

- 1. Number of Pages
- 2. Date of Report
- 3. Initials of Referee

M.E.O. 1-22,400-22-11-80.

MADRAS RECORD OFFICE.

Government of Madras.

Police DEPARTMENT.

28-7-57

G.O. No.	<i>1430</i>	Press Mis.
<i>52-53</i> Dated	<i>25-7-</i>	<i>1857</i>

Not to be folded or roughly handled

No. 52. Read the following letter from Colonel C. E. FABER, Chief Engineer; to H. FORBES, Esq., Acting Secretary to Government, dated 26th June 1857, No. 1545.

SIR,

I have the honor to forward for the information of Government, copy of a letter dated 5th Instant, from Supervisor Boesinger to the District Engineer, reporting the destruction of the following bridges on the Munzerabad Ghaut, in Canara.

2. A bridge of 2 arches across the river Goletatoo, the destruction of which is attributed to the inferior quality of the laterite stones used. Mr. Boesinger states, that he was doubtful of their strength before the work was commenced, but as there were none better to be had within 2 miles, and as he was assured by experienced masons that they were strong enough, he ventured to use them.

3. During the rains in May, the Chunam about the springing line of the arches began to bulge out, and in parts to fall off, when cracks in the pier were visible, and on the 28th of the month, the arches fell simultaneously.

4. The foundations do not appear to have failed in any way, and Mr. Boesinger honestly acknowledges, that no one is to blame, but himself.

5. A bridge of one 24 feet arch across the Cacakrady Nullah, the wing walls, and a portion of the arch were destroyed on the 27th May, and the remaining portion fell on the 3rd June.

6. A bridge also of one 24 feet arch, across a Nullah, in the 15th mile, was so far destroyed, that it will be necessary to dismantle it, the wing walls on one side being cracked; and those on the other side having fallen down, carrying with them a portion of the arch.

7. Another bridge of one 24 feet arch; the position of which is not named, had a portion of the wing walls on one side destroyed, but received no further injury.

8. The stones with which the bridges last noticed, were built, are said to be of an average good quality, and the chunam used was good. Mr. Boesinger states, that until the arches were keyed, he was in constant Superintendence, but unfortunately left the completion of the wing walls, and filling in of the approaches, to the bricklayer; and road maistries, and the stones which had been rejected, were used for the upper parts of the wing walls.

9. The destruction of these wing walls was, I have no doubt occasioned, as explained, by the expansion of the earth between them, proper arrangements not having been made for draining off the rain water, for during the continuance of the dry weather, for nearly 3 months, neither cracks in the masonry of the bridges that had been finished, nor sinking of the earthwork, were perceptible.

10. In two instances, the destruction of the wing walls was probably caused in part, by the circumstance stated, of some 100 carts having passed over the bridges after their completion (though precautions for endeavouring to prevent them from doing so had been taken,) but the principal cause was doubtless that, of the walls having been defectively built.

11. The District Engineer attributes the destruction of the bridges to want of efficient Superintendence, but however that may be, Mr. Boesinger's statement is so honest and undisguised that beyond impressing upon him the necessity; though doubtless such is sufficiently apparent to him from the experience he has now gained; of not relying in future on the skill of the maistries employed under his orders, I do not consider that he is deserving of censure.

12. I forward to Government at once the report received, and the District Engineer has been called upon to state the amount of the estimates originally sanctioned for each bridge, the estimate in which they are provided for, being that of Rupees (13,590) thirteen thousand, five hundred and ninety, forming item No. 347, in statement No. 2 of the Budget for 1856-57; the District Engineer has also been requested to submit Plans and estimates for re-building the Bridges.

Fort Saint George, Public Works Consultation of 28th July 1857.

No. 53.

ORDER THEREON, No. 1430; dated 25th July 1857.

With his letter above recorded, the Chief Engineer submits copy of one from Supervisor Boesinger to the District Engineer of Canara, reporting the fall of the arches of four bridges on the Munzerabad Ghaut in that District. Colonel Faber ascribes the several accidents to the inferior quality of the materials used, as well as to the defective manner in which the wing walls were built.

2. A number of such accidents occurring one after another within a short space of time and under the same supervision is very unsatisfactory; and the reasons assigned for them are in the opinion of Government such as to make them doubt the efficiency of the officer who was in charge of the works. The Chief Engineer is inclined to pass over the matter too lightly when he says that he does not consider Mr. Boesinger deserving of any censure.

3. It may be observed that the Government having now a large and highly paid Public Works Establishment, have every right to expect efficiency; and the Right Honorable the Governor in Council is of opinion that in the present case Mr. Boesinger, who was entrusted with the Superintendence of the bridges, deserves great censure for his carelessness in allowing them to be built with materials, the quality of which, he admits, he was himself very doubtful of at the time he permitted them to be used.

4. In the use of laterite for arch work too much care can hardly be exercised in the selection of the stones, and unless all that are at all doubtful be rejected, an accident to the arch is inevitable.

(Signed) H. FORBES,
Acting Secretary to Government.

Central Office of Pub
Works
St. George's June 1857

No. 1545

From The Chief Engineer
To The Secretary to Government
Public Roads
P.W. Department

Sir,

I have the honor to forward for the information of Government, copy of a letter dated 5 instant from Supervisor Boesinger to the District Engineer, reporting the destruction of the following bridges on the Munzerabad Ghaut, in Canara

2. A bridge of 2 Arches across the river Golatato, the destruction of which is attributed to the inferior quality of the laterite stones used. Mr. Boesinger states that he was doubtful of their strength before the work was commenced, but as there were none better to be had within 2 miles and as he was assured by experienced masons that they were strong enough, he ventured to use them.

3. During the rains in May, the Chumaw about the springing line of the arches began to bulge out, and in parts to fall off, when cracks in the pier were visible, and on the 28 of the month, the arches fell simultaneously.

4. The foundations do not appear to

to have failed in any way, and Mr. Boesinger honestly acknowledges that no one is to blame, but himself.

5.- A bridge of one 24 feet arch across the Caechady Nullah. The wing walls and a portion of the arch were destroyed on the 27th May, and the remaining portion fell on the 3rd June.

6.- A bridge also of one 24 feet arch across a Nullah in the 15th mile, was so far destroyed, that it will be necessary to dismantle it, the wing walls on one side being cracked, and those on the other side having fallen down, carrying with them a portion of the arch.

7.- Another bridge of one 24 feet arch, the position of which is not named, had a portion of the wing walls on one side destroyed, but received no further injury.

8.- The stones with which the bridges last noticed, were built, are said to be of an average good quality, and the Chumam used was good. Mr. Boesinger states, that until the arches were keyed, he was no constant Superintendent, but unfortunately left the completion of the wing walls, and filling in of the approaches, to the Bricklayer, and Road Maistries, and the stones which had been rejected, were used for the upper parts of the wing walls.

9.- The destruction of these wing walls, was, I have no doubt occasioned, as explained, by the expansion of the earth between them.
proper

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proper arrangements not having been made for draining off the rain water, for during the continuance of the dry weather, for nearly 3 months, neither cracks in the masonry of the bridges that had been finished, nor sinking of the earth-work, were perceptible.

10.- In two instances, the destruction of the wing walls was probably caused in part by the circumstance stated, of some 100 Carts having passed over the bridges after their completion (the precautions for endeavouring to prevent them from doing so had been taken.) but the principal cause was doubtless that, of the walls having been defectively built.

11.- The District Engineer attributes the destruction of the bridges to want of efficient Superintendence, but however that may be, Mr. Boesinger's statement is so honest and undisguised, that beyond impressing upon him the necessity, tho' doubtless such is sufficiently apparent to him from the experience he has now gained, of not relying in future on the skill of the Maistries employed under his orders, I do not consider that he is deserving of censure.

12.- I forward to Government at once the report received, and the District Engineer has

to has been called upon to state the amount of the
his Estimates originally sanctioned for each bridge,
to the Estimates in which they are provided for, being
5. that of Rupees (3590...) thirteen thousand, five
C. hundred and ninety, forming item No. 347. in State-
ment No. 2 of the Budget for 1856/57. The District
2. Engineer has also been requested to submit
the Plans and Estimates for rebuilding the
6. Bridges.

I have the honor to be

Sir,

Your Most Obedt Servant

Central Office of R.W.C.
of Mr. St. George
re 28 June 1857.

Wm. Baker Colonel.

Chief Engineer

W.
At. Sup. Engr. G. C.

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From Mr. J. K. Boesinger
Sub Engineer
To Lieutenant Goddard
District Engineer of
Canara

Sir,
It is my most distressing duty to report
the destruction of some new Bridges built during
the past working season on the Mungerabad
Grant Roads.

2. Intelligence reached me on the 1st of
this month, that some new Bridges were in a
dangerous state by having had their wing walls
thrown down.

3. I left as quiet as possible for the place
and had here the last two days to witness
the following to me most distressing circumstances.

4. The new 2 Arched Bridge over Chaitator
River had fallen down, the cause of its destruc-
tion is doubtless the inferior latente stones used.
I had some doubt about their strength before
the Bridge was begun, but as no better ones are
to be found within two miles, and as all the
Goa Masons said they were quite strong enough,
I ventured to build the Bridge of the same.
On completion of the same, every thing looked
well, but after the rains during May, the
Chumam along the Pier about the springing
line of the Arches began to bend outwards and
partly fell off, when cracks in the Pier
became visible on the 28 of May, towards evening
both

It appears to me that the quality
of the latente is hard & the cause
of the fall of the Bridge - Attachment
perhaps insufficient & not well filled
in. Not tampered. (Ref to Mr. J. K. Boesinger
in Canara)

Sub J. K. Boesinger
1st to 2nd June 1837
J. K. Boesinger

From the Chief Engineer
to the Secretary & Government
Civil Department

Dated 27th June 1837
Recd 27th
1 Enclos.

Recd 27th June 1837

Forward copy of letter
from Sub Engineer Boesinger
to the District Engineer regarding
the destruction of Bridges
on the Mungerabad Grant
in Canara.

129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200

both Arches fell down at once, the remaining part of the Pier shows the statement of the people to be correct, the foundations are rocky, and no giving way in that part could have taken place, and nobody is to blame, but myself for the loss.

5.- Another Bridge with one Arch of 24 feet span over Caca Road, Nullah. had on the 27th May the wing walls upset on both sides, which toward the same time parts of the Arch away, the remaining part stood for some days more, but fell entirely down on the 3rd of June.

6.- Another one of the same size over a Nullah in the 15th mile had about the same time the wing walls on one side thrown down taking little or no part of the Arch away at the same time some cracks in the wing walls on the other side appeared, the remaining part of the Arch stood still, and is likely to remain, but even if it does, it is scarcely anything better than completely destroyed.

7.- Another one of the same size, had also part of the wing walls on one side upset, but at some distance behind the Arch, and the latter is not injured at all, yet in addition to the above most disagreeable.

8.- These latter Bridges have been built with laterite of an average good kind, such as is found so far inland, and if the stones were thought so weak, it would then be impossible to build Bridges with arches of 24 feet span in the above situations, the Chumans used was good, although without hydraulic properties

properties, yet that cannot be of any consequence, as very little moisture was present while under construction.

9.- Until the Arches were keyed, I was daily on the spot, but was uncautious enough to leave the completion of the wing walls and the Earth work to the Bricklayer, Masonry and Road Masonry, and all stones rejected for the works before mentioned were used for the upper parts of the wing walls. From all I saw and heard, I am scarcely otherwise but believe, that the swelling of the Earth between the wing walls on getting well soaked with water, caused the destruction of the last mentioned instances.

* No vent holes left for escape of air perhaps?
There appears to me to be no doubt of this.
For I had said the
24 ft. Causeway.

10.- As long as the weather was dry for 2 or nearly three months, no cracks nor any sinking in the earth work was visible. The latter 3 Bridges were traversed a few days after they were completed by loaded Carts, the traders broke down the fence and filled up the Ditches left on each side by night, as nobody saw them doing it, they all denied to have done, whether 100 or more loaded Carts could have caused any damage I do not know, visible was nothing. The greatest error seems to be, that so many works were carried on at the same time at considerable distances from each other. every effort was used to keep a constant supervision, yet it was some times not possible otherwise, but to leave as above stated the building of the wing walls and the earth.

(A want of efficient supervision
intended a person to be the
principal cause of the fall of
all but the first Bridge, I suppose the
24 ft. Causeway.)

with work to the Bricklayer, and Road making.
11. I have thus fulfilled with the greatest
regret a very unsatisfactory duty and the State.
ment given about each is to the best of
my knowledge..

I have the honor to
Sotetato / Sot Boesinger
5 June 1837. Sub Engineer

/ True Copy /
/ Sot Loddard Lt.
Dist. Eng. of Canada

/ True Copy /

Mr. Lott Colonel

Chief Engineer

L.W.D. No 1284 15
 I enclose this for
 any reminder the
 Government may
 wish to make.
 I think that the
 Chief Engineer is
 inclined to pass
 over this matter a
 great deal too easily.
 Then he says
 that he does not con-
 sider Mr. Baileys
 deserving of any

Enclosed is a letter
 from the Chief Engineer
 to the Secretary of the
 Civil Department

Recd 28th
 June 1887

P.P. 1284/57

Copy of letter from the
 Chief Engineer, Canning,
 respecting the construction of
 bridges on the Canning road
 at Canning.

century. The Govt. has

had a large, well light
paid establishment,
and a right to expect
efficiency. There is
in the present state here
does not appear to
have been even order.

very case. The Govt.

however admits that

he built a bridge with
materials which he

judiciously condemned.

It is a professional
question, and one
peculiar to the Govt.

17

success to be desired.

I think it is very possible
that if labor is

done under a system

where for each of

all kinds of work

should be selected

with the greatest care

H. L.

27. 6. 57

It is not only very

unsatisfactory than

has many misfortunes

N^o 1430

Extract from the Minutes of Consultation

Under date the 25th July, 1857.

Read the following letter from the Chief Engineer.

(Here enters 26th June 1857 N^o 15445)

With his letter above recorded, the Chief Engineer submits copy of one from Supervisor Boesinger to the District Engineer of Canada, reporting the fall of the arches of four bridges on the Mungerabad branch in that District. Colonel Faber ascribes the several accidents to the inferior quality of the materials used, as well as to the defective manner in which the wing walls were built.

2. A number of such accidents occurring one after another within a short space of time and under the same supervision is very unsatisfactory.

and

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11/6

happen under the same supervision. But I think cannot but doubt the efficiency of the person in charge. It is to be pointed out that the

Eng^r

LE

From my report it appears to have been carried on at some point in a very loose manner.

and the reasons assigned for them
are in the opinion of Government
such as to make them doubt the
efficiency of the Officer who was
in charge of the works. The
Chief Engineer is inclined to pass
over the matter too lightly when
he says that he does not consider
Mr Boevinger deserving of any
censure.

3. It may be observed that
the Government, having now a
large and highly paid Public
Works Establishment, have ~~the right~~
every right to expect efficiency; and
the Right Honorable the Governor
in Council is of opinion that in
the present case Mr Boevinger,
who was entrusted with the
Superintendence of the bridges,
deserves great censure for his
carelessness in allowing them to be
built with materials, the quality
of which, he admits, he was
himself very doubtful of at the
time he permitted them to be used.

In

4. In the use of stone
for arch work too much care
can hardly be exercised in the
selection of the stones, and unless
all that are at all doubtful
be rejected, an accident to the
arch is inevitable.

B. G.

9 Copies to the Chief Engr. Sep-27

Oct 17 March 1857

Public Works 1857 Aug 15
Re to Cons 28th June

Feb 14 30

(referred to the House of Commons)
March 25th June 1857
From the House of Commons
16th. in Cons.

From the House of Commons to the House of Commons

Concerning the Report
regarding the Fall of the Arctic
of four British and the others
years back. Great in Canada,
that the Government, who were
embodied with the work,
deserve great commendation for
their enterprise in building
towers with materials, the
quality of which is the most
improved and beautiful.

4052553.

18 July 1853