

(2) Date of repair 22/11/1998

(3) Initials of the Referencer

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No.	1998	Press
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Dated	11-7-	18/11/98

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
11th July 1864.*

No. 174. Read the following letter from Brigadier General D. BABINGTON, Commanding Malabar and Canara, to the Quarter Master General, Head Quarters, Ootacamund, dated Cannanore, 13th June 1864, No. 163:—

Sir,

1. I have the honor to forward, for submission to His Excellency the Commander-in-Chief, a report drawn up by the Executive Engineer of Malabar, on the ranges of married quarters of the 102nd Regiment.

2. These buildings were recently reported so leaky by the Officer Commanding the Regiment, that I convened a Board of experienced Officers to report thereon; the Board pronounced one range to be uninhabitable and dangerous, and the others all more or less leaky.

3. I have therefore had the worst range vacated and accommodated the tenants in Barracks, screening off partitions for each family; this however is a most uncomfortable, wretched arrangement for the families, and after all that has been attempted to secure good quarters for at least a portion of the families this monsoon, it is much to be regretted that utter failure should be the result.

4. The Engineer recommends that one range should be at once covered with a cadjan roof in substitution of the single tiles, at a cost of 150 Rupees, and, if necessary, the other ranges so roofed at a similar outlay per range. He will proceed with the work on emergency, and I request that the expenditure may be sanctioned in due course.

P. S.—In conversation with the several Engineer Officers who have been connected with building these ranges, whenever I made comments on defects, I was always told that these ranges were built on the standard plan, and alteration was out of the question.

HEAD QUARTERS, MYSORE DIVISION,

Bangalore, 18th June 1864.

(Signed) A. SPENCER, Major General,
Commanding Mysore Division.

From Captain J. VERTUE, Executive Engineer, to the Brigade Major, Cannanore, dated Cannanore, 11th June 1864, No. 113.

Sir,

1. I have to acknowledge receipt of your letter No. 150 of to-day's date, and send, as therein requested, a report on the state of the married quarters recently erected.

2. There are four ranges of quarters; two of them were completed last year; the other two during the present year, the last built (No. 4) having been occupied only six weeks.

3. All four ranges leak more or less; No. 2 is in a very leaky condition; No. 1 has several rooms that leak a good deal; No. 3 is not so bad; and No. 4 leaks very little, no more indeed than is to be expected of a *single tiled* building on this coast.

4. Nos. 1 and 2 were built by contract; No. 3 principally so, while No. 4 was built entirely by the Public Works Department.

5. The state of leakage of these buildings is bad enough; but worse still is the danger caused to them by the settlement of the roofs which has pushed the main walls outward, as is amply evinced by extensive cracks where the cross walls join the main walls, and which, as is to be expected, are widest at top; the cause of this I shall detail when treating of the defects of the buildings.

6. It is quite possible that the buildings might stand, even through a monsoon; but as the failure of a very small portion of a main wall might cause the destruction of the whole building, I consider it would be prudent to remove at least the occupants of ranges 1 and 2, which are worse than the others.

7. The same course may have to be adopted with regard to No. 3, although I do not think it is at present absolutely necessary; No. 4 having been more carefully built than the others, I am in hopes that the removal of its tenants may not be necessary.

8. The greatest defect in these buildings is their being *single tiled*.

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9. Within the Barracks every building, out-houses included, is double tiled, and ample experience has shown that nothing less than double tiling will prevent leakage on this coast, where the rain is so heavy and long continued. It does then seem to me passing strange that, with the experience of so many years before us, we should have resorted to single tiling.

10. Almost all the houses in the station are thatched, or double tiled, and the few that are single tiled have boarded ceilings, mats, or ceiling cloths, to neutralise the effect of the almost inevitable leakage attendant on the use of single tiling.

11. Another defect is the couple roof with collar beams, always a bad arrangement; but peculiarly so when, as here, we are obliged to use green wood. By the end of the hot weather (when the buildings are constructed) the timber has shrunk considerably, but soon after a good deal of rain has fallen, the wood swells, and the effect being greatest in the direction of the fibres which is also the direction of resistance of the collar beams, these last have a positive tendency to cause the spread of the rafters, and the settlement of the roof, occasioning the extrusion of the main walls.

12. This is I consider the principal cause of the serious cracks, so noticeable in ranges 1, 2 and 3, and which are nothing more than the separation of the main walls from the cross walls by the former being pushed outwards, a result that is rendered more easy by the unfortunate adoption of mud for chunam in cementing the stones. Mud is not only more pervious to damp, but it so soon loses its cohesive and adhesive properties when damp, as to render it very unfit for building purposes in a damp climate like this, unless the walls are of great thickness, which is not the case in this instance, the height being 15 feet and thickness only 1½ feet.

13. The use of chunam instead of mud would not add greatly to the cost, while it would certainly render the buildings more durable and less damp, a result which would be still further achieved by plastering the walls both inside and outside.

14. The rain beats into the verandahs, so as to render them during the monsoon very damp and of little or no use as a place of exercise; moreover, the out-houses being unconnected with the main buildings by covered passages, those who use them cannot during the monsoon pass to and from without being thoroughly wetted. The ends of the buildings should be furnished with verandahs which would much improve the appearance of the buildings, and render the end rooms much more comfortable, (they are at present very uncomfortable).

15. The basements are, I think, insufficient in height, and the filling with earth up to the basement level is an objectionable practice, as it renders the floors damp.

16. I am myself of opinion that the whole system at present obtaining is bad, and that it would be far preferable to use iron (cast) pillars and girders in the construction of the buildings, and adopt boarded floors. The upper story alone I would use as quarters; the lower might be left open, or partially open at the sides and ends, and might be used as a place of recreation or exercise, or for any other purpose that may be deemed desirable.

17. I would sum up by saying that the principal points requiring alteration are double tiling in place of single, trussed roof in place of couple roofs, and the substitution of chunam for mud in building.

18. It appears to me that the continuous zinc roofing, which has been used so successfully on the hills might be applied with advantage, or that failing that it might even be well to import slates from home for important public buildings.

19. We are now engaged in turning the tiles of No. 2 range. The work is pretty well advanced, and has proved effective, so far as we have gone. I recommend that the turning the tiles of this range be completed, and we shall see how far such a remedy is likely to prove successful. I myself fear it will prove only a partial remedy, and I therefore further recommend that a cadjan roof be at once applied to No. 1, and when that is complete d, to No. 3, if necessary.

20. I shall at once give the necessary orders in anticipation of my suggestions being approved. The cost of a cadjan roof for each range will, I think, be about 150 Rupees.

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21. In conclusion I have only to add that should the settlement of the roofs continue, and without doubt render the buildings unsafe, it will be impracticable until the monsoon is well over, to adopt measures for their thorough repair, and that therefore other accommodation must be provided for the tenants of such ranges as may attain that state.

22. The correspondence forwarded with your letter under acknowledgment is herewith returned.

(True Copy.)

(Signed) E. BODDOM, Major,
Acting Brigade Major of Malabar and Canara.

MEMORANDUM.

No. 63/6137.

Forwarded to Government for early sanction, and for consideration in the Public Works Department.

By Order,

*Quarter Master General's Office,
Head Quarters, Ootacamund,
24th June 1864.*

(Signed) F. H. SCOTT, Lieut.-Colonel,
Quarter Master General.

To the Secretary to Government, Military Department.

Transferred to the Department Public Works.

*Fort Saint George,
29th June 1864.*

(Signed) R. HAMILTON, Lieut.-Colonel,
Deputy Secretary to Government.

No. 175.

ORDER THEREON, 11th July 1864, No. 1,998.

1. Communicated to the Superintending Engineer, 7th Division, with reference to Proceedings No. 3,755, dated 18th December 1863, and with a request that an early report may be submitted of the manner in which it is proposed to remedy the defects noticed in the family quarters under construction at Cannanore.

2. The Government sanction a grant of Rupees 300 from the Reserve, under the head "Military," for the cadjan roofing, with which it is proposed temporarily to re-place the single tiled roof of ranges 1 and 3.

3. Colonel Walker will report distinctly on whom the blame for the defective construction of these quarters rests.

(True Extract.)

(Signed) J. H. M. SHAW STEWART, Major, R. E.,
Deputy Secretary to Government.

To the Superintending Engineer, 7th Division.

„ Controller and Auditor of Public Works Accounts.
„ Accountant General.

Exd. S. T. Augustin.

Major General
Head Quarters
Cavalry

Now the new camp is
situated in the center of the camp
it is a square of 100 ft by 100 ft
and is surrounded by a ditch
10 ft deep and 10 ft wide of the 100 ft
square.

The buildings are really
solid and built by the Officer Command
ing the Cavalry. The buildings are
made of spruce and are of a
strong and solid construction and are
very comfortable and pleasant and
the officers all agree in this.

The Officer Commanding the Cavalry
has also arranged for the transfer
in the new building off partitions for
each family. This is a most im-
proved and well arranged arrangement for
the families. As a matter of fact the
best attention to secure good quarters
for at least a portion of the families this
season it is much to be regretted that
the quarters should be the result.

The Engineer recommends that
one range should be at once covered
with a cedar roof in substitution

by the single litra cost of 100 Rs.
per acre if necessary the other 100
so as to be a similar outlay per
range. He will proceed with the work
on emergency and I request that the
by public it may be taken into
consideration.

Mysore 18 June 1842
13 June 1842
I have the honor to
Sir
General Whitworth
Barracks, Bangalore
From and to Mr. [unclear]

BT
In conversation with the several
Engineer Officers who have been connected with
building these Bungalows, whenever I made comment on
defects it was always told that these Bungalows were
thru the Standard plan and alterations were
out of the question.

Head Quarters Mysore D.
Bangalore 18th June 1842
Wm. Spencer Major General
Commanding Mysore D.

It is quite possible that the Suidings
might

The Clerk of the Court

Dec 25 - Reaction

Dr. C. W. H. A.

might stand, even through a Mansard, but
as the failure of a very small portion of a
Mansard wall might cause the destruction
of the whole building, I consider it would
be prudent to remove at least the occupants
of Ranges 1 & 2 which are worse than the
others.

The same course may have been adopted
with regard to C. 3 although I do not think
it is at present absolutely necessary, it
having been more carefully built than
the others. I am in hopes that the removal
of its tenants may not be necessary.

The greatest defect in these buildings
is their being Single Tiled.

Within the Barracks every building
but houses included, is Double Tiled, and
ample experience has shown that nothing
helps than Double Tiling will prevent leak-
age on this Coast, where the rain is so
heavy and long continued. It does then seem
to me passing strange that, with the ex-
perience of so many years before us, we
should have resorted to Single Tiling.

Nearly all the houses in the station are
that is, of Double Tiled, and the few that
are Single Tiled, have Boarded Ceilings,
Mats, or Ceiling Cloth, to neutralise the
effect of the almost inevitable leakage
attendant on the use of Single Tiling.

Another defect is the Couple Roof with
Collar Beams - always a bad arrangement,
but peculiarly so here, as here, we are

obliged to lay our roofs on the ends of the
rafters, instead of the building a Mansard
roof. The timber has shrunk consider-
ably, but even after a good deal of rain
has fallen, the water still, and the off-
spring greatest in the direction of the gables
which is a better direction of resistance
than the Collar Beams, these last have a force
the tendency to cause the spreading of the
rafters, and the settling of the roof, occasioning
the separation of the wooden walls.

It is in fact the principal cause
of the serious cracks, so noticeable in Ranges
1 & 2, and it is nothing more than
the separation of the main walls from the
cross walls, the former being of a different
material, and that is rendered more easy
by the unfortunate adoption of land for
timber. Considering the storm this is
not only more serious to damp, but it so
soon leaves the building air tight, so per-
haps had we, as to render it very unfit
for building purposes in a damp climate.
Like this, but the walls are of great thick-
ness, which is not the case in this instance,
the height being 10 feet, and thickness only
12 feet.

The use of a human instead of mud
would not add greatly to the cost, while it
would certainly render the buildings more
durable, and less damp, a result which would
be still further achieved by plastering the
walls both inside and outside.

The rain beats into the Barracks, so as
to render them during the season very
damp.

To the Hon. Secy of the
 Canadian Government
 Ottawa, 11th Nov 1898

9277 2928/14

23rd 1898

I have the honor to acknowledge the receipt of your letter of the 11th inst. and in reply to inform you that the same has been forwarded to the proper authorities for their consideration. I am, Sir, very respectfully,
 Yours faithfully,
 J. H. [Signature]

The Government are very anxious to grant of course the same, but the land being for the land grant survey and what is proposed is being to report the result of the survey to the

Cabinet and the result will be reported in due time for the approval of the

To the Hon. Secy of the Canadian Government
 Ottawa, 11th Nov 1898
 9277 2928/14

7/1/1866
To the Hon. Secy
of the
July 29/28

From the Dy Secy
to Genl. Secy.
£ 450

Del'd by 3
1 Received 00

31.

No 1998 - 11th July/64

Transferring from
from the Dy Master Genl Secy
commanding that the expendi-
ture of Rs 150 for covering with
a Cadjan roof one of the Bungalows
of the married Dy Secy at
Bannanore, Malabar, be
sanctioned.

With orders.

No 174 - 175

at 14th July 1866 - A 5th