300 bricks have been made by the convicts during the year.

*Hospital and Lunatic Asylums.*—A contract for additions to the Wellington Hospital was entered into on the 24th inst. It consists of a children's ward and accessories, covering a space of 3,000 square feet.

A contract, to connect the hospital, asylum, and soapworks drains with the Adelaide Road sewer, was entered into on 27th May, 1886. The works were completed on the 31st August.

Several alterations and additions have been made to the Mount View Asylum: they consist mainly of a small dormitory and attendants' room.

A contract was entered into on the 11th October, 1886, for the small asylum on the farm at Porirua. It is a one-story building, covering a ground-space of about 7,000 square feet, and containing twenty-four apartments of various kinds. The building was finished on the 11th March, 1887, within contract time.

*Courthouse.*—Alterations have been made in the Wellington Courthouse, to accommodate the Official Assignee in Bankruptcy, and increase the office-room at the Resident Magistrate's Court.

*Police-buildings.*—A two-celled lock-up and a two-roomed office for a constable have been

erected at Eketahuna. A two-celled lock-up has been erected at Paikakariki, and two rooms have been added to the police-station at Carterton.

*Postal.*—A contract was entered into on the 28th January, 1887, for a post and telegraph office at Herbertville. The work is proceeding satisfactorily.

The inner court of the Post Office building, Wellington, has been roofed in with glass, to accommodate the machinery for the electric light.

*Government Printing Office.*—A contract for the Government Printing Office was entered into on the 11th December, 1886, and work began on the 17th January, 1887. Since then fair progress has been made. The building, which is of brick, covers an area of 15,800 square feet, and is three stories high. The bricks for the printing office are supplied from Mount Cook Prison.

#### NELSON.

*Hospital and Lunatic Asylum.*—A new washhouse and laundry and a concrete reservoir have been built at the lunatic asylum, and a new system of drainage for both institutions is in progress.

#### WESTLAND.

*Prison and Police Buildings.*—The new prison at Greymouth was completed on the 8th August, 1886.

Additions have been made to the police-station at Greymouth, and new stations have been provided at Brunnerton and Denniston.

#### CANTERBURY.

*Sunnyside Asylum.*—A contract for the main portion of the central block was entered into on the 1st November, 1886. It includes dining-hall, kitchen, and offices, with corridors connecting the male and female divisions of the building. The work so far has been pushed on with great vigour. All the walls of the ground floor portion are ready for the roof, and those for the two-storied portion are ready for the upper floor joists. The underground tank and artesian well are complete, and the corridor roofs and ceiling joists are in hand.

In addition to the central block a number of improvements have been carried out or are in progress at Sunnyside. A flushing-tank for the main Lincoln Road sewer has been built; and a fence erected along the road near the male division. Six single rooms and a bay window have been built to the female division, and alterations made to the north house. A coal and wood shed has been erected at the laundry, and water laid on. A pumping engine and boiler for the permanent water supply are being made at Addington.

*Courthouse and Prison Buildings.*—A Courthouse has been erected at Geraldine. The lock-up at Rakaia has been removed to a more suitable site, and a stable erected.

#### OTAGO.

*Governor's Residence.*—A small temporary addition was made to Bishop's Court when occupied by His Excellency during his stay in Dunedin.

*Seacliff Asylum.*—So far as can be judged, the settlement in a portion of the building which rests on bad ground has now ceased. The remedies applied seem to be effectual. They consist in draining the ground and increasing the width of the footings for the 25ft. over which the subsidence extended.

A small piece of ground adjoining the railway-station has been bought as a site for gasworks, and a contract is in preparation for the works.

*Courthouse and Police Buildings.*—The Courthouse at Wyndham has been altered and added to, and police stations have been erected at Wyndham and Pembroke. Additions and alterations have also been made to the police quarters at Invercargill.

*Post and Telegraph.*—A new post and telegraph office has been erected at Ophir, and additions made to the buildings at Palmerston and Gore. A house for the Postmaster has been built at Lawrence.

#### MAINTENANCE OF PUBLIC BUILDINGS.

In addition to new works above referred to, and others of a less important character, the public buildings through the colony have been repaired and maintained during the year as usual. In some cases, such as Government House and Mount View Asylum, the work was of considerable extent, the whole of the buildings having been repaired, painted, and renovated.

#### DEFENCE WORKS.

##### GENERAL.

The defence works of the colony have been designed by the military officers, but the surveys and works have hitherto been carried out by the Public Works Department, under the general supervision of the military officers. From this date, however, it is intended that the whole business will be in the hands of the Defence Department. As the greater portion of the work is done, it is believed that the regular defence forces can complete the balance. It is exactly two years since the fortifications were begun.

##### AUCKLAND.

*Fort Resolution.*—This is one of the first forts built hurriedly in 1885. Beyond fitting up the magazine and laying on gas and water, little work has been done during the year.

*Takapuna Head.*—The gun-pits in this battery are finished, and the racers set ready for the gun carriages and guns. All the passages leading from the guns to the magazine and artillery-store are completed. The seaward positions for the Nordenfeldt gun are built, and the cylindrical stands erected. The excavations for the barracks have been made, and the foundations put in, and materials prepared for the building. The ditches round the fort are well advanced. Practically, all

that is now required to finish the works at Takapuna Head is the mounting of the guns, the completion of the ditch, and the erection of the barracks.

*Fort Cautley.*—This battery is all but complete, the only works remaining unfinished being the floors of the wide passages, the completion of the gun-pit, racer, and floor, and some fittings and earthwork.

An electric light has been erected on the North Head, the machinery being placed underground, and protected with masonry and earthwork.

Barracks for the Permanent Artillery, with officers' quarters, have been built on the landward side of the North Head.

*Bastion.*—This fort is built to the same design as the one at Takapuna Head, and the works are in almost exactly the same position. Very little is required to complete them.

*Submarine Dépôt.*—A dépôt for the torpedo and submarine mining service has been built at the North Shore. It consists of office, workshops, three fitting shops, Whitehead torpedo store, and general mine store, with fencing, tramway, turntables, jetty, and other necessary appliances and fittings.

#### WELLINGTON.

*Point Halswell Battery.*—This is the first battery erected during the war-scare in April, 1885. Nothing has been done to it during the past year. Nearly the same remark applies to the other works on the Hataitai Peninsula, for, beyond maintaining roads and a few additions to the barracks, no works have been in progress. The office and store erected at Port Janet have been removed to Kau Bay.

*Point Gordon Battery.*—This battery is built on much the same design as the Auckland ones above described, but it has heavier guns, and more of them. It also is provided with electric search-lights, the machinery for which is underground. The guns are mounted, and some of them have been fired several times. Practically, the whole battery is finished except a few minor works and details, which may be done at leisure.

A jetty has been built in Te Mahanga Bay, near Point Gordon, and close by it are erected a number of buildings for the torpedo and submarine mine service. The most important of them are a slip and shed for the torpedo-boat, and a large store and yard for submarine mines. Men's quarters and sheds for storage of material have been provided, and a gun-cotton pit excavated.

*Kau Point Battery.*—Most of the preliminary work for this battery has been completed, but further action is deferred pending a decision as to the plans.

*Nghauranga Battery.*—At this battery the gun-pits, covered ways, barracks, magazine, and stores are complete, and the guns mounted. The only works remaining unfinished are the southern ditch, look-out station, and a few of the less important details.

*Kaiwarra Battery.*—This battery, erected in 1885, has received no additions during the year, except a four-roomed cottage built for the magazine-keeper.

*Submarine Dépôt.*—A dépôt for the torpedo and submarine mining service, similar to the one at Auckland, has been provided in Wellington. The principal works done during last year were a shed for Whitehead torpedoes and a cable-tank. The floor of the torpedo-shed and fitting-shops were also asphalted, and the tramway extended.

#### LYTTLETON.

*Northern Batteries.*—All the three batteries on the northern side of Lyttelton Harbour are nearly complete, the only work of importance now unfinished being the magazine at Upper Battery.

*Ripa Island.*—The Quarantine Station has been removed from Ripa to Quail Island, to make room for the batteries. The pits for the large guns, together with the connecting-galleries, have been excavated, and the concrete-work is complete. Short lengths of the other galleries connecting the central magazine have also been built, and the excavation for the magazine itself is in progress. The retaining-wall at the north-east end of the island is finished, also about 50ft. of the one at the west side.

#### DUNEDIN.

*St. Clair and Lawyer's Head Batteries.*—Beyond minor additions, nothing has been done during the past year to the works carried out on these batteries in 1885; but the Lawyer's Head Battery is now being supplemented by an 8in. gun. The gun-pit and magazine were begun in December, but, beyond providing plant and materials, nothing has yet been done. A stone quarry has been opened and a tramway made to it, to facilitate the work.

*Ocean Beach Battery.*—This battery is situated on the sandhills at the Ocean Beach, about midway between St. Clair and Lawyer's Head. It is much the same design as the one at Takapuna Head previously referred to. The gun-pits and main galleries are complete, and the open galleries and retaining-wall almost complete. The foundations of the barracks are laid, and those of the magazine are up to floor-level.

*Taiaroa Heads.*—A jetty has been built on the harbour side of the heads, and a tramway laid therefrom to the batteries. A magazine observing station and gun-pit for a 7in. gun have been built and are practically finished, the gun being mounted.

Excavations are made and foundations laid for gun-pit, galleries, and magazine of a 6in. gun, and 500ft. of the parapet at the rear of the forts have been erected.

An observing station in connection with the Channel Battery, built in 1885, has been commenced.

*Submarine Dépôt.*—A dépôt for the torpedo and submarine mine service, similar to those in Auckland and Wellington, is to be provided at Deborah Bay, near Port Chalmers. The site was

first levelled and prepared by piece and day-work, and now the buildings and other appliances are in course of erection by contract. The works are expected to be finished in about a fortnight.

I have, &c.,

The Hon. the Minister for Public Works,  
Wellington.

JOHN BLACKETT,  
Engineer-in-Chief.

### Enclosure No. 1.

SIR,—

New Plymouth, 5th March, 1887.

I have the honour to report on the two most feasible lines of road to connect the District of Taranaki with the central railway-line.

#### MIMI TO TAUMARANUI.

The first I will take is that from the coast at Mimi to the central railway-line at Taumaranui, on the Wanganui, eighty-six miles south of Te Awamutu.

*Length of Road.*—The length of road to make will just be fifty miles. The remaining fourteen to Waitara Railway-station is a good gravelled country road; making in all sixty-four miles from central railway to Waitara, which is distant from New Plymouth eleven miles by rail.

*Main Road to Mangahia.*—From the main road at Mimi to Mangahia, a distance of seven miles, the road will run up the valley of the Mimi, very easy incline, with no hills of any account. Being nearly wholly forest, it will require felling and clearing, which, together with formation and culverts, will cost £3,400. Three small bridges, costing £200, will amount to £3,600 for this section. This does not include gravelling, which will be considered afterwards on the whole length.

*Mangahia to Makarakia.*—From Mangahia to Makarakia is eight miles. On this portion there is a ridge to go over about 500ft. high, but which will be crossed with easy grades. There will be no bridges; but the clearing, formation, and culverts will cost £6,700.

*Makarakia to Waitara (Upper).*—From Makarakia to Waitara (Upper) five miles will be easy work—only one hill of any consequence, in crossing a ridge of 380ft. Above streams, two bridges of 4ft. span will be required; and the cost of clearing, formation, culverts, and bridges of this portion will be £3,500.

*Waitara (Upper) to Heao (12 miles).*—For the first two miles the work will be very moderate, being in good country; but the remaining ten is the heaviest portion of the whole line, and will be costly. The road will have to run up the Tangarakau Gorge for seven miles, with numerous steep papa bluffs to cut through. The grades will be easy, but side-cuttings heavy. To get into Heao, the dividing-ridge (500ft. high) has to be crossed. The work will be heavy, but no difficulty in getting good grades. In the twelve miles there will be five bridges, of from 3ft. to 50ft. spans. Cost of felling, formation, bridges, &c., of this section estimated at £10,800.

*Heao to Wanganui.*—From Heao to Wanganui (nine miles and a half) the line runs principally through open land, and easy country for road-making; but, for the bridging, there will be one of 100ft. span, a 50ft., and three smaller ones. At Ohura, the large bridge, there is a good ford, very shallow, excepting in floods. But in these estimates bridging of all streams has been taken into account. This nine miles and a half would cost £6,000.

*Wanganui to Taumaranui.*—The remaining eight miles and a half to Taumaranui is wholly up the banks of the Wanganui, and, with the exception of occasional bluffs to pass, will be easily made. But the five bridges that will be required bring up the cost to £3,700. To summarize this we have—

	£
Mimi to Mangahia, 7 miles ...	3,600 to prepare for gravelling.
Mangahia to Makarakia, 8 miles ...	6,700
Makarakia to Waitara (Upper), 5 miles ...	3,500
Waitara (Upper) to Heao, 12 miles ...	10,800
Heao to Wanganui, 9½ miles ...	6,000
Wanganui to Taumaranui, 8½ miles ...	3,700
<b>Total ... (50 miles) ...</b>	<b>£34,300</b>

*Gravelling.*—To estimate the gravelling is very difficult, as so little of it has been seen, and a great deal of the country shows no indication whatever of it. In one part, doubtless, stone will have to be taken from the streams and crushed for the road, which makes it rather expensive. But, so as to arrive at something like the cost of a properly-formed coach-road, I take £5 a chain as the price for gravelling—and it is not likely to exceed this. Then—

	£
To form 20ft. wide, bridging, culverting, &c. ...	34,300
Fifty miles of gravelling, at £400 per mile ...	20,000
<b>Total cost ...</b>	<b>£54,300</b>

*Area and Quality of Land.*—The line, for the first four miles after leaving the main road at Mimi, runs through a block of Native land, subdivided by the West Coast Royal Commission into allotments of from fifty to five hundred acres, which, if the road were made, would doubtless be soon occupied, as the land is good, and a great deal of it suitable for small settlers. From thence to the confiscation-line, a length of nineteen miles by the suggested road, is Crown land; and, taking a belt of ten miles, five on each side, we have 72,000 acres, of which 10,000 acres would be well

suited for small holdings up to 320 acres. The soil is generally good, and the timber is of the kind usually in this district—tawa, pukatea, rimu, &c. There are only a few patches of black-birch in this area, which parts alone would be unfit for pastoral purposes. The next seven miles runs through an intensely rugged country—steep razor-backed ridges, covered with black-birch. Of the ten-mile belt, comprising about 64,000 acres, 42,000 acres may be considered useless for settlement purposes, 2,000 acres only suitable for small holdings, and 20,000 acres for pastoral purposes. There are several outcrops of coal in this section, and it is, without doubt, part of the coalfield now being worked at Mokau. The timber (black-birch) is here very fine, and will be useful for bridge-work and other purposes when made accessible. This length runs entirely through Native land. About half of the area of 64,000 acres is under negotiation to purchase by the Government, the remainder being in the Rohe Potae or King-country Block. The next nine miles, to Wanganui River, is entirely through the Rohe Potae Block. The country is mostly open, and the soil good: 25,000 acres is agricultural land, and 35,000 acres good pastoral. The remaining nine miles, running up the valley of the Wanganui to the central line at Taumaranui, is through a country mostly covered with pumice, that may eventually be used for large runs, but it will not carry much stock.

#### STRATFORD LINE.

The other route for a line of road would be from Stratford, passing up through the centre of the district for forty-seven miles from Stratford, and striking the Mimi line, already described, at Tangarakau. From there on to the central line at Taumaranui, a distance of twenty-six miles, it is the same line as that of the road from Mimi. This makes seventy-three miles from Stratford to central line.

*Stratford to Confiscation-line.*—On leaving Stratford the first six miles and a half is through private holdings. The road has been felled and partly formed, but would require an expenditure of some £1,200, widening the clearing, renewing the culverts, and one small bridge, so as to prepare it for gravelling.

*Confiscation-line to Pohokura.*—From the confiscation-line to Pohokura, twenty miles and a half, the line is favourable to road-making; and, with the exception of crossing a low saddle between Makuri and Mangaotuku Streams, there will be no hills. Five bridges will be required—four from 40ft. to 60ft. spans, and one 30ft. The cost of this section, to form 20ft. wide, bridging and culverting, &c., £10,700.

*Pohokura to Tangarakau.*—Pohokura to Tangarakau, twenty miles. The work on this portion is heavier than the last section, as the line has in a great measure left the valleys running in the direction of its course to cut across the lay of the country. Then there will be seven bridges on this section, from 30ft. to 50ft. spans, and the total cost, except gravelling, will be about £15,800.

This brings us to the line from Mimi, already described, and from this forward the course is common to both lines. The next eight miles is identical with the latter part of the twelve-mile section, Waitara to Heao, described in the Mimi route. It will be very heavy work, as previously stated, and the probable cost of the eight-mile section is £8,500.

*Summary.*—To summarize the foregoing, and the latter portion of the line given before, we have—

	£
Stratford to confiscation-line, 6½ miles	1,200
Confiscation-line to Pohokura, 20½ miles	10,700
Pohokura to Tangarakau, 20 miles	15,800
Tangarakau to Heao, 8 miles	8,500
Heao to Wanganui, 9½ miles	6,000
Wanganui to Taumaranui, 8½ miles	3,700
	<hr/> £45,900

*Gravelling.*—With regard to gravelling, the remarks made on the Mimi line will apply; and consequently the same rate of £400 a mile will be used. Then—

	£
To form 20ft. wide, bridging, culverting, &c.	45,900
Seventy-three miles' gravelling, at £400 per mile	29,200
	<hr/> £75,100

From Stratford to Taumaranui

*Quality and Area of Land.*—The road leaving Stratford runs, as before stated, for the first six miles and a half through the settled district to the confiscation-line. Then the proposed line passes through three Native Land Court blocks in the hands of Europeans—viz., Toko, 16,340 acres, seven miles; Hurakawa, 8,540 acres, five miles and a half; and Pohokura, 29,500 acres, five miles and a half; and two miles and a half through the Government Block, Mangaotuku. The twenty-one-mile section is all covered with forest, but runs through a considerable area of first-class land in the private blocks. Taking a ten-mile belt, as in the case of the former route, we have about 110,000 acres. Of this, 47,000 acres is Crown land, with about 10,000 acres of it fit for small holdings. The remainder may be classed as fair pastoral; but there will possibly be found some fit for ordinary settlement amongst it. Sixty-three thousand acres are in private hands, a large proportion of which is really first-class. The timber is that common to the district, and the pines, both rimu and white-pine, of fine quality and size, but, as usual in the district, rather scattered. From Pohokura to Tangarakau we have some 128,000 acres, of which only 14,000 acres are Crown land, the balance being Native land under negotiation for purchase. The Crown land is some distance from the line, which passes entirely through Native land. The principal part of this is only fit for runs; but along the valleys there are some flats of small extent; and at Tahoraparoa, the northern end, there

are three or four thousand acres of good land fit for settlement. This latter will be made accessible by either line, as it is close to the junction of the proposed routes. The remaining portion to Taumararui is fully described in the report on the Mimi line, so that it will be unnecessary to repeat it here. It commences at the sentence, "The next seven miles runs through an intensely rugged country," &c.

#### COAST LINE, MOKAU TO TE KUITI.

There is one other route to the central railway-line—that is, along the coast past Mokau to Awakino, forty-one miles from Waitara—twenty-seven miles of which would have to be made, but five miles only very heavy work—that is, all hill, with grades from 1 in 12 to 1 in 20. The establishment of ferries at Tongaporutu, Mohakatino, and Mokau would obviate the necessity of bridging these rivers, which would be a very heavy item.

*Awakino to Totoro.*—From Awakino to the coast the line would run over the range Taumata-maere for ten miles, five of which would be heavy work. This is all forest; but the next five, to Totoro, on the Mokau, is in the open, and would be comparatively easily formed. There will be only two bridges of any consequence.

*Totoro to Te Kuiti.*—From Totoro to the central line at Te Kuiti is thirty miles, open, and at this end first-rate limestone country. The road on this length would be easily made, there being no serious obstacle the whole length.

*Length of Road.*—Waitara to Awakino, 41 miles; Awakino to Totoro, 15 miles; Totoro to Te Kuiti, 30 miles; total, 86 miles.

Along this route about 60,000 acres of Crown land would be made available: but a very small proportion of it could be utilized for settlement purposes, as the general character of it is rough.

I have not made an estimate of this line, but should you require it I can give one. In conclusion I may state that I believe my estimates on either the Stratford or Mimi lines would not be exceeded, as the prices used for the felling, clearing, earthwork, and bridging have been the full rates.

I have, &c.,

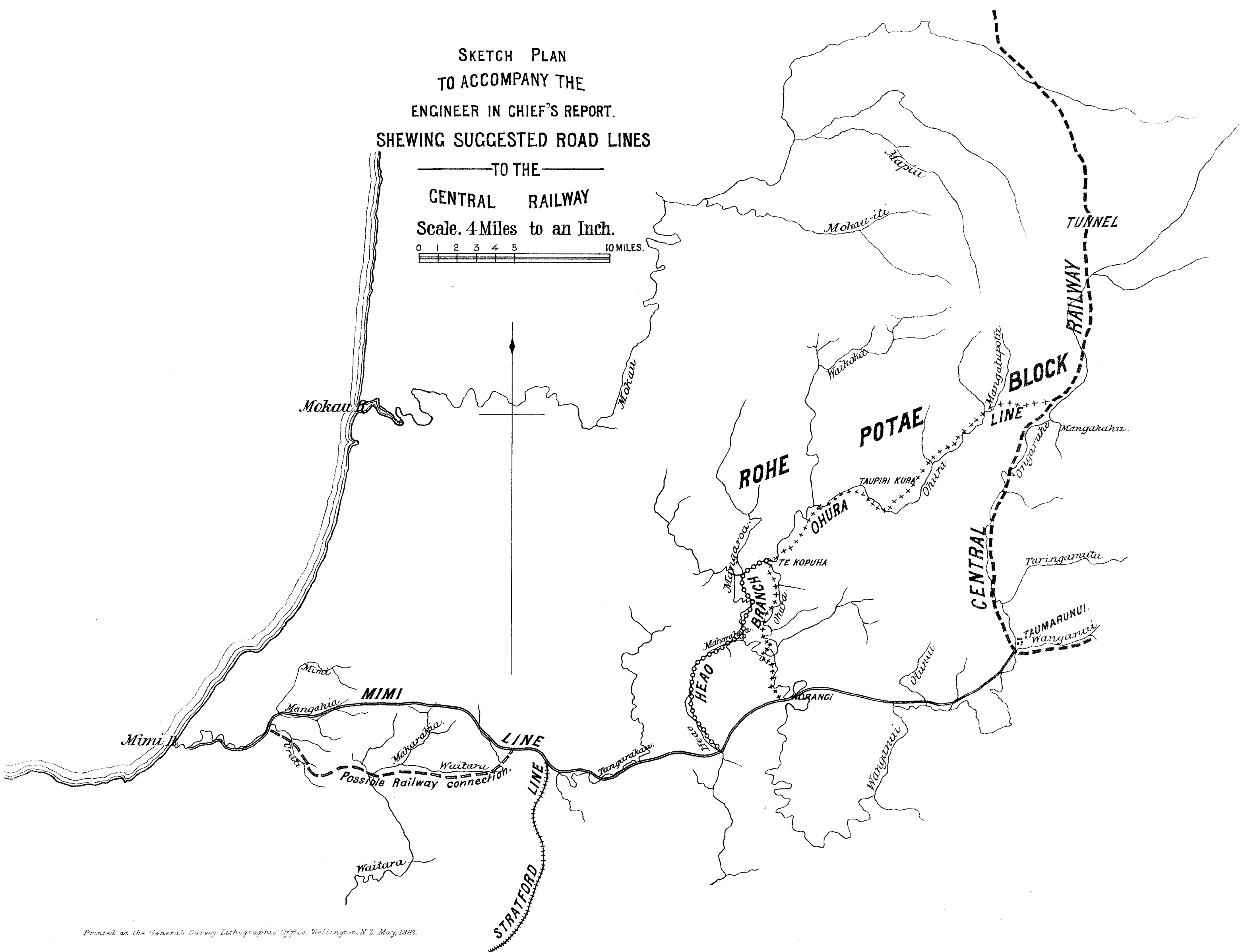
H. M. SKEET,  
Assistant Surveyor.

T. Humphries, Esq., Chief Surveyor, New Plymouth.



SKETCH PLAN  
TO ACCOMPANY THE  
ENGINEER IN CHIEF'S REPORT.  
SHEWING SUGGESTED ROAD LINES

— TO THE —  
CENTRAL RAILWAY  
Scale. 4 Miles to an Inch.  
0 1 2 3 4 5 10 MILES.





## APPENDIX K

### ANNUAL REPORT ON LIGHTHOUSE WORKS, ETC., BY THE MARINE ENGINEER.

The MARINE ENGINEER to the SECRETARY, Marine Department.

SIR,—

Marine Department, 31st March, 1887.

I have the honour to forward, for the information of the Hon. the Minister having charge of the Marine Department, the annual report on works executed for new lighthouses, and on other works during the year.

*Cuvier Island.*—The lantern and lighting-apparatus for this lighthouse has been received in New Zealand. I was on the point of starting from Wellington for Cuvier Island to lay off the reserve for the lighthouse and the sites for the tower and dwelling-houses, &c., when I received an order to proceed south to Oamaru, to inspect and report on the damage to the breakwater at that place, and since that time no favourable opportunity has occurred to visit Cuvier Island.

*Removal of Snags from the Mokaui River.*—A further sum of £500 having been voted for this work, a party was despatched about the end of December to continue the work reported on last year. The work is going on favourably, and will probably be finished, as far as the funds will allow, about the end of April.

*Jackson's Head Beacon.*—This work is practically finished, and the working-party are expected to return in a few days. The beacon consists of a solid tower of concrete, well bonded, about 40ft. high above high-water level, with a diameter of 17ft. at the base and 11ft. at the top. This is surmounted by a stout handrailing of wrought-iron, and by a central staff 12ft. high, on which is a "cage" of wrought-iron 5ft. in diameter.

The masters of vessels trading coastwise speak highly of the efficacy of the structure as a beacon to guide them safely through the channel between it and the mainland of Jackson's Head.

*Toi-toi Harbour.*—As instructed, I visited this harbour in January, and spent some days inspecting the River Mataura and the entrance to it at the Heads. A special report on this inspection will be forwarded to you in a few days.

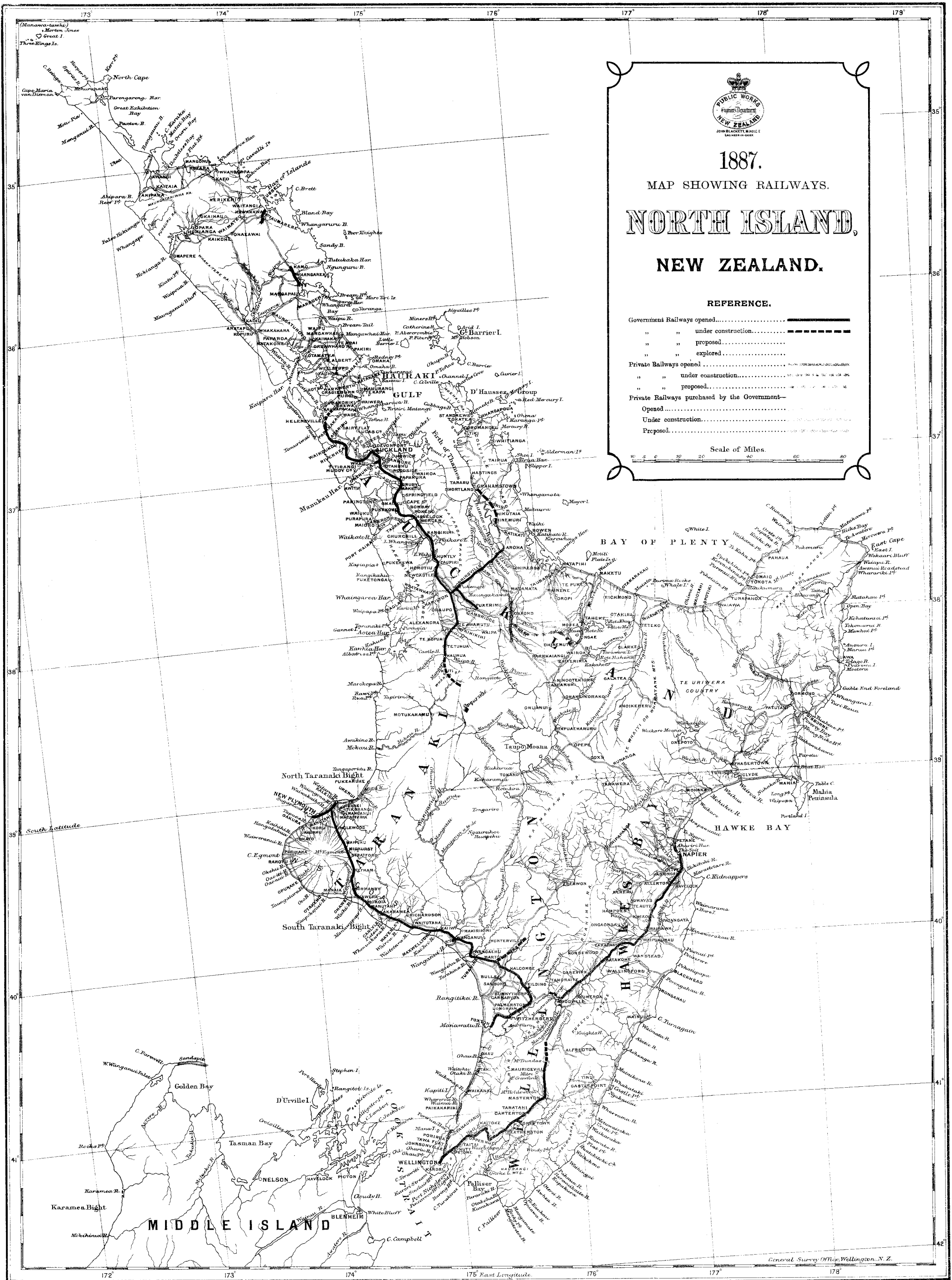
*Bluff Harbour, Mid-channel Rock.*—After inspecting the Toi-toi Harbour I proceeded to the Bluff, for the purpose of examining the Mid-channel Rock, as directed. On this subject you will also receive a special report.

I have, &c.,

JOHN BLACKETT,  
Marine Engineer

The Secretary, Marine Department.





1887.

MAP SHOWING RAILWAYS.

# NORTH ISLAND, NEW ZEALAND.


## REFERENCE.

Government Railways opened.....	—————
" " under construction.....	—————
" " proposed.....	.....
" " explored.....	.....
Private Railways opened.....	.....
" " under construction.....	.....
" " proposed.....	.....
Private Railways purchased by the Government—	
Opened.....	.....
Under construction.....	.....
Proposed.....	.....

Scale of Miles.







1887.

MAP SHOWING RAILWAYS.

# MIDDLE ISLAND,

## NEW ZEALAND.

REFERENCE.

Government Railways opened.....

    "    "    under construction.....

    "    "    proposed.....

    "    "    explored.....

Private Railways opened.....

    "    "    under construction.....

    "    "    proposed.....

Private Railways purchased by the Government—

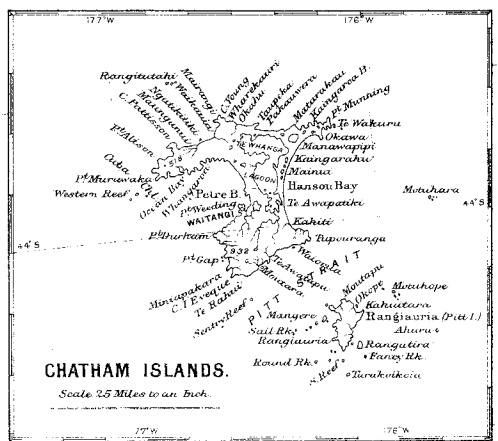
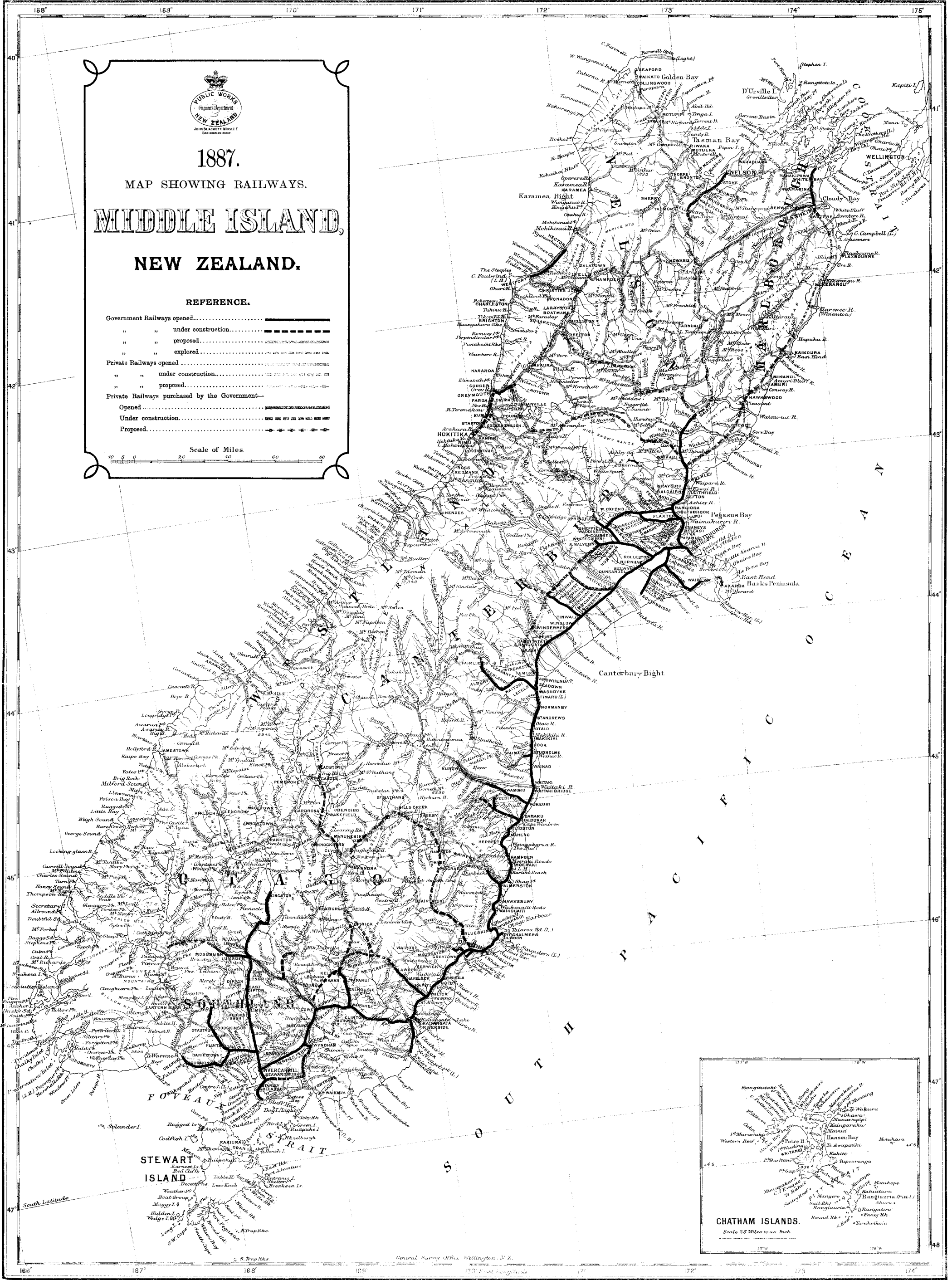
    Opened.....

    Under construction.....

    Proposed.....

Scale of Miles.

10 20 30 40 50

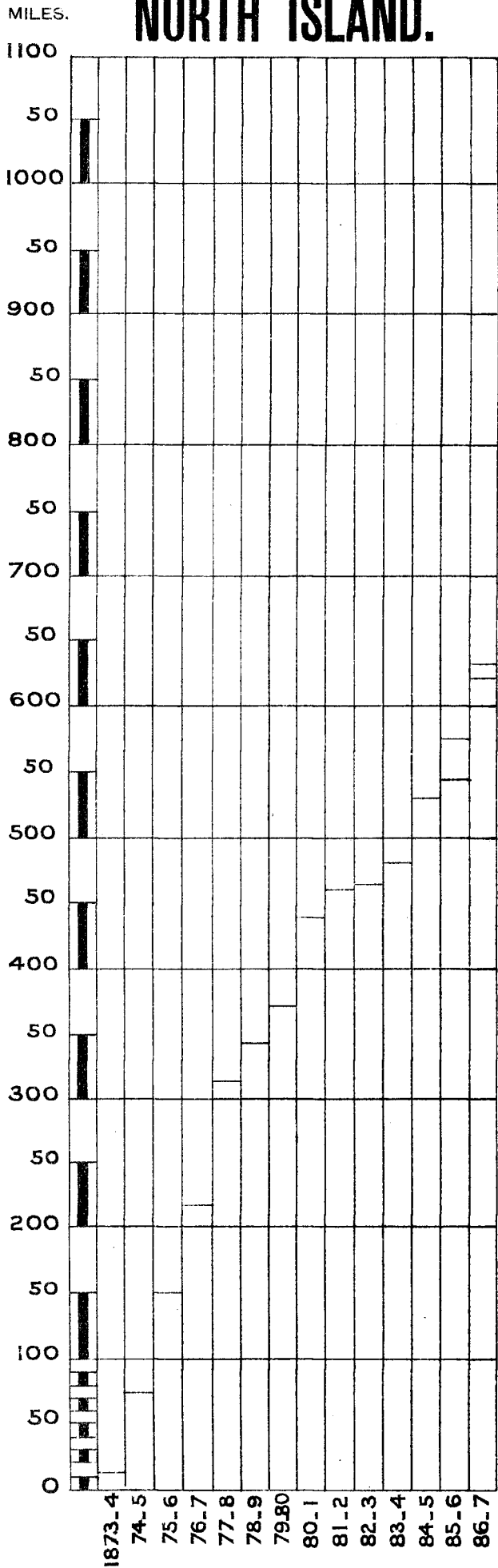




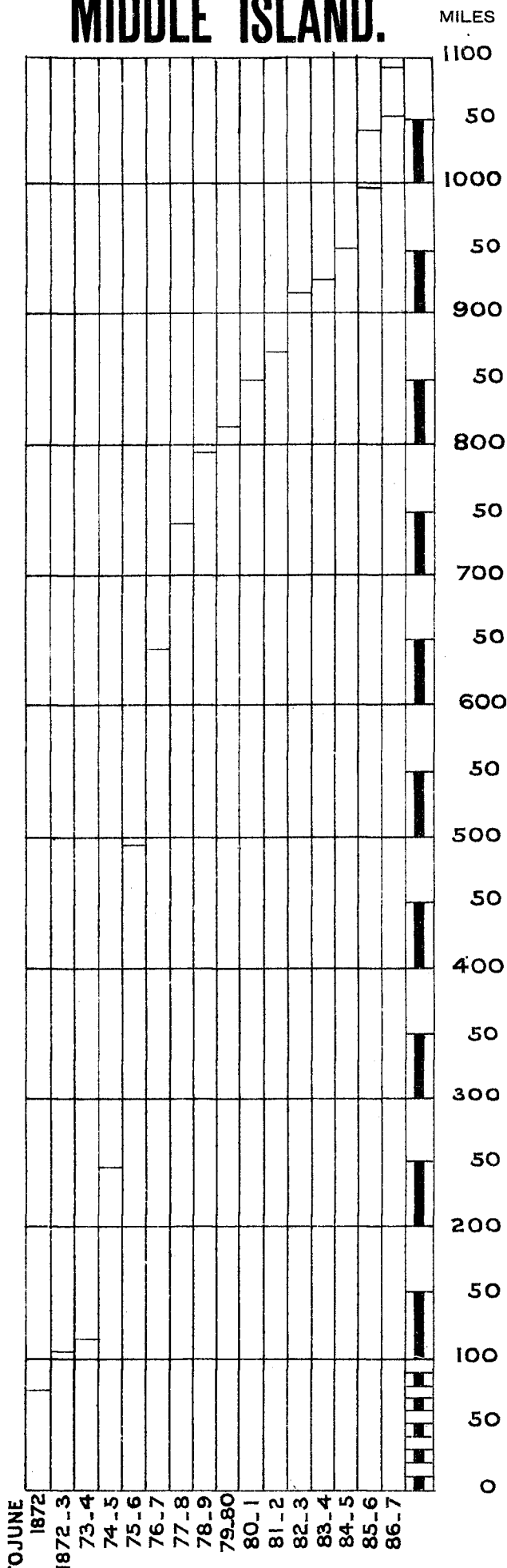


Number of Miles open  
of  
Government Lines.

NORTH ISLAND.



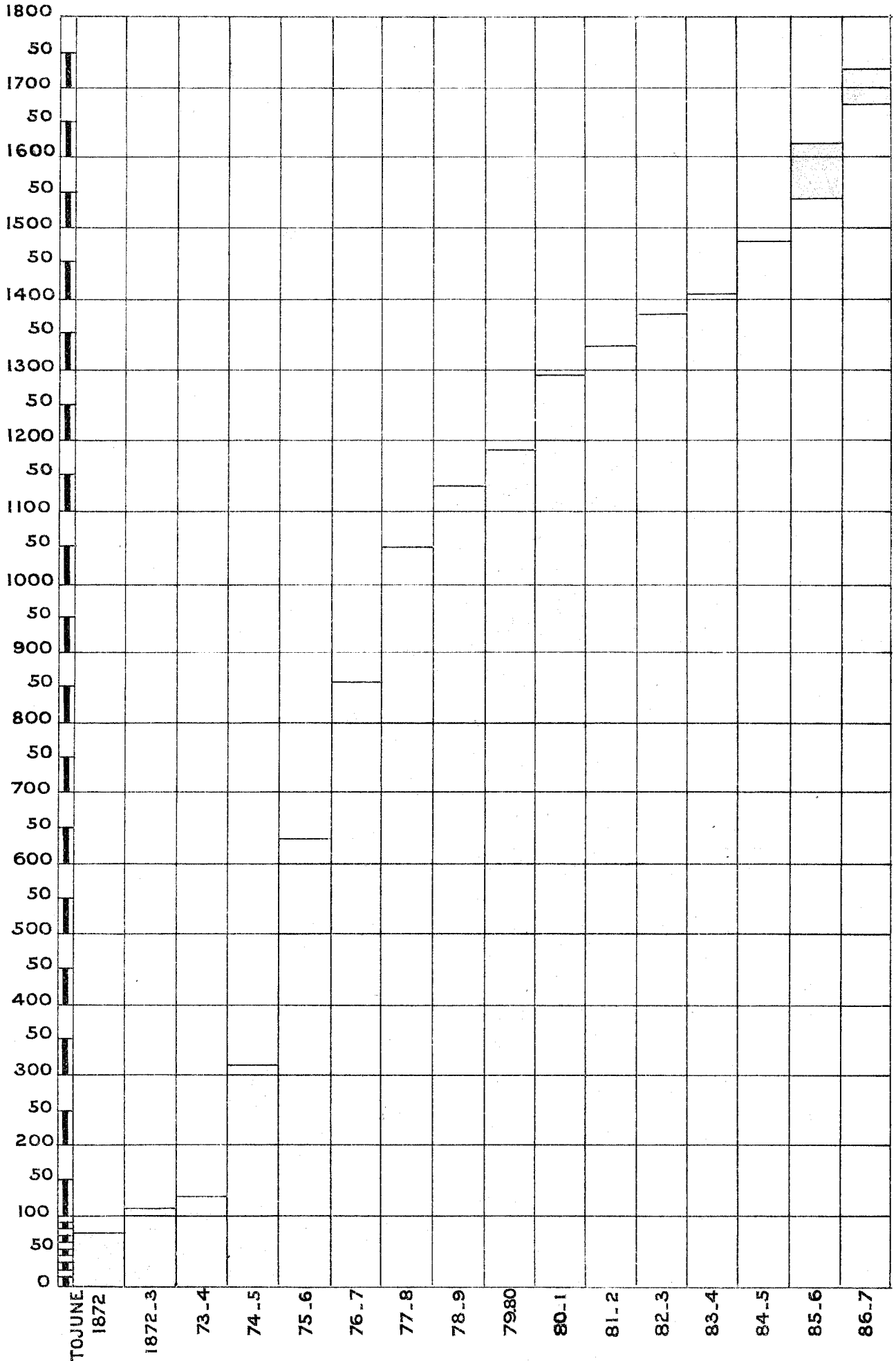
MIDDLE ISLAND.





# Number of Miles open of Government Lines,

MILES. **North and Middle Islands combined.**









[illegible]

\* This comprises 12m. 70ch. of railway constructed by Government and 30m. 60ch. of line constructed by private company under the District Railways Act, and afterwards purchased by the Government.

4. This comprises 48 mi. of railway constructed by Government and 10 mi. 000 ft. to be constructed by private company under the District Railways Act, and afterwards purchased by the Government.

TABLE of LENGTHS of GOVERNMENT LINES AUTHORIZED, CONSTRUCTED, and SURVEYED, up to 31st March, 1887.

## MIDDLE ISLAND.

Appropriation.	Name of Line.	Mileage.	Subdivision.	Main Line.	Sidings.	Total.	Sur- veyed.	Under For- mation.	Under Plate- laying.	State of Line.																	Total.			
										Opened.																				
										Date.	12 June, 1872.	13 M. ch. 1872-73.	14 M. ch. 1873-74.	15 M. ch. 1874-75.	16 M. ch. 1875-76.	17 M. ch. 1876-77.	18 M. ch. 1877-78.	19 M. ch. 1878-79.	20 M. ch. 1879-80.	21 M. ch. 1880-81.	22 M. ch. 1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.				
Nelson - Greymouth	2 Nelson - Roundell, with extension to Hope Junction	3 M. ch. 70 10	4 Port Extension Nelson-Foxhill Belgrove Wai-iti Surveyed Trial survey Roundell-Hope Junction, Trial Survey Greymouth-Brunner- ton	5 M. ch. 1 0	6 M. ch. 2 52	7 M. ch. 25 45	8 M. ch. ..	9 M. ch. ..	10 M. ch. ..	11 17 May, 1880 31 Jan., 1876 25 July, 1881	12 M. ch. ..	13 M. ch. ..	14 M. ch. ..	15 M. ch. ..	16 M. ch. 18 73	17 M. ch. ..	18 M. ch. ..	19 M. ch. ..	20 M. ch. ..	21 M. ch. 1 0	22 M. ch. 3 0	23 M. ch. ..	24 M. ch. ..	25 M. ch. ..	26 M. ch. ..	27 M. ch. ..	28 M. ch. ..			
				18 73	2 52	25 45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
				3 0	0 20	2 67	2 47	2 47	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
				2 47	..	17 9	17 9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
				17 9	..	9 31	9 31	Prelim.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
				9 31	..	18 10	18 10	Prelim.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
				18 10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
				7 50	3 48	11 37	..	..	..	7 April, 1876	..	..	..	..	..	..	..	7 50	..	..	..	..	..	..	..	..	..	..	..	..
				0 5	..	..	..	..	..	1 Feb., 1881	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
				0 4	..	..	..	..	..	14 Mar., 1881	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
				0 10	..	0 49	7 45	0 49	..	1 Sept., 1885	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Westport- Ngakawau	Westport - Ngaka- wau	19 63	Station Westport Waimangaroa Ngakawau Survey of Extension Greymouth-Teremakau Teremakau-Arahura Arahura-Hokitika Extension to Hoki- tika Wharf	0 29	..	..	..	..	..	17 Dec., 1878	..	..	..	..	..	6 20	..	..	0 29	..	..	..	..	..	..	..	..			
				0 29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				0 29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				0 29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				0 29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				0 29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				0 29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				0 29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				0 29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
				0 29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
				0 29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Picton - Hurunui	Picton-Awatere ..	34 40	Picton-Blenheim Blenheim Vernon Contract Dashwood Contract Surveyed Surveyed (trial) Kahautera-Waiau Reconnaissance Culverden-Hurunui Hurunui-Medbury Medbury-Waikari Waikari-Waipara Waipara-Amberley Amberley-Ashley(part) Ashley-Rangiora Rangiora-Southbrook	16 51	3 6	20 79	..	..	..	18 Nov., 1875	..	..	..	16 51	..	..	..	..	1 22	..	..	..	..	..	..	..	..			
				1 22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				4 40	..	4 40	..	4 40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				3 40	..	3 40	..	3 40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				2 50	..	2 50	2 50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				2 50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				5 77	..	5 77	5 77	Prelim.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				26 15	..	26 15	26 15	Prelim.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
				13 30	..	13 30	13 30	Prelim.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
				9 50	1 2	10 52	..	..	..	9 Feb., 1886	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
				196 37	..	..	..	..	..	9 Feb., 1886	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Hurunui- Waikari, with Branches	Main Line	23 0	Hurunui-Medbury Medbury-Waikari Waikari-Waipara Waipara-Amberley Amberley-Ashley(part) Ashley-Rangiora Rangiora-Southbrook	1 14	..	..	..	..	..	9 Feb., 1886	..	..	..	..	..	..	..	..	..	..	..	..								



Southbrook-Kaipoi	5 1	2 Sept., 1872	11 68	5 1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
-------------------	-----	---------------	-------	-----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

\* In these cases the dates given are the dates on which the railways became the property of the Government.

[illegible]



