

that of meridional circuit about £2,000, consuming nearly two years for one party, or one year for two parties; but it has a special advantage in point of time over and above this, in its being applicable at once in any district where claims for settlement are most urgently demanded. The cause of this is that true meridians may be observed at once wherever wanted, and the standard work extended from these to the settlements in the vicinity.

This being done, then all future actual section surveys would require to be sent in to the office with maps and tables complete in mathematical reduction. This would give to the surveys of this province a status co-equal with the most approved systems for settling an inflowing people.

On the mode of keeping and recording maps, I advised that all working plans be of a small size, kept flat, and placed in folios free from dust under a system of nomenclature and numbering, for ready and easy reference. Crown grant index maps—scale twenty chains to an inch—should also be prepared, on which all Crown grants passing the office should be recorded by colour as well as by number and name of grantee. Reference index maps should also be prepared—scale eighty chains to an inch—to be hung under glass in the corridor, in which the number of all applications should be given, bordered with colour where applied for, and distinctly washed with colour when sold and surveyed. By being under glass these maps would be kept clean, and by means of the colour settlers would readily distinguish the sold from the unsold land, which is not the case at present, and so much trouble is given to the officers as well as to the public. These index maps being accessible outside of the office would be time and patience saving to all concerned. If the regulations permitted it, I would also not require the survey draughtsman to draw up the written descriptions. They are of little value, the diagram in application map being the real object for surveyors' direction.

I noted also, as stated before, that the surveyor now comes into the office from the field to get a draughtsman to plot for him. This I conceive to be double work for one duty, which the surveyor should perform for himself. Under mathematical traverse reduction this office surveillance will not be necessary, field test and inspection serving all the purposes of checking errors and omissions before the maps come to the office for approval and record.

I noted the following remarks on the mode of employing surveyors, viz.:—Contract surveyors have been much employed. On inquiry I find that these officers have occupied positions under much the same arrangements as the licensed surveyors of New South Wales: that is, they are paid by acreage rates, and have districts permanently allotted to them. To this system, by my own experience of it, I see many and great objections of several kinds, some of which may be briefly enumerated. It has the effect of upsetting the salaried staff officers; of creating doubtful rights relating to work performed, much of which has to be done in advance of settlement, and so at the expense of the contractor; life claims are thus created, and ultimately vested rights in office of more or less value. It creates an independence above control, and a power in the surveyor to withhold records that are essential to the safety of landholders or purchasers. At best, this class of officers are difficult to deal with, and I would advise that such arrangements be avoided; further, being only semi-official, they may act as land agents, and thus create uneasiness in land transactions on the part of the public.

But on the contrary, I would respectfully press on the Government the propriety of encouraging contracting surveyors in the common meaning of the term—that is, surveyors capable of undertaking contracts for specified work to be completed within given terms and for given amounts. As these contracting surveyors can never set aside entirely their professional character, they should only be admitted as competent to tender for contracts on the recommendation of the Chief Surveyor, which should also be approved of by the Government.

There are numbers of private surveyors known to me, men of skill and integrity, who do not find it convenient to enter the salaried staff, but who will gladly undertake contracts. Such surveyors, if employed, would largely help in the work of settlement survey, by asking their tenders for any work that is capable of being specified and inspected, such as triangulation, major or minor topographical block and section survey, or surveys of stated areas enclosing certain sections.

By doing so, the Government would relieve itself of much responsibility, as the permanent staff could be kept at a low strength.

What work contractors cannot do, but which must be retained in the hands of the official staff, who are held to be in the interests of the public, is comprised in the higher branches of the standard operations; and in the survey and marking out of free selections, where roads, tracks, river frontages, ferry sites, village sites, water-holes, timber, stone, and other reserves require special and responsible attention.

The maintenance of a salaried staff for these purposes will always afford a nucleus for the Government to draw upon, when extra pressure for settlement surveys comes, and I may suggest that to dispense with such a body would be impolitic. An arrangement by which half the work would be done by contract, half by the staff, or nearly so, would be, I believe, advisable and satisfactory.

The following is a synopsis of work done in Canterbury, the nature and professional value of the different operations, and a comparative view of the work in hand:—

	Acres.	
Minor triangulation ...	3,000,000	On magnetic meridian mechanically plotted, but coast triangulation mathematically reduced.
Spotting section survey ...	2,014,696	Mechanically plotted.
Surveys in hand ...	150,000	In numerous localities, spreading over 240 miles in length and 60 miles in breadth.

On completing my inspection of the surveys of Canterbury, I returned to Wellington *via* Dunedin, where I was detained on the service of the Waste Land Board. It was thus not till September that I could proceed to other provinces. I arrived at Blenheim, the chief town of Marlborough, on the 9th of that month. On calling upon Mr. H. G. Clarke, the Chief Surveyor,