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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No.	1736	Press
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Dated	22nd July	1872

Not to be folded or roughly handled

No 343

Under date the 22nd July 1872, No 1,736.

MILITARY WORKS, No 4.

IN continuation of their Order No 3203 of 20th December 1871, the Government proceed to notice the amount

of responsibility attaching to the several officers who are answerable for the design and execution of the Government Bakery at Bangalore

2 Captain Tulloch, the Executive Engineer in charge at Bangalore from December 1865 to January 1867, at which former date the work was ordered to be commenced, appears to be answerable for preparation of the Plans, which were finally sanctioned in July 1866. There is nothing absolutely faulty in the roof designs, but subsequent experience has shown that the Executive Engineer did not act judiciously in adopting, or the Superintending Engineer in approving, of bowstring trusses in lieu of the simpler queen post trusses ordinarily used in spans of thirty feet. Once having adopted them it was their bounden duty to have taken due precautions to see that these comparatively novel trusses should be put together on right principles, which involved, amongst other things, the preparation of detailed working drawings. But it does not appear that such working drawings were supplied for the timber trusses, while those supplied for the forty feet non trusses of the end rooms are complained of by the contractor as having been insufficient and erroneous. It is clearly shown from all the reports that defective construction of the timber trusses was mainly due the dangerous state of the main building which has led to its being dismantled. And it is apparently only owing to the precaution taken by the contractor to have the non roofs designed and made at the Perambore Workshops that the end buildings have not shared the same fate. Article 3 of the contract runs as follows, viz "The drawing is supposed to be correct, but the contractor to verify the same should he think fit so to do, as he will be held responsible for the consequences of any error contained therein, or omission therefrom." Such an article might hold good at home between private individuals ignorant of constructive details, and contractors who are practically acquainted with the same, but is singularly inapplicable as between professional Engineers employed by Government to look after their interests, and contractors such as those who are generally available in India.

3 Nor is the Government at all disposed to concur with Captain Vertue's views, as to the responsibility of Superintending Engineers for the proper execution of at least the larger works in their Divisions, having been lessened by any action of Government in forcing on them the contract system. The Government do not admit that any orders of theirs can rightly be construed to deprive Superintending and Executive Engineers of full discretionary powers, and ample latitude as to the extent to which the system of working by contract can be carried out. That system does not necessarily imply the handing over of large buildings in one lump contract to any but men of the highest stamp of contractors, but it admits of different portions of buildings, involving different kinds of work, being let out in petty contracts to respectable men of moderate means, either themselves possessing practical knowledge of the particular work they undertake, or having command of the particular kind of labour required. There is no reason whatever why the system of working through suppliers of materials approved of by Captain Vertue, should not have been adopted at Bangalore just as well as at Madras. Whatever system may be adopted, be it of lump contracts, petty contracts, contracts for supply of materials, or Depart-

mental labour, each has inherent defects which require the incessant care and vigilance both of the Executive and Supervising authority to remedy, but inasmuch as the last mentioned is that which it is most difficult, and most costly to supervise, and involves the keeping up of large stocks the accounts of which almost invariably fall into confusion, resort to the others has from time to time been, and still is, strongly recommended by Government

4 It seems clearly enough established that no reports of bad materials or workmanship were ever made by any of the Executive Engineers to the Superintending Engineer, but that Officer had many opportunities of satisfying himself on those points during the repeated visits that he must have paid to Bangalore in 1866, 1867, 1868, while the work was in progress, and he doubtless saw the twenty-six Memoranda stated to have been recorded in the Executive Engineer's Office, between April 1867 and June 1868, complaining either of slow progress or use of bad materials. Colonel Foord must therefore, the Government regret to say, be held to have failed in his duty in not interfering with the action either of the Executive Officers or of the Contractors while work was in progress, or even bringing the state of the building after completion prominently to the notice of Government. The use of bad materials in the walls or roof, and bad framing of timbers, persisted in by Contractor or Executive Engineer, would justify the most decided measures on the part of a Superintending Engineer. The Government must accordingly record an expression of their disapprobation of Colonel Foord's conduct, in regard to his want of energy, attention, and professional discernment

5 Of the Executive Officers concerned Captain Tulloch, who made the arrangements for the construction of the building, who held charge for thirteen months, and also paid for work to the extent of Rupees 37,000 out of the total sanction of Rupees 87,000, must be held as chiefly to blame. The mortar used throughout the building is universally condemned as exceedingly bad, the neglect to insist upon table made bricks and good pointing in the facing of the walls is clearly attributable to him; it is only doubtful how far he is answerable for defective working drawings and framing of roof trusses, and for the use of very inferior tiles. But as the trusses were laid under his immediate successor, who was only seven months on the works, and two-thirds of the tiling was paid for within the next three months, the fair inference is that his responsibility on those accounts is also heavy. The Government must therefore visit with their severest censure his want of discrimination and inattention to his duties

6. Captain (then Lieutenant) Pennycuik, R E, took over the works from Captain Tulloch and held charge of them for seven months. He is the junior of all the officers who have been connected with the work, and was only of five years standing in the Department Public Works at that time. He appears to have been at variance with the contractor about this and other buildings, but to have failed in putting a stop to bad work, or reporting against it for the orders of the Superintending Engineer, and the faulty trusses were being put up in his time, and a portion of the roof tiled. He is therefore in some degree to blame for some of the worse faults of the building, and must be visited with the censure of Government for carelessness and neglect of duty, to an extent only less than that passed on Captain Tulloch because of his comparative inexperience, which may have made him reluctant to condemn what his predecessor and senior appeared to have passed.

7 This plea would not hold good in Captain Mead's case, and it is greatly to be regretted that in his short three month's tenure of office, of which hardly any record appears in the papers submitted to Government, he did not act energetically and suspend all further progress with the work. Had he so acted he would have escaped the discredit which must attach to his share in the work, and the censure which the Government must pass on his neglect. Two-thirds of the tiling was paid for by him, which amounts, at least, to tacit approval of it

8 Captain Mayne nearly completed the building during the five months he had charge, and although well acquainted with Bangalore work from his former experience of the station, does not seem to have taken any step beyond getting a formal contract drawn up with Mr Lee, more with a view, it would appear, to ensure speedy completion of the building, than to improve its construction, which was then too far advanced to admit of anything being done but to report on it. This he should have done fully to exonerate himself from all blame, which must now be imputed to him

9 Captain Wood took charge when the contractor's time was up, and appears to have acted with vigour and decision, having first fined the contractor Rupees 1,000 (but for delay, not for bad work or materials), and subsequently taken the work into his own hands. He admits his responsibility for the use of one sixth of the quantity of tiling done, and must be reprimanded for having so far given in to the procedure of his predecessors as not to have brought the defects of the building to notice till forced to do so by symptoms of its failure becoming apparent

10. It is, in great measure, with a view to avoid for the future errors resulting in such waste of public money and discredit to the Department of Public Works, that the Government are now bringing forward a new scheme of organization in which District Engineers are substituted for Superintending Engineers, and Inspecting Officers appointed with special reference to their qualifications for judging of the correctness of designs and manner of execution of works, under the separate heads of Irrigation, Civil and Military Buildings, and Ports and Communication. Under that system District Officers will be held strictly responsible for the proper supervision of their executives, failure on whose part they will be bound to notify if their own advice and remonstrance have not sufficient effect. And the Government will not scruple hereafter to meet with severer punishments than censure, any such lamentable derelictions of duty as those on which they have had the painful task of dilating in this order

(True Extract)

Colonel, R E,
Secretary to Government.

To Colonel Foord, R E
„ Captain Tulloch, R E.
„ do Vertue, R E
„ do Pennycuik, R E.
„ do Mayne, R E
„ do Wood, R E
„ do Meade, R E.

No 1736

Revised date the 22nd July/72.

In continuation of
their Order No. 3203 of
20th December 1871, the
Government proceed
to notice the amount of
responsibility attaching
to the several Officers
who are answerable
for the design and exe-
cution of the Govern-
ment Battery at
Bangalore.

Captain Tulloch
the Executive Engineer
in charge at Bangalore

AC

A.A.
AB

J. D.

from December 1865 to
January 1867, at which
former date, the work
was ordered to be com-
menced, appears to be
answerable for prepa-
ration of the Plans
which were finally
sanctioned in July 1866.

There is nothing absolutely
faulty in the Roof design;
but subsequent experi-
ence has shown that
the Executive Engineer
did not act judiciously
in adopting or the
Super Engineer in
approving of Bow-String
Trusses in lieu of the
simpler Queen Post
Trusses ordinarily used
in spans of 30 feet.
Once having adopted

them it was their ^{respective}
duty to have taken due
precautions to see that
these comparatively
novel Trusses should
be put together on right
principles; which
involved amongst
other things the pre-
paration of detailed
working drawings.
But it does not appear
that such working
drawings were sup-
plied for the Timber
Trusses; while those
supplied for the 40 foot
Iron Trusses of the end
rooms are complained
of by the Contractor as
having been insufficient
and erroneous. It is
clearly shown from all

the reports that to defective construction of the
Sinker Trusses was mainly due the dan-
gerous state of the main
Building which has
led to its being dis-
mantled. And it
is apparently only
owing to the precau-
tion taken by the
Contractor to have the
Iron Roofs designed
and made at the
Perambore Workshops
that the end building
have not shared the
same fate. Article 3.
of the Contract appears
~~to the Government to~~
~~be eminently absurd.~~
Runs as follows, viz.
"The Drawing is supposed
to

~~The fact that~~

will be

to be correct, but the
Contractor to verify the
same should he think
"fit so to do, as he will
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any error contained
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private individuals
ignorant of constructive
details, and Contractors
who are practically
acquainted with the
same, but is singularly
inapplicable as between
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employed by Govt. to
look after their interests
and ~~the ignorant~~ ^{such as those who are}
of Contractors generally

available in India.

nor is the Govt at all disposed to concur with Captain Tertius' views, as to the responsibility of Superintending Engineers.

for the proper execution of at least the larger works in the Divisions, having been lessened by any action of Govt in forcing on them the Contract system.

The Govt do not admit that any orders of theirs can rightly be construed to deprive Superintending and Executive Engineers of full discretionary powers, and ample latitude as to the extent to which

the system of working by Contract can be carried out. That system does not necessarily imply the handing over of large buildings in one lump Contract to any but men of the highest stamp of Contractors; but it admits of different portions of buildings, involving different kinds of work, being let out in petty contracts to respectable men of moderate means, either themselves possessing practical knowledge of the particular work they undertake, or having command of

the particular kind of
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is no reason whatever
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It seems clearly
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to the Super Engineer,
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many opportunities
of satisfying himself
on those points during
the repeated visits
that he must have
paid to Bangalore
in 1866, 1867, 1868,
while the works
were in progress;
and he doubtless
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stated to have been
recorded in the Ex-
ecutive Engineer's Office
between April 1867
and June 1868 com-
plaining either of
slow progress or use
of bad materials. Colond
Lodd must therefore,
the Govt. regret to say,

6
beheld to have failed
in his duty in not
interfering with the
actions either of the
Executive Officers or
of the Contractors
while work was in
progress, or even in
bringing the state of the
building after com-
pletion prominently
to the notice of Govt.
The use of bad mate-
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or roof, and bad fra-
ming of timbers, per-
mitted in by Contractor
or Executive Engineer,
would justify the
most decided mea-
sures on the part
of a Super
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must accordingly record
an expression of their
disapprobation of
Colonel Gordon's conduct,
in regard to his want
of energy, attention
and professional
discernment.

Of the Executive
Officers concerned is
Captain Tulloch who
made the arrangements
for the construction of the
building, who held
charge for 13 months
and who paid for
work to the extent of
Rs 37,000 out of the
total sanction of Rs
87,000, must be held
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The Government must therefore visit with their severest censure his want of discrimination and inattention to his duties.

Captain (then Lieut.) Pennycuik R.E.

took over the work from Capt. Tulloch and held charge of them for 7 months.

He is the junior of all the officers who have been connected with the work, and was only of 5 years standing in the Department Public Works

12/ at that time. He appears to have been at variance with the Contractor about this and other buildings, but to have failed in putting a stop to bad work or reporting against it for the orders of the Super Engineer, and the faulty trusses were being put up in his time, and a portion of the roof tiled. He ~~must~~ ^{is} therefore ~~be~~ ^{be} ~~identifiable~~ ^{decide to blame} some of the worst faults of the building, and must be visited with the censure of Government for carelessness and neglect of duty, to an

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of office, of which hardly
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to Govt, he did not
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suspend all further
progress with the work.
Had he so acted he would have
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the Govt must pass
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having so far given
in to the proceedings
of his predecessors
as not to have brought
the defects of the building
to notice till forced to
do so by symptoms
of its failure becoming
apparent.

This is a great
measure, with a view
to avoid for the future
errors resulting in
such waste of public
money and ~~discredit~~

to the Department of
Public Works that the
Govt. are now bringing
forward a new scheme
of organization in
which District En-
gineers are substitu-
-ted for Superintendents,
and inspecting officers
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reference to their quali-
-fications for judging
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of execution of works
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Civil & Military Build-
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Under that system
District Officers will
be held strictly res-
-ponsible for the proper
supervision

17 supervision of their Ex-
-ecutives, failure on
whose part they will
be bound to notify if
their own advice and
remonstrance have
not sufficient effect.
And the Government
will not scruple
hereafter to meet with
severe punishments
than censure, any
such lamentable
derelictions of duty
as those on which
they have had the
painful task of
dilating in this order.
G.W.

Col. Ford R.E.
Capt. Lytle R.E.
Capt. Vertue R.E.
Capt. Peirson R.E.
Capt. Mayne R.E.
Capt. Wood R.E.
Lieut. Meade R.E.
Military Depa.

7. Lt. Ingens T. Amnell 4. C. Amnell
S. Amnell 4. C. Amnell
22/4/74
To all others in the
the 20/4/74
Desp 20/4/72

Publ. of 1872. 3d ed.

PUBLIC WORKS.

To
The National Board of Fire Underwriters.

1872

1872

1872

G. O. 22^d July 1872, No 17: 1

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1872

James B. H. H.

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