

CORRESPONDENCE

RELATIVE TO THE

ESTABLISHMENT OF AN OBSERVATORY,

FOR THE PURPOSE OF AFFORDING A CORRECT MEAN TIME
THROUGHOUT EVERY PART OF THE COLONY.

PRESENTED TO BOTH HOUSES OF THE GENERAL ASSEMBLY, BY COMMAND OF
HIS EXCELLENCY.

WELLINGTON.

—
1870.

CORRESPONDENCE RELATIVE TO THE ESTABLISHMENT OF AN OBSERVATORY.

No. 1.

The Rev. Mr. Stock to the Hon. the POSTMASTER-GENERAL.

MY DEAR MR. HALL,—

Government Buildings, 19th October, 1868.

I have, as you perhaps know, charge of the Wellington Time Ball. As the meridian post is hidden by the Telegraph Office, I cannot now give chronometer time. I have asked the Provincial Council to grant me a sum for erecting an Observatory; the sum required would be not more than £250 at the very outside. On my own responsibility I venture to ask if you could manage to procure for me the necessary funds. The Provincial Council have no funds at their disposal to carry out their grant. The place I have chosen is the best in Wellington, near the jail, for quiet security of never having the meridian posts hidden.

If this were done, time-balls could drop from ours at each port. The ball gear is not expensive. I need hardly say that Wellington, being the centre of the telegraph system, is the best place for the Observatory, which would have to use the telegraph wires. I enclose a sketch and plan of the Observatory I should like to see erected. It is a grief to me to have the splendid instruments in my charge rendered almost useless, and quite useless for the original intention.

I have, &c.,

The Hon. J. Hall, Postmaster-General.

A. Stock.

No. 2.

The Rev. Mr. Stock to the Hon. the POSTMASTER-GENERAL.

MY DEAR MR. HALL,—

Time Ball Observatory, 19th October, 1868.

I omitted in my hurried note this morning to state as an additional reason for my request that I have for a long while given time to the telegraph stations of the General Government, and twice, at the request of the Surveyor, true time to the West Coast Survey. I can get at this by observing a North and South star, when both stars are visible. I was thinking of work which might be done, not of what has been done.

I have, &c.,

The Hon. John Hall, Postmaster-General.

A. Stock.

No. 3.

Dr. HECTOR to Mr. GISBORNE.

Geological Survey Office,

MEMORANDUM FOR MR. GISBORNE,—

Wellington, 18th November, 1868.

I think that the General Government should take over the transit instruments and other apparatus from the Provincial Government, and establish an Observatory permanently, for the purpose of giving time by telegraph throughout the Colony. The site proposed by Mr. Stock is too remote from the other public offices, and I would recommend, as the most eligible site, a knoll on the ridge behind the Cemetery, opposite to Bolton Street. This site is within the reserve for the Church of England Cemetery, but not within that portion already consecrated and used as a burial-place, so that I do not anticipate that there would be any difficulty in getting immediate possession of the site, and it might hereafter be permanently secured by being included in the Schedule of the Public Domains Act.

I have consulted with Mr. Stock, and he has expressed his willingness to continue to superintend the Observatory when removed to the site I propose, if he can have assistance from my department in performing the periodical mechanical duties. Mr. Stock is also willing to superintend the removal and readjustment of the instruments, which is a work requiring great skill and practical familiarity with their use.

I have also arranged with Mr. Stock as to the best plan for the new Observatory, in which I wish also to establish the meteorological instruments; and if erected according to the plan we have agreed on, the total expense will not exceed £200, and may perhaps be kept within £150. The Postmaster-General has undertaken to provide part of the funds, and also to make the necessary telegraphic connections, in consideration of the Telegraphic Department being regularly provided with the correct time every week-day, for transmission to the various stations throughout the Colony.

The Provincial Secretary informs me that, if applied to, the Provincial Government will be glad to make over the instruments to the General Government at once, at the same time naming a reasonable portion of the original cost as their present value, which it is to be understood will be repaid to the Province, if a vote can be obtained from the Assembly for that purpose.

If the above proposition meets with the approval of Mr. Stafford and Mr. Hall, it will be necessary—

1st. To communicate with the Cemetery Trustees or the Archdeacon, as to obtaining immediate use of the site, and right of access to it, with the material for the construction of the Observatory.

2nd. To communicate with the Provincial Government, proposing that the instruments should be handed over on the above terms.

3rd. That authority be granted for the necessary expenditure, and that the Clerk of the Works be directed to communicate with myself or Mr. Stock on the subject.

JAMES HECTOR.

As the General Assembly has directed New Zealand mean time to be kept throughout the Colony, some provision for ascertaining that time with exactitude is indispensable. The arrangement here suggested seems as good as can be made. I am prepared to pay £150 from the Telegraph vote for the erection and fitting up of the necessary buildings, &c., on the conditions stated in this Memorandum, and on the distinct understanding that if at any time the Colonial Government ceases to be furnished with the correct time as provided in this Memorandum, it shall be at liberty to remove the buildings. I would suggest that Dr. Hector be requested to communicate with the Cemetery Trustees, with the view of obtaining their consent to the occupation of the site indicated, and on this being done the buildings be proceeded with.

J. HALL.

Referred to Dr. Hector for the purpose suggested by Mr. Hall.
November 28th, 1868.

E. W. STAFFORD.

Referred to Mr. Stock.—J. HECTOR.

No. 4.

Dr. HECTOR to the Hon. the COLONIAL SECRETARY.

Geological Survey Office,
Wellington, 5th July, 1870.

SIR,—

I have the honor to report the establishment of the Observatory for the purpose of affording a correct mean time throughout every part of the Colony reached by the telegraph system, in accordance with the resolution of the House of Representatives in 1868.

The building is erected on a site granted by the Trustees of the Church of England Cemetery, and is situated within easy reach of the Government Offices, and at the same time removed from all sources of vibration, or chance of having the view from it interrupted in any direction by future buildings.

The cost of the building and fitting up the instruments has been very considerably within the sum estimated and placed at my disposal for the purpose, and this is due in a great measure to the practical assistance which has been willingly given by Mr. John Kebbell, who performed with his own hands some of the most delicate but tedious portions of the work, whereby a large expenditure for highly skilled labour was avoided.

The building was completed in June, 1869; but owing to the long continued wet weather at that time, the mason-work of the piers was not sufficiently dry to allow of the instruments being placed in position until October.

The cleaning of the clocks, and placing the transit in the meridian caused further delay, so that the "time" could not be depended upon until January of this year, since which date the time ball has been daily dropped with regularity, and an hourly connection established between the Observatory clock and the Head Telegraph Office.

The building is of wood, is lined with plaster, provided with double windows, and every precaution has been taken to secure the valuable instruments from deterioration.

The instruments consist of a 32-inch transit which is mounted on a pyramidal pedestal of brick and concrete, seven feet high, three feet six inches being below the level of the ground, and surmounted by a slab of stone to which the pillars of the instrument are secured; a meridian mark has been placed on the horizon line at a distance of _____ miles, the permission for its erection having been granted by Mr. W. B. Rhodes.

The clocks, two in number, are in a part of the building, separated from the transit-room by a door with glass panels. They are fixed down to piers of concrete, special provision being made to secure them against injury by earthquakes.

The astronomical clock, which is rated by frequent transit observations, is connected with a simple chronograph contrived by the officers of the Telegraph Department, and starting clock which is carefully regulated by comparison with the astronomical clock, closes a magnetic circuit every hour, in which, if it were desired, the whole telegraph system of the country might be occasionally included.

An achromatic telescope, by Ross, of $4\frac{1}{2}$ feet focus and $3\frac{1}{2}$ inch objective, complete the instrumental outfit of the Observatory.

The total cost of the building and fittings amounts to £170 2s.

The instruments, with the exception of the last-mentioned telescope, are still the property of the Provincial Government, having been transferred from the former Observatory at the Custom House to the present site, under an arrangement with the Superintendent.

From the enclosed account it will be seen that the original cost and expense of fitting up these instruments was £1,074 10s. 8d. of which sum £580 6s. 5d. was the cost of the instruments delivered in the Colony.

Taking into account the time they have been in use, and other circumstances, I think that £300 amply represents their present value to the Government.

The appointment of Astronomical Observer is held by the Rev. Mr. A. Stock, who still sedulously performs this duty, notwithstanding the many other claims on his time and the distance at which the new Observatory is situated from his residence. His long experience and familiarity with the working of these instruments, which have been under his charge for the last seven years, is a guarantee for

the accuracy of the results; and the “time” as given daily can be relied on as correct within a fraction of a second, so that it may be confidently adopted by mariners for the purpose of rating their chronometers.

I would strongly recommend that provision be made for securing the continued services of Mr. Stock.

In conclusion, I feel it my duty to state that, had it not been for the assistance afforded by Mr. Stock and Mr. Kebbell, the establishment of the Observatory could not have been effected without a much larger expenditure of public funds.

I have, &c.,
JAMES HECTOR.

The Hon. the Colonial Secretary.

Enclosure in No. 4.

COST OF TIME BALL AND ASTRONOMICAL CLOCKS.

<i>Instruments.</i>						£	s.	d.
Two Clocks and Time Ball with Electrical Apparatus	...	...	...	...	...	360	0	0
Batteries and Wires	...	...	...	...	...	43	16	0
Transit Instrument (including charges)	...	...	...	...	...	75	5	5
Freight and charges (on clocks, &c.)	...	...	...	...	...	97	14	6
Galvanometer	...	...	...	...	...	3	10	6
						£580 6 5		
<i>Buildings, &c.</i>								
Altering roof of Custom House, erecting Observatory, and fixing								
Instruments	...	...	...	...	...	364	16	8
Brick and Iron work	...	...	...	...	...	18	8	4
Alterations and Additions	...	...	...	...	...	60	6	1
Chemicals, &c., 1865-68	...	...	...	...	...	50	13	2
						£494 4 3		
						£1,074 10 8		

Provincial Treasury, Wellington, 17th November, 1868.

