

(1) Number of pages 14
(2) Date of repair _____
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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 570	Press Mis.
548-49	
Dated 27-2-	1871

Not to be folded or roughly handled

MS

*Proceedings of the Madras Government, Public Works Department,
27th February 1871.*

No. 548 Read the following letter from Lieutenant-Colonel R A ROBERTS, R E, on Railway Bridge Committee, to the Secretary to Government, Public Works Department, dated Madras, 13th February 1871, No. 2.—

On behalf of the Committee appointed in G. O., 12th November 1870, No 2,710, to enquire into the state of the foundations of the Cheyaur bridge, and such "other bridges over wide and shifting rivers intercepted by the Madras Railway" as are supported on masonry piers founded on sand, etc., I have the honour to report as follows —

1 A preliminary inspection of the North-west Line was made by the Committee between the 21st and 27th November 1870, with a view of determining which should be the bridges to be included in the scrutiny above referred to, and instructions were forwarded, through the Chief Engineer, to the Resident Officers of the Railway, with regard to the steps to be taken by them in opening up those foundations which the Committee had arranged to examine

2. Similar instructions were furnished at the same time to the Resident Engineers on the South-west Line, and the preliminary arrangements have in all cases been now completed, except in those instances where the amount of water is still so great as to prevent anything effectual being done within a commensurate outlay.

3. I may mention here that the Committee have decided that the bridges, which appear to them to come under the category named by Government, are those exceeding 90 feet of clear bridge opening. Of bridges of this size and upwards there are, irrespective of those on screw pile piers,

On the South-west Line	45
" North west Line	52
" Bangalore Branch	4
Total	101

4 It is not intended, of course, to be inferred that the whole of these bridges are constructed on sandy and shifting river beds, but it has been thought desirable to prepare a list embracing the whole of these structures, and in the column of remarks to state the nature of the foundations of each, together with the requirements that may appear to the Committee to be necessitated in each case.

5. Owing to the unusual and heavy fall of rain that occurred not many days since, the pits that had been excavated, for the examination of the piers alluded to above, became filled with water, and it was not considered expedient therefore to commence baling and incur the additional expense and difficulty of inspection thus entailed, until the rivers had resumed their normal condition at this period of the year.

6 On the 6th instant I proceeded in company with the Acting Consulting Engineer down the North-west Line, and was engaged on that and the following two days in inspecting the beds of the larger rivers on this line, with a view of deciding whether definite arrangements might not now be made for the immediate inspection of the pier foundations. Having satisfied ourselves on this point, the Chief Engineer (who has now joined the Committee during Mr Going's absence on sick certificate) has furnished the Resident Engineer with the required instructions

*Proceedings of the Madras Government, Public Works Department,
27th February 1871*

for the same, and I trust to be able to forward very shortly a report of the Committee's proceedings in this respect.

7. With regard to the Cheyaur, the Acting Consulting Engineer has already, in his letter, 30th January 1871, No. 46, brought to the notice of Government the difficulties which have been experienced in reaching, for examination, the foundations of the pier selected for our operations. The coffer-dam that was driven in front of a portion of the south side of the 14th pier has been found insufficient for its purpose. For although it reached to a depth exceeding that of the foundation of the pier, and in spite of its comparatively small area, it is found, even with the two steam-pumps going, that it is not possible to keep it clear of water, in consequence of the water in the river making its way from the opposite side of the pier, and from under the pier into the dam, thus proving almost incontestably, as one should imagine, the instability of the footing on which that pier stands. In order, therefore, to make that complete inspection which is essentially necessary, it has been arranged to enclose the whole pier with a coffer-dam. Materials for this purpose are now being sent from Palghat and Madras, and no time will be lost in placing them in position so soon as they arrive.

8. In conclusion, I have the honour to state that a simple and inexpensive arrangement, by which the watchmen on the line may be enabled to traverse the open girder bridges at all times with safety and convenience, has been contrived by the Chief Engineer, and as it appears to the Committee to meet the requirements of Government in this respect, it has been decided to fix it for trial on a bridge on the North-west Line, so as to be ready for the examination of the Committee on their next tour of inspection.

No 549.

ORDER THEREON, 27th February 1871, No 570

RAILWAY, No 39.

ORDERED to be recorded.

(True Extract)

(Signed) CHARLES A ORR, Colonel, R E.,
Secretary to Government.

Exd S T. Augustin

No 2.

From

Respectable Mr. R. A Roberts R.E.
Railway Bridge Committee

To

Colonel C. A Orr R.E.
Secretary to Government
Public Works Deptt.
Fort Saint George

Sir,

On the half of the Committee,
appointed in G.O. 12th November 1870,
No 2710, to enquire into the state of
the foundations of the Cheyaur Bridge,
and such other bridges over wide and
"shifting rivers intercepted by the
"Madras Railway as are supported on
"masonry piers founded on sand, &c.,
I have the honour to report as follows:
A preliminary inspection
of the North-West Line was made by the

Committee between the 21st and 27th November 1870 with a view of determining which should be the bridges to be included in the scrutiny above referred to, and instructions were forwarded through the Chief Engineer to the Resident Officers of the Railway with regards to the steps to be taken by them in opening up those foundations which the Committee had arranged to examine.

2 Similar instructions were furnished at the same time to the Resident Engineers on the South-West Line, and the preliminary arrangements have in all cases been now completed except in those instances where the amount of water is still so great as to prevent any thing effectual being done.

with a commensurate outlay.
3. I may mention here that the Committee have decided that the bridges which appear to them to come under the Category named by Government are, those exceeding 90 feet of clear bridge-opening. Of bridges of this size and upwards there are, respectively, of those on screw pile piers,

On the South-West Line	45
North-West Line	52
Bangalore Branch	4
Total	101

4 It is not intended, of course, to be inferred that the whole of these bridges are constructed on

sandy and shifting river beds, but it has been thought desirable to prepare a list embracing the whole of these structures, and in the Column of Remarks to state the nature of the foundations of each together with the requirements that may appear to the Committee to be necessitated in each case.

5. Owing to the unusual and heavy fall of rain that occurred not many days since, the pits that had been excavated, for the examination of the piers alluded to above, became filled with water, and it was not considered expedient therefore to commence boring and insert the

additional.

3
additional expenses and difficulty of inspection thus entailed, until the rivers had resumed their normal condition at the period of the year 6.

On the 6th instant I proceeded in company with the Acting Consulting Engineer, down the North West Line, and was engaged on that and the following two days in inspecting the beds of the larger rivers on this line, with a view of deciding whether definite arrangements might not now be made for the immediate inspection of the pier-foundations. Having satisfied ourselves on this point, the Chief Engineer (who has now joined

the Committee during Mr. Goring's absence
on Sick Certificate) has furnished
the Resident Engineer with the
required instructions for the same.
And I trust to be able to forward
very shortly a report of the Committee's
proceedings in this respect.

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has already, in his letter 30th January 1871,
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been experienced in reaching, for
examination, the foundations of the
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spite of its comparatively small area,
it is found, even with the two steam-
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to keep it clear of water, in consequence
of the water in the river making its
way from the opposite side of the
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the dam, thus proving almost uncon-
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instability of the footing on which that
pier stands. In order, therefore,
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is essentially necessary, it has been arranged to enclose the whole pier with a coffer-dam. Materials for this purpose are now being sent from Buzhant and Madras, and no time will be lost in placing them in position, so soon as they arrive.

8. In conclusion I have the honour to state that a simple and inexpensive arrangement by which the watchmen on the line may be enabled to traverse the open girder bridges at all times with safety and convenience has been contrived by the Chief Engineer, and is submitted to the Committee to meet the requirements of Government in this respect,
it

110 5.
it has been decided to fix it for trial on a bridge on the North West Line, so as to be ready for the examination of the Committee on their next tour of inspection.

I have the honour to be,
Sir,

Your most obedient servant.

Madras 13th Feb 1871
J. J. Roberts Esq. Esq. Col. R. E.
on Railway Bridge Committee

Pro 12th September 1871-28
 1st February 1871-29-30
 13^c

For the 12th of Sept

1871 Sept

From No 666

Smith R.R. of R.R. Co

on Railway Company

to the 12th of Sept

10.11.1871

St George

Patent 13th of January 1871

No 2

Reporting on
 the state of the funds of
 the Glasgow Bridge
 and other bridges

No 570-27 of Sept 1871

No 670
 Return to be recorded

For Smith group
 27th of Sept 1871

1871

1871-1872

10/11 A
Epst. of 1871 Madras.

PUBLIC WORKS.

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G. O. 27 Feb 71, No 570.

Recd. 548 - 549

Bridges/Railway Letter
From Lt Col. R. A. Roberts.
R. & showing the steps
taken for the examination
of the foundations of the
existing bridges
on the Madras Railway.
Recorded.