

MISCELLANEOUS SURVEYS, ETC.

A sum of £8,299 was expended in the numerous classes of work that do not exactly admit of tabular classification, but which works are in themselves of great importance. Of this description of work, field inspection, reports, engineering surveys, explorations, and odd surveys not included in other classes are the principal.

BOARD OF EXAMINERS FOR SURVEYORS.

During the year six meetings of the Board were held, at which eleven new applications for certificates and for permission to sit for examination were disposed of. Two examinations have been held—in March and September—as usual, at which twenty different candidates sat, in some cases at both examinations.

Eleven different certificates of authorisation have been issued, as follows: F. J. Harrop, L. Reynolds, T. M. Grant, L. F. Webb, C. F. Dowsett, L. Hunt, J. R. Mackay, S. S. Springall, R. W. Watson, G. Rochefort and C. Kain.

MAGNETIC SURVEY.

As indicated in last year's report, a commencement had then been made with this important survey, and its operations have been continuous throughout the year under Mr. C. Coleridge Farr's guidance. Since the survey commenced in February, 1899, observations of the declinations (or variation), horizontal intensity, and dip, have been made at eighty-five stations, extending up the east coast of the Middle Island, and at Wellington, and thence along the north and west coasts of the Middle Island to Makawhio, south of Hokitika, from which place the chain was connected on to the East Coast station *via* the Haast Pass.

The general results of Mr. Farr's observations are given in his report, attached. The immediate and most important object in the series of observations now completed was the determination of the best site for the permanent magnetic observatory. The observations go to prove that Christchurch is the most suitable position. The instruments for the observatory are being constructed in London under the kind supervision of Dr. Charles Chree, F.R.S., Superintendent of the Kew Observatory, and Professor A. W. Rücker, F.R.S. It is anticipated that the instruments will arrive in the colony within a few months, and then the sooner they are in position the better, for it is a matter of considerable importance that the observatory should be in full working order by the time the British Antarctic Expedition starts, early in 1901.

Some of the results, of interest to the nautical part of the public, have been published in the *New Zealand Gazette*; but any results for scientific purposes must await more leisure on behalf of the observer, and after the permanent observatory is in full working order.

ROADS AND BRIDGES.

From year to year the number of items on the appropriations for roads and bridges increases. Last year they numbered 1,744, as against 1,376 the previous year. All of these items are expended by authority of the Minister of Lands, and the works mainly carried out by the officers of the Lands and Survey Department, either directly or through the local bodies. The sum voted last year was £549,725, against which contracts might be entered into, and £424,445 was the sum that could be expended, exclusive of the expenditure under the Land for Settlements Acts, which amounted to an additional £12,410.

A portion of the votes for roads, &c., under the control of the Minister of Mines, amounting to £11,462, has also been expended under the direction of officers of this department.

The actual expenditure under the above votes and Acts was £292,587, out of which the local bodies expended £51,014 under agreements with the Government, the specifications and plans having first been approved by officers of the department.

The following is a summary of the works of construction performed, further details of which will be found in the Appendices:—

District.	Constructed.	Widened and Improved.	Maintained.	Cost, including Engineering and Bridges.
	Miles.	Miles.	Miles.	£
Auckland	437	352	937	76,283
Hawke's Bay	79	5	265	33,057
Taranaki	97	18	251	28,425
Wellington	145	49	860	61,339
Nelson	18	29	284	11,947
Marlborough	87	52	33	20,372
Westland	7	52	118	13,564
Canterbury	20	5	75	7,925
Otago	28	63	75	20,679
Southland	75	4	47	14,655
General	5	15	100	4,341
Totals—				
Dray-roads	627	492	2,078	...
Bridle-roads	371	152	967	...
Totals	998	644	3,045	292,587