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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 2552	Press Mis.
484-85	
Dated 21 8	18-7.

Not to be folded or roughly handled

No. 484. Read the following letter from the Superintending Engineer, 7th Division, to the Secretary to Government, Department Public Works, dated Coonoor, 6th August 1867, No. 79:—

1. I think it right to submit, for the information of Government, a report of Major Farewell's* on the effect of heavy rain, accompanied by driving wind, on the public buildings lately constructed and under construction at Ootacamund.

* No. 52 of 27th July 1867.

2. I have inspected most of them in his company within the past week, and seen evident signs of penetration of damp through all exposed walls or roofs, though thoroughly well put together, of the best procurable materials, mostly made at Major Farewell's own works in Ooty or Wellington. The burst of heavy rain with high wind, which has had such effect, is rather the climax of this year's monsoon, than its commencement as Major Farewell would appear to have thought; and practically to counteract such effect on walls I am of opinion that they will have to be protected by verandahs, and by coatings of water-proof washes (on which experiments are being made), and on roofs by partial glazing of tiles, and use between them and the reepers of continuous iron sheeting or something else more effectual, lighter, and less porous, than flat tiling.

From the Executive Engineer, Neilgherry Range, to the Superintending Engineer, 7th Division, dated Ootacamund, 27th July 1867, No. 52.

1. I have the honor to report that on the 12th instant the south-west monsoon set in with unusual violence at this station; the wind blew for a whole week with great force, driving the rain parallel to the earth's surface. I inspected all the public buildings in the station, and found them leaking in all directions more or less: the Native Jail, Court-house, new Civil Hospital, Dresser's quarters, and all the Warders' quarters of the European Jail, which building was also reported as leaking through the heavy terrace roof; none of these buildings leaked during any of the heavy rains which preceded the monsoon.

2. The roof of the new Lawrence Asylum Hospital also leaked, and appeared quite saturated in nearly all the exposed portions, the walls facing the south-west, where not protected by other projections of the building, were completely saturated, and the end wall so much so that it was found necessary to erect a bamboo mat tattie to protect it from the driving rain; the wind was so violent here, that Captain Hankin and myself could hardly keep our legs, and the rain water fell in sheets from the walls, much in the same way as if they were being played upon by a fire-engine; the iron roofing of the most southerly situated passage was partly blown away, this roofing was fixed according to Morewood's new patent plan, which certainly has proved not to be anything like as secure as my own method, as the roof of the Workshop situated in, if possible, a more exposed position never moved, the passage roof was temporarily secured, and has since been repaired. In the Workshops the walls exposed to the monsoon were very wet, these walls are, however, only nine inches in thickness built in chunam, but the one foot six-inch pillars supporting the roof were quite equally saturated.

3. The east gable of the chancel of the new Church, which had just been completed to its full height, and was in a measure quite green, cracked a good deal at the quoins and under the east window; as soon as the wind moderates it must be pulled down and be rebuilt, and several iron ties inserted in the brickwork, as also additional buttresses provided to the eastern quoins of the chancel; the site of this Church is most exposed to the south-west monsoon, and the walls being so very unequal in height, their construction require the greatest care and constant attention; the wall that has suffered I observed frequently to sway to and fro with the force of the gale to which (the western gables not having been built) it was exposed.

Proceedings of the Madras Government, Public Works Department,
21st August 1867.

4. One of the terrace-roofed rooms in the Bishop's Down house, which was lately repaired, leaked considerably, the whole of the terrace being saturated, the old cracks were, in spite of the entirely new concrete and plaster, opened again, but were so small as to be barely perceptible, these were covered with tarred cloth; and, lastly, I put a thin coat of asphalt and tar mixed, hoping to stop the leaks, but even this did not succeed; the fact is the walls of this building being of the worst kind of brick-in-mud are easily saturated and therefore expand, while in drying again they contract, consequently they are always moving, and the terrace must crack and let in water; the walls of the room in question have moved so much as to have bulged in three places, and necessitate their being braced together with wooden plates and iron rods. The whole of the building was lately thoroughly repaired, and this terrace in particular entirely renewed; the house stood all the heavy rains preceding the monsoon very well indeed, and no leaks of any consequence occurred till the gale now reported.

5. The question of water-tight roofs for buildings on the Hills is one that has caused me much anxiety lately, and I am preparing a report on the subject for your consideration, which I hope to be able to submit shortly.

No. 485 ORDER THEREON, 21st August 1867, No. 2,552.

CIVIL WORKS, No. 64.

Ordered to be recorded.

(True Extract.)

(Signed) J. H. M. SHAW STEWART, Major, R. E.,

Under Secretary to Government.

To the Superintending Engineer, 7th Division.
,, Controller of Public Works Accounts.

Exd. S. T. Augustin.

1452

From

Major W. Farewell
Executive Engineer.

To

Colonel G. W. Walker R. E.
Supg. Engineer 7th Division
Cannoor.

Sir,

2. I have the honor to report that on the 12th instant, the south west monsoon set in with unusual violence at this station, the wind blew for a whole week with great force, driving the rain parallel to the earth's surface. I inspected all the Public Buildings in this station and found them leaking in all directions more or less the Native Jail, Court House, New Civil Hospital, Officers Quarters and all the wardens quarters of the European Jail, which building was also reported as leaking through the heavy terrace roof, none of these buildings leaked during any of the heavy rains which preceded the monsoon.

2. The roof of the new Lawrence Asylum Hospital also leaked and appeared quite saturated in nearly all the exposed portions, the walls facing the south west where not protected by other projections of the building, were completely saturated, and the end wall so much so that it was found necessary to erect a Bamboo mat lattice to protect it from the driving rain, the wind was so violent here, that Captain Champion and myself could hardly keep our legs, and the rain water fell in sheets from the walls, much in the same way as if they were being played upon by a fire engine, the iron roofing of the most southerly situated passage was partly blown away, this roofing was fixed according to Morewoods new patent plan, which certainly has proved not to be anything like as secure as my own method, as the roof of the workshop situated in if possible a more exposed position never moved, the passage roof was temporarily secured and has since been repaired. In the workshops situated against the walls exposed to the monsoon were very wet, these walls are however only 9" in thickness built in Chumam, but the 1-6" pillars supporting the roof were quite equally saturated.

3. The East gable of the flancel of the new church, which had just been completed to its full height, and was in a measure quite green, cracked a good deal at the quoins and under the East window, as soon as the wind moderates it must be pulled

51
down and be rebuilt, and several iron ties inserted in the brickwork, as also additional buttresses provided to the Eastern quoin of the chancel, the site of this church is most exposed to the south west monsoon and walls being so very unequal in height their construction require the greatest care and constant attention, the wall that has suffered & observed frequently to sway to and fro with the force of the gale to which (the western gables not having been built) it was exposed.

4. One of the terrace roofed rooms in the Bishop's Down House which was lately repaired leaked considerably, the whole of the terrace being saturated, the old cracks were in spite of the entirely new concrete and plaster repaired again, but were so small as to be hardly perceptible, these were covered with tinned cloth and lastly I put a thin coat of asphalt and tar mud hoping to stop the leak, but even this did not succeed, the fact is the walls of this building being of the worst kind of brick in India are easily saturated and therefore expand, while in drying again they contract, consequently they are always moving and the terrace must crack and let in water, the walls of the room in question have moved so much as to have bulged in three places, and necessitate their being braced together with wooden plates and iron rods, the whole of the building was lately thoroughly repaired, and this terrace in particular entirely renewed, the house stood all the heavy rains preceding the monsoon very well indeed, and no leak of any consequence occurred till the late snow reported.

5. The question of water tight roofs for building in the hills is one that has caused me much anxiety lately, and I am preparing a report on the subject for your consideration, which I hope to be able to submit shortly.

Shews the honor to be
Yours most obedt Servt.

W. Mansergh Major
Cantonment Engineer

No. 79.

Supg. Engineer's Office 7th Div.
Coonoor, 6th Aug. 1867

From

Colonel C. W. Walker R.E.
Superintending Engineer 7th Div.

To

Colonel C. A. Orr R.E.
Secretary to Government D.P.W. Madras.

Sir,

I think it right to submit for the in-
formation of Government a Report of
Major Fairwells on the effect of heavy
rain accompanied by driving wind,
on the Public Buildings lately constructed
and under construction at Coatakamund.

I have inspected most of them in
his Company within the past week
and seen evident signs of penetration
of damp through all exposed walls or
roofs, though thoroughly well put
together, of the best procurable materi-
als, mostly made at Major Fairwells'
own works in Ooty or Wellington. The
burst of heavy rain with high wind
which has had such effect, is rather
the climax of this year's monsoon, than
its commencement, as Major Fairwells
would appear to have thought, & practice
fully to counteract such effect on walls
I am of opinion that they will have

From the Assistant Engineer
at the Coatakamund Range
Coonoor.

By order of 1867

For the Assistant Engineer
at the Coatakamund Range
Coonoor.

P. O. 2978/67

2. Reporting the damage
caused by the falling of
the wall at Coatakamund

255

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