REPORT

OF

COLONIAL ARCHITECT

ON

CONDITION OF GOVERNMENT BUILDINGS.

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

WELLINGTON.

1870.

REPORT OF COLONIAL ARCHITECT

ON

CONDITION OF GOVERNMENT BUILDINGS.

SIR,— Colonial Architect's Office, 13th June, 1870.

At your request, I now enclose my report upon the condition of the Public Buildings, and forward a specimen of wood taken from the roof.

I have, &c.,
W. H. CLAYTON,
Colonial Architect.

The Hon. the Colonial Secretary.

REPORT by the Colonial Architect, under instructions from the Government to examine into the past Correspondence, Inquiries, Surveys, &c., upon the Buildings at Wellington used as Chambers for the Legislative Council, House of Representatives, and Public Offices; with a statement of their present condition from actual survey.

FROM the documents at my disposal, I find that as far back as January, 1866, eight tenders were received by the Government for removing the slates from the roofs, and substituting corrugated galvanized iron, but I have not been able to discover the reasons for inviting them at that time.

None of the tenders were accepted, as the following memorandum of Mr. Stafford, dated 26th January, 1866, will explain: "To stand over till further arrangements are decided as to additions to Government Buildings. Decline tenders."

The next reference that I find recorded is an extract dated 24th February, 1869, from a letter from the Speaker of the House of Representatives to the Colonial Secretary, which I will give in full:—

"In obedience to the views and wishes of the House thus expressed, I have come across to Wellington, and am now here for the purpose of considering what can be done to make the apartments of the House of Representatives more convenient and comfortable for next Session, and as far as possible to carry into effect such alterations and improvements as may appear practicable.

"I should propose, in the first instance, to have the framework of the House of Representatives examined and reported upon by some competent architect. I hear it stated, though I have no means of knowing with what degree of truth, that a great deal of the timber of the House is in a state of decay. If there is any foundation for such a statement, it is a point which should be inquired into. I take it that it would not be a very troublesome or expensive proceeding to remove some of the external lining of the building, and inspect its framework; and should it prove to be decayed, means might be adopted to strengthen and prop it up, so as to render it safe for a year or two, by which time it is to be hoped that a building more suitable for the requirements of the Colony may be in existence."

On the 25th February, Mr. Stafford instructed Mr. Hales to carry out the Speaker's suggestions, and I find the following report by Mr. Hales, in obedience to these instructions:—

"I have found the timber generally in a sound condition. The frames of the walls and floors of the buildings being principally composed of totara and red pine timber, all of which are perfectly free from decay. The rafters, ceiling, joists, and other framework of the roofs, are chiefly of New Zealand white pine timber, in some of which the dry rot is beginning to be manifest, but not to such an extent as to materially weaken the structure at the present time. In my opinion, the framework of the roofs are too slight (and they were not originally constructed on the best design) to give perfect stability to structures of such weight and span. As the dry rot, when it has once commenced, proceeds with great rapidity, the timbers will soon be considerably weakened from this cause."

Mr. Hales then proposes to add additional framework to support the rafters, and other trifling repairs to the gutters, &c., which were carried out at a cost of £191 in the months of March and April last year.

From the careful survey I have made, I am in a position to speak to the accuracy of Mr Hales' report so far as it goes; but as the examinations made by me seem to extend further than those of Mr. Hales, I think it better to give them in detail.

The framework of the walls is chiefly composed of totara and red pine timber, the outside lining generally being also totara, and all sound. The next portions examined were the floors, and here I differ with Mr Hales, inasmuch as that I find a considerable proportion of the floor joists (which are 25 feet long) to be of New Zealand white pine; for instance, in the Colonial Secretary's Clerk's Office, out of fifteen joists, seven are of white pine, and it was found necessary a few weeks back to strengthen this floor. Again, in the Post Office Secretary's Office, out of ten joists, four were white pine, four red pine, and two totara. On the west side of the long corridor twelve joists were tried, none of them being white pine. It will thus be seen that, out of thirty-seven joists tested, eleven were found to be white pine, or about 30 per cent.

I next examined the roofs, and found them almost entirely constructed of white pine; for instance, in one portion, 111 rafters were counted, and only twelve were not of that material.

In erecting the new staircase to the Strangers' Gallery, south wing, it was necessary to remove one or two rafters, which supplied me with a specimen of the full section of the timber, and which I

beg to forward with this report, in order that the Government may see for themselves what the real condition of the timber is.

Finding the timber in the south roof so unsatisfactory, I tried the rafters in the extreme north; but not having the opportunity of cutting off an end I had to be content with boring, and, out of fifteen rafters, all were white pine but two; three were nothing but dust, offering but little resistance to the auger, which easily went home after the lining was pierced.

Now the portion of rafter submitted herewith, would offer more resistance to pressure than those I have described as dust, so that it appears to me there are degrees of decay, and that the specimen referred to does not represent the worst degree; possibly the tests described as dust were the sap of white pine, which would account for the difference.

The next places tried were in the middle building, north and south of the centre. It should be noticed that, in selecting the points to be tested, my object was to distribute the examinations as generally as possible. In these places I found eleven white pine rafters out of seventeen, three of them being dust, as before.

I have estimated that the roof over the House of Representatives has to support about $8\frac{1}{4}$ tons of slates, that over the Legislative Council wing $11\frac{3}{4}$ tons, and the double roof over the centre portion about 22 tons.

There is another portion of these buildings apparently very rotten—I refer to the buttresses which have been added at a comparatively recent date, especially those on the south wing; as they abut on the public walk, they are likely to attract more attention than if not in so exposed a situation. Their appearance however is worse than their condition, since the framework is sound although the outside lining has rotted.

The cause of this is, that the boards (Scotch) are not suited to outside work, and they are made worse by being placed with the tongues downwards, whereas they should have been reversed; the effect is, that water gets into the grooves, and, having no means of escape, is absorbed by the wood, thus causing decay.

Much dry rot is to be found generally throughout the interior. All the floors, and much of the lining to the walls and ceilings, are of white pine, and, as elsewhere, are being slowly but surely eaten away. Nor is there any reason to suppose that, where white pine joists have been used, their condition is better than the rafters.

From the foregoing examinations, I am led to the following conclusions:—

1. The framework of the walls generally, and the outside boarding, are composed of suitable and durable timber, and are sound at the present time, excepting the buttresses.
2. That the inside lining is not sound, excepting to a small proportionate extent.
3. That 30 per cent. of the floor joists are not sound.
4. That the floors are of white pine, and are attacked generally with dry rot, but in a less degree than the rafters and lining.
5. That the rafters, ceiling, joists, and sarking, are almost entirely of white pine, in different stages of decay.

These questions now present themselves to my mind:—

1. Is the condition of the buildings dangerous, or likely to become so?
2. What are the chances of their standing, and how long?
3. Are they repairable?

The answer to the first question is, that at the present time the buildings are not dangerous, but that, from the nature and known spreading and increasing properties of dry rot, they will become so if not attended to.

2. The chances of their standing may be reduced to a certainty, it being simply a matter of expense.

The second part of this question is more difficult to answer. A case, however, within my own knowledge will enable me to arrive at a time sufficiently near for all practical purposes.

The case I refer to was a floor which was attacked with dry rot; when it commenced was not known, but it had been built only five years, when, upon a servant jumping rather heavily from some steps after cleaning a window, it suddenly gave way, when the joists were found to be eaten away with dry rot.

To answer the question completely, it is necessary to ascertain at what stage of decay a building becomes too weak to stand. I am of opinion that when the strength of the materials in buildings usually considered sufficient is reduced by one-half, from whatever cause, a structure cannot longer be considered safe. In this case there are parts approaching that proportion at the present time; but in my opinion it would be nearly correct generally to assume 30 per cent. of the original strength of the roofs and floors to have been reduced by the dry rot.

Looking to the case in point, where five years was sufficient time to reduce the strength of the materials to the breaking point, it follows that in two years' time the roofs and floors of these buildings will be unsafe. It must not be overlooked that circumstances frequently aggravate cases of the kind. A severe shock of earthquake, or a heavy gale of wind, would test the whole fabric, and find out prematurely the weak points.

3. To repair these buildings would be to renew or rebuild those parts where white pine has been used, and there would not be any difficulty in doing it. The repairs necessary would be new rafters, sarking, gutters, ridges, and corrugated iron to the roofs; new ceiling joists, new lining where white pine exists; 30 per cent. of new joists; new flooring boards, new calico, and papering and painting.

W. H. Clayton,
Colonial Architect.

13th June, 1870.

SIR,— Colonial Architect's Office, 28th June, 1870.

In accordance with your instructions, I have carefully considered the question that is likely to arise out of the Report I lately submitted on the condition of the Public Buildings.

I am quite of opinion that any future building should form part of a general and comprehensive design.

To some extent the plans prepared by Mr. Rumsey (and which I am informed were approved of by the late Government,) accomplish this object, and the new offices lately erected over Bellamy's form a portion of that design.

From all I have heard, those additions have given general satisfaction, both as regards their convenience of arrangement and appearance of elevation.

In a professional point of view, the design referred to is good as a whole, and the best portion of it has yet to be built.

Referring to my report above allued to, there can be no doubt but that the greater portion of the Buildings must in a short time undergo very extensive repairs, if they be not entirely rebuilt.

The question then arises—What will be the best course to pursue, having regard to the convenience of the Public Service during the time the building operations are in progress ?

In my opinion that portion, or rather the remainder of Mr Rumsey's design, comprising the new House of Representatives, and offices in connection with it, should be first erected, because it would not interfere at all with existing arrangements.

This completed, the old Chamber now used as the House of Representatives could be dealt with as may be hereafter decided.

The next to follow might be the centre portion between the present Chambers, the Departments in the meantime occupying the renovated wing.

Lastly the wing comprising the Legislative Council Chamber, the Attorney-General's offices, &c., could be undertaken.

The wing set free by the removal of the House of Representatives could be divided, and arranged to allow the addition of six rooms. It appears to me, however, that as the repairing of these buildings must of necessity be very extensive, and as at present arranged they are not adapted to the requirements of the Departments now occupying them, and that something like six hundred pounds per annum are being paid as rent for other Departments elsewhere because there is not room enough at present in the Buildings, that it is worthy of consideration whether they should be pulled down altogether and remodelled.

From a hasty sketch, I find that all the Departments can be provided for if a building were erected in harmony with Mr. Rumsey's design, which could be done and much of the centre part of the existing buildings worked in. And although I have not estimated either plan, I am satisfied that the comprehensiveness and convenience to be obtained from rebuilding would more than compensate for the inconsiderable extra cost, besides the saving of six hundred pounds per annum in rents.

I have prepared an estimate of the cost of erecting the new House of Representatives as designed by Mr. Rumsey. It is necessary that I should state that the amount is increased in consequence of the new building extending back to the mound on which the water tank rests, which will have to be removed.

The buildings alone will cost nine thousand two hundred pounds (£9,200) ; and including the removal of the water tank and the mound of earth, ten thousand one hundred and fifty pounds (£10,150).

I propose to extend the Terrace on which the Buildings stand with the earth from the mound.

If the Terrace were continued along the acres purchased by Mr. Stafford, good sites could be had for Ministerial Residences, and the money obtained by the sale of the Tinakora Road property would help to erect them.

I have, &c.,
W. H. CLAYTON,
Colonial Architect.

The Hon. the Colonial Secretary.