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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	1152	Press
B.P. No.		Mis.
Dated	23-4-1954	6875

Not to be folded or roughly handled

No. 612. Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 5th April 1875, No. 193 :—

I HAVE the honor to submit, for the information of Government, a Note* by the
Officiating Deputy Consulting Engineer
upon the progress of the following works,
now under construction between Jollarett and Arconum, on the South-West Line of
the Madras Railway :—

- (1.) Rebuilding of bridge near Vaniembady station, destroyed on the 6th May 1874.
- (2.) Rebuilding of bridge near Mailputty station, destroyed on above date.
- (3.) Rebuilding of western portion of Gooriattum bridge, destroyed on 26th October 1874.
- (4.) Protective works to Palar bridge.
- (5.) Do. do. to Gooriattum bridge.
- (6.) Do. do. to Poiney do.

These works were inspected by Captain Thompson during last week.

2. The Railway Officers expect to have the bridges near Vaniembady and Mailputty finished by the middle of May, and the Gooriattum bridge by the end of that month.

3. Owing to the unusual quantity of water in the beds of the rivers, the progress made with the protective works has been slower than was expected.

Note on the Bridges under Reconstruction and the Bridge Protective Works between Jollarett and Arconum on the South-West Line of the Madras Railway.

I HAVE the honor to report that I yesterday inspected the bridges under reconstruction, and the bridge protective works between Arconum and Jollarett on the South-West Line, Madras Railway, with Mr. G. A. French and Mr. G. R. Watson, the Engineers in charge of the works.

2. VANIEMBADY BRIDGE.—A bridge consisting of four 30-foot girder openings is now being built over the Vaniembady river to replace one of five 15-foot girder openings which was carried away in the cyclone of May 1874.

3. The piers and abutments are being raised, so that the rail level will be 2 feet higher in the new than in the old bridge.

4. The new bridge will be of burnt stone throughout, brought by train from Sholinghur between Arcot and Arconum. The quality of the masonry now being put in is excellent. The old bridge was built of brick with stone quoins in the abutments and piers.

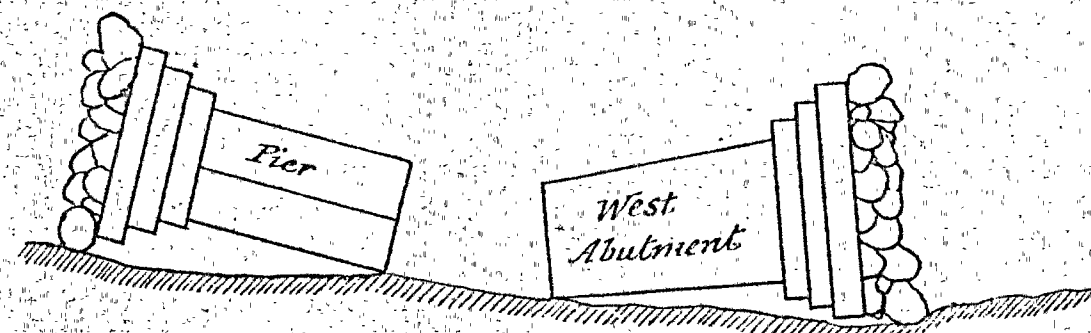
5. It appears to have failed simply from its not having been founded in a hard substratum at a sufficient depth to protect it from scour. The bond of the brick-work and the chunam used must have been excellent.

6. An examination of the west abutment and the pier next it proves the excellence of the workmanship and materials.

7. The river bed between this pier and abutment appears to have been scoured out very deeply, and the abutment and pier then fell in bodily towards each other, not breaking short off from their foundations, but actually turning them over with them, a layer of boulders which

*Proceedings of the Madras Government, Public Works Department,
23rd April 1875.*

formed the bottom of the foundation still tightly adhering to the under surfaces of the brick-work fastenings as shown in the diagram,



8. The state of progress of the bridge is as follows:—

East abutment.—Founded on rock 16 feet below the river bed. Masonry completed to a height of 2 feet above the bed of the stream.

Pier No. 1.—Debris of old bridge is being cleared away, and excavations made for the foundation. It will be founded on rock at a depth of from 15 to 16 feet below the river bed.

Pier No. 2.—Masonry just being commenced on a level bed of rock, 13 feet below the river bed.

Pier No. 3.—Founded on rock 14½ feet below the river bed, and masonry completed up to girder bed stone level.

West abutment.—Founded on rock 14 feet below river bed and completed up to girder level.

9. The masonry work will probably be completed and the bridge ready for girders by the end of the current month. The earthwork of the west approach is in progress. Mr. Watson, the Engineer in charge of this work, has met with a good many difficulties and vexatious delays, caused by floods during the construction.

In October last all the excavations were filled in, the pumping engine overturned and buried deeply in the river bed; in fact, all that had been done was undone.

10. *PALAR PROTECTIVE WORKS.*—The Palar protective works are progressing slowly, owing to the unusual height at which the water still stands in the sandy bed of the river.

11. The level of the water will have to be reduced about 9 feet below the river bed, before the curtain walls can properly be commenced on the rows of wells being sunk to support them in front and rear of the bridge flooring.

12. The water now stands at about 18 inches only below the river bed, although channels have been dug some distance below the bridge to drain the water off and reduce its level as much as possible; there does not appear to be much chance of the water falling low enough before the coming rains to admit of much of the curtain walls and flooring being put in during the current year, as the Palar takes its rise in the Mysore country, and already within the last week there have been several heavy falls of rain at Bangalore, Cadgoody, Malloor, and Coopum.

13. The Palar bridge consists of nineteen girder openings, and the state of progress of the protective works is as follows:—

From the east abutment to the 5th Pier.—Curtain walls on both sides and flooring completed.

From the 5th Pier to the 7th Pier.—The curtain wall on the south or down stream side of the bridge has been completed.

From the 7th to the 8th Pier.—Wells were put down on both sides last year, but not completed; they were covered over by floods, and have not since been uncovered.

From the 8th to 9th Pier.—Nothing done yet on either side.

From 9th to 11th Pier.—Wells have been commenced in this year on both sides, and are in various stages of progress.

From 11th to 12th Pier.—Nothing yet down on either side.

From 12th Pier to the west abutment of the bridge.—The curtain wall on the south side has been completed.

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From the 12th Pier to the 15th Pier on the north or up-stream side.—Wells were put in last year but not completed. Work was interrupted by floods, and the present state of these wells is not known. They are covered up with sand.

From the 15th Pier to the west abutment on the north side.—The curtain wall and flooring have been completed.

14. Wells one brick thick only are used, when the depth to be sunk does not exceed 15 feet. If sunk to a lower depth the wells are one and a half bricks in thickness.

15. The work will probably not be completed for another year, and if the next working season does not prove more favorable than the present one, the date of completion may be still further delayed.

16. The workmanship in the wells and flooring and the arrangements generally appear to be all that could be desired.

17. *MAILPUTTY BRIDGE.*—A bridge of two 30-foot girder spans is being constructed immediately to the west of the Mailputty station to replace one which was carried away during the cyclone of May 1874.

18. The wells to carry the west abutment have been sunk down to the hard and several courses of masonry laid over them.

19. The wells for the pier have already been sunk 12 feet, but will have to be sent down 12 feet more before masonry will be commenced over them.

20. In the east abutment six of the wells have been sunk about 6 feet deep. The work appears to be carried on vigorously, and Mr. Watson, the Engineer in charge, is in hopes of seeing its completion in about a month hence. The workmanship and materials appear to be excellent.

21. *GOORIATTUM BRIDGE RECONSTRUCTION.*—Prior to the floods of October 1874, the Gooriattum bridge consisted of two portions, viz., on the east, twenty-four skew arches of 30 feet span over the main body of the stream, then a piece of embankment or "island" as it was called, then came a bridge of five 30-foot arches built on the square over the western division of the stream.

22. These five arches, forming the western portion of the bridge, were carried away by the floods of October 1874; they are now being rebuilt; the "island" has been cleared away, and is being replaced by three additional spans of 30 feet each. The bridge when restored will therefore be continuous, and will have 90 lineal feet more waterway than before.

23. The western abutment of the old 5-arch bridge was not injured by the floods, and will now form the western abutment of the new 8-arch bridge.

24. The state of progress is as follows:—

Pier No. 1, next the west abutment.—Wells all down and masonry commenced.

" " 2.— Do. do.

" " 3.—Wells nearly completed.

" " 4.—Debris of the old bridge cleared away from the site, but wells not yet commenced.

" " 5.—Debris of old bridge not yet cleared away from the site.

" " 6.—Wells commenced.

" " 7.— Do. do.

" " 8.—Site not yet cleared of debris.

25. Arch No. 8 will have the western abutment of the skew arch bridge over the main stream as its eastern pier, in consequence of the "island" being cleared away.

26. The wells used are 1½ bricks = 14 inches in thickness, and the external diameter is 8 feet. Single rows of wells are put under the ordinary piers, and a double row under one of the piers which is to be an "abutment pier" of extra thickness.

The wells are now being sunk through a stratum of stiff clay, so the process of sinking is slow.

27. *GOORIATTUM PROTECTIVE WORKS.*—Great difficulty is experienced in sinking the wells for the protective works of this bridge owing to the amount of old timber piling, old picottah fixtures, and debris of all kinds, which were used round the piers of the bridge when they were founded and afterwards left buried in the sand.

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23rd April 1875.

28. To avoid these obstructions deep excavations have to be made before commencing the sinking of the wells, but even with this precaution a good many wells have been tilted out of the perpendicular, and it has been found necessary to break up and remove a number of them.

29. The state of progress is as follows:—

East abutment to 4th Pier.—Works, curtain walls, and flooring completed.

4th Pier to 14th Pier.—Excavations being taken out for wells in the south or down stream side. Nothing yet done on the north or up-stream side.

14th to 17th Pier.—Wells in various stages of progress on south side.

17th to 19th Pier.—Excavations being taken out for starting wells on the south side.

19th to 24th Pier.—Wells in various stages of progress on the south side from Pier No. 21 to Pier No. 24 on the north side. Well sinking has been commenced.

30. The workmanship and materials in the wells and flooring are excellent. In the flooring the slabs of burnt stone are laid on edge in chunam to a depth of 18 inches, the joints in a direction diagonal to the flow of stream, formerly a very compact durable floor.

31. POINEY PROTECTIVE WORKS.—The same obstructions to well sinking as in the Gooriatum are not met with in this work, but care is taken to examine the river bed as far as possible for timber and debris by pricking with a long thin iron rod before commencing the wells.

32. A little work was carried out on the north side of the bridge in last year, but it was covered up by floods and has been left in that state. Nothing further will be attempted on the north or up-stream side of the bridge in the current year.

33. The Poiney bridge consists of 56 arches of 30 feet span. The progress of the protective works is as follows:—

From the east abutment to Pier No. 10.—Wells are all in on the south side of the bridge to an average depth of 7 feet.

From Pier No. 10 to Pier No. 30.—All wells in to depths varying between 12 and 20 feet.

From Pier No. 30 to Pier No. 45.—Nothing done.

From Pier No. 45 to Pier No. 54.—Wells in to depths varying from 12 to 20 feet.

From Pier No. 54 to Pier No. 56.—Curtain walls on both sides of bridge, and flooring incomplete.

34. The workmanship and materials on this as in the other protective works under Mr French appear to be excellent, and the progress as rapid and satisfactory as is possible, considering the nature of the work to be done and the difficulties to contend with.

MADRAS, (Signed) ROSS THOMPSON, Captain, R.E.,
2nd April 1875. Offg. Depy. Congs. Engr. for Railways.

No. 613. ORDER THEREON, 23rd April 1875, No. 1,152.

RAILWAY, No. 77.

ORDERED to be recorded.

2. His Excellency the Governor
in Council looks to the officers in charge

for as speedy completion of these works as is consistent with safety.

(True Extract.)

Colonel, R.E.,

Secretary to Government.

To the Consulting Engineer for Railways.

Exd. W. J. Lewis.

Spere Copies

SP-63
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Note on the Bridges under
Reconstruction, and the
Bridge Protective Works
between Jollarpett and
Arcorum, on the South
West Line of the Madras
Railway

1. I have the honor to report
that I yesterday inspected
the bridges under recon-
struction, and the bridge pro-
-tective works between
Arcorum and Jollarpett
on the South West Line
Madras Railway, with
Mr G. H. French and Mr
G. R. Watson, the Engineers
in charge of the works.

2. Vainumbady
Bridge. A bridge consisting of
four 30ft-8in openings
is now being built over

Destroyed.

The Vamumbady River
replace one of June 15
best-Grider openings
which was carried away
in the Cyclone of May 1874

The piers and abutments^{3.}
are being raised, so that
the rail bed will be two
feet higher in the new
than in the old bridge

The new bridge will be of^{4.}
burnt-stone throughout,
brought by train from
Sholinghur, between Arcot
and Arcotum. The
quality of the masonry
now being put in is

excellent. The old bridge
was built of brick with
stone quoins in the abut-
ments and piers.

It appears to have failed^{5.}
simply from its not
having been founded

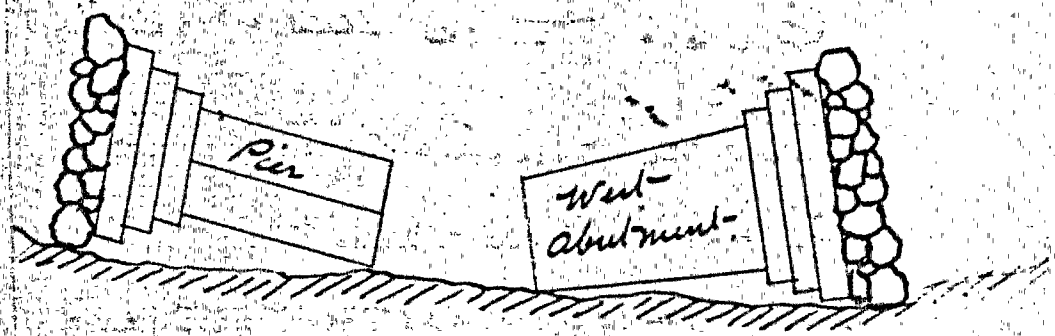
in a hard substrate^{6.}
at a sufficient depth to
protect it from scour
The bond of the brick work
and the Chumam used
must have been excellent

6. An examination of the
West Abutment and
the pier next it, proves
the excellence of the work-
manship and materials

7. The river bed, between this
pier and abutment
appears to have been
scoured out very deep
and the abutment and
pier then fell in bodily
towards each other, not
breaking short-off from
their foundation, but
actually turning them
over with them. A
layer of boulders, which
formed the bottom of the

destroyed.

foundation still tightly
adhering to the under
surfaces of the brick
work girders as shown
in the diagram



The state of progress of the S.
bridge is as follows

East-Abutment = Founded
on rock 15 feet below the
river bed. Masonry
completed to a height
of two feet above the
bed of the stream

Pier No 1 = Debris of old
bridge is being cleared
away and excavations
made for the foundation.
It will be founded on

Mr 28/7/55

on rock at a depth of 9 to
fifteen to sixteen feet
below the river bed

Pier No 2 = Masonry com-
menced on a
level bed of rock, 13 feet
below the river bed.

Pier No 3 = Founded on
rock, 14 1/2 feet below the
river bed, and masonry
completed, up to girder
bed stone level

~~Pier No~~

West-Abutment = Founded
on rock, 14 feet below
river bed and completed
up to girder level

9. The masonry work will
probably be completed
and the bridge ready
for girders by the end
of the current month.
The earth-work of the West-
approach is in progress

destroyed

1. Mr Watson, the Engineer
in Charge of this work
has met with a good
many difficulties and
retardations, caused
by floods during the
Construction.

2. In October last, all the
Excavations were filled
in, the pumping engine
overturned, and buried
deeply in the river bed,
in fact all that had been
done was undone.

Palar Protective works

10. The Palar Protective works
are progressing slowly,
owing to the unusual
height at which the
water still stands, in
the sandy bed of the river.
11. The level of the water will
have been reduced about
nine feet below the
river bed, before the
Curtain walls can properly
be commenced on the
rows of piles being sunk
to support them at front-
and rear of the bridge
flooring.
12. The water now stands
at about 18 inches only
below the river bed,
although channels have
been dug some distance
below the bridge, to drain
the water off and reduce

destroyed

its end as much as possible
 There does not appear to be
 much chance of the water
 falling low enough before
 the coming rains, to admit
 of much of the Curtain walls
 and flooring being put-
 in during the current-year
 As the Palar takes its
 rise in the Mysore Country
 and already, within
 the last week, there
 have been several heavy
 falls of rain at Bangalore
 Cadgordy, Malloor and
 Coopers.

The Palar Bridge consists 13.
 of 19 spans opening
 and the state of progress
 of the protective works
 is as follows.

From the East-Abutment
 to the 5th Pier = Curtain
 walls on both-sides and
 flooring completed.

13⁵⁰
 From the 5th Pier to the 7th
 Pier = The Curtain wall
 on the South, or down
 stream side of the bridge
 has been completed.

From the 7th to the 8th Pier =
 Cills were put-down
 on both-sides last-year
 but-not-completed,
 they were covered over by
 floods and have not-
 since been uncovered.

From 8th to 9th Pier = Nothing
 done yet on either side

From 9th to 11th Pier = Cills
 have been commenced
 in this year on both-sides
 and are in various stages
 of progress

From 11th to 12th Pier = Nothing
 yet done on either side

From 12th Pier to the West-
 Abutment of the bridge
 destroyed

The Curtain wall on the South Side has been completed.

From the 12th pier to the 15th pier on the North or up Stream side, = tulls were put in last year but not completed.

Work was interrupted by floods, and the present state of these tulls is not known they are covered up with sand.

From the 15th pier to the West-Abutment on the North-Side = The Curtain wall and flooring have been completed.

15.
Tulls one brick thick only are used when the depth to be sunk does not exceed fifteen feet.

If sunk to a lower depth the tulls are one and a half bricks in thickness.

16. The work will probably not be completed for another year, and if the next working season does not prove more favorable than the present one, the date of completion may be still further delayed.

17. The workmanship in the tulls and flooring, and the arrangements generally appear to be all that could be desired.

Mail putty Bridge

18.
A bridge of two 30 feet - spans
is being constructed
immediately to the West
of the Mail putty Station
to replace one which
was carried away
during the cyclone of
May 1874

19.
The tulls to carry the West
aboutment - have been
sunk down to the hard
and several courses of
masonry laid over them

20.
The tulls for the pier have
already been sunk 12 feet,
but will have to be sunk
down 12 feet more, before
masonry will be commenced
over them

21.
In the East - aboutment - dip
of the tulls have been sunk

about six feet deep. The
work appears to be carried
on vigorously, and Mr
Watson, the Engineer
Chief, is in hopes of
seeing its completion in
about a month hence.
The workmanship and
materials appear to be
Excellent.

destroyed

Mr Watson, the Engineer
in Charge of the work
has met with a good
many difficulties and
retardations, caused
by floods during the
construction.

In October last, all the
excavations were filled
in, the pumping engine
overturned, and buried
deeply in the river bed,
in fact all that had been
done was undone.

Palar Protective works

10. The Palar Protective works
are progressing slowly,
owing to the unusual
height at which the
water still stands, in
the sandy bed of the river.
11. The level of the water will
have been reduced about
nine feet below the
river bed, before the
curtain walls can properly
be commenced on the
rows of piers being sunk
to support them at front
and rear of the bridge
flooring.
12. The water now stands
at about 18 inches only
below the river bed,
although channels have
been dug some distance
below the bridge, to drain
the water off and reduce

destroyed.

its level as much as possible
There does not appear to be
much chance of the water
falling low enough before
the coming rains, to admit
of much of the Curtain walls
and flooring being put-
in during the current-year
As the Palar takes its
rise in the Mysore Country
and already, within
the last week, there
have been several heavy
falls of rain at Bangalore
Cadgory, Malloor and
Coopur.

The Palar Bridge, consists 13.
of 19 girder openings
and the state of progress
of the Protective works
is as follows.

From the East-Abutment 14.
to the 5th Pier = Curtain
walls on both sides and
flooring completed.

130
From the 5th Pier to the 7th
Pier = The Curtain wall
on the South, or down
stream side of the bridge
has been completed.

From the 7th to the 8th Pier =
Culverts were put down
on both sides last year
but not completed,
they were covered over by
floods and have not
since been uncovered.

From 8th to 9th Pier = Nothing
done yet on either side

From 9th to 11th Pier = Culverts
have been commenced
in this year on both sides
and are in various stages
of progress

From 11th to 12th Pier = Nothing
yet done on either side

From 12th Pier to the West-
Abutment of the bridge
destroyed,

The Curtain wall on the South-Side has been completed

From the 12th Pier to the 15th Pier on the North or up Stream Side, = tulls were put in last year but not completed.

Work was interrupted by floods, and the present state of these tulls is not known they are covered up with sand.

From the 15th Pier to the West-Abutment on the North-Side = The Curtain wall and flooring have been completed.

15th
Tulls one brick thick only are used when the depth to be sunk does not exceed fifteen feet. If sunk to a lower depth the tulls are one and a half bricks in thickness

1568

16. The work will probably not be completed for another year, and if the next working season does not prove more favorable than the present one the date of completion may be still further delayed

17. The workmanship in the tulls and flooring, and the arrangements generally appear to be all that could be desired

destroyed

Mail putty Bridge

18. A bridge of two 30 feet spans is being constructed immediately to the West of the Mail putty Station to replace one which was carried away during the cyclone of May 1874.

19. The tulls to carry the West- aboutment have been sunk down to the hard and several courses of masonry laid over them.

20. The tulls for the pier have already been sunk 12 feet, but will have to be sunk down 12 feet more, before masonry will be commenced over them.

21. In the East- aboutment, six of the tulls have been sunk

about six feet deep. The work appears to be carried on vigorously, and Mr Watson, the Engineer in Charge, is in hopes of seeing its completion in about a month. Hence the iron manacles and materials appear to be excellent.

Destroyed.

Gooriatlum Bridge Reconstruction

Prior to the floods of October 22, 1874. The Gooriatlum Bridge consisted of two portions viz. on the East - Twenty four Skew arches of 30 feet span over the main body of the Stream, then a piece of Embankment - or "Island" as it was called. Then came a bridge of five 30 feet arches built on the square over the Western division of the Stream.

These five arches, forming the Western portion of the bridge, were carried away by the floods of October 1874. They are now being rebuilt, the "Island" has been cleared away and is being replaced by

3 additional spans of ¹⁰ 30 feet each 190

The bridge when restored will therefore be continuous and will have thirty three feet more water way than before

24. The Western abutment of the old five arch bridge was not injured by the floods and will now form the Western abutment of the new eight-arch bridge

25. The State of Progress is as follows.

Per No 1. West - The West- Abutment - = Cells all down and masonry commenced.

Per No 2 = Do. " Do

Per No 3 = Cells nearly completed.

Destroyed

Pier No 4 = Debris of the
old bridge. Cleared away
from the site. Work calls
not yet commenced.

Pier No 5 = Debris of old
bridge. Not yet cleared
away from the site.

Pier No 6 = Calls commenced

Pier No 7 = Do. Do.

Pier No 8 = Site not yet
cleared of debris.

Arch No 8. Will have the
Custom about-must of the
Skew arch bridge over the
Main Stream, as the action
pier, in consequence of the
"Island" being cleared
away.

The calls used are $1\frac{1}{2}$ bricks ²⁷
= 14 inches in thickness,
and the external diameter
is 8 feet. Single rows of calls

are put under the ordinary
pier and a double row
under one of the piers which
is to be an "abutment pier"
of extra thickness.

The calls are now being
sunk through a stratum
of stiff clay, so the process
of sinking is slow.

destroyed.

Forriallum Protective Works

28.

Great difficulty is experienced in sinking the tulls for the protective works of this bridge owing to the amount of old timber piling, old picottah fixtures, and debris of all kinds, which were used round the piers of the bridge when they were founded and afterwards left buried in the sand.

29.

To avoid these obstructions deep excavations have to be made before commencing the sinking of the tulls, but even with this precaution, a good many tulls have been tilted out of the perpendicular and it has been found

necessary to break up and remove a number of them.

30.

The state of progress is as follows:

Part about mid- to 4th Pier =
tulls, certain walls and flooring on the side of

4th Pier to 14th Pier = Excavations being taken out for tulls in the South or down stream side. Nothing yet done on the North or up stream side of

14th to 17th Pier = tulls in various stages of progress on South side

17th to 19th Pier = Excavations on being taken out for starting tulls on the South side

19th to 24th Pier = tulls in various stages of progress on the South side
Destroyed,

From Pier No 21 to Pier No 24
on the North-Side = Cell
Sinking has been com-
-menced

The workmanship and 31.
materials in the Cells and
flooring are excellent.
In the flooring, the Slabs
of burnt-Stone are laid on
Edge in Chippendale, to a
depth of 18 inches. The joints
in a direction diagonal
to the form of Slabs, forming
a very compact-durable
floor.

35. The workmanship in this
as in the other structures
looks under Mr French
appear to be excellent-
and the progress as rapid
and satisfactory as is
possible, considering the
nature of the work to be
done and the difficulties
to contend with.

R. B. Thompson
Captain R.E.

Offg. D. B. Com. Eng'g. for
Railway

Madras 2nd April 1875

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Pony Protective Works

32. The same instructions to
tell Sinkin, as in the
Gaori allum are not
met with in this work
but care is taken to examine
the river bed as far as
possible for timber and
debris, by pricking
with a long thin iron rod
before commencing the
tells.

33. A little work was carried
out on the north-side of
the bridge w last year
but it was covered up
by floods and has been
left in that state. Nothing
further will be attempted
on the north or up
stream side of the bridge
in the current year.

34. The pony bridge consists of
30 feet span.

2 April. 1881.

The progress of the Protective
works is as follows

From the East-Abutment-
to Pier No 10 = Culls are
all in on the South
Side of the bridge, to
an average depth
of seven feet.

From Pier No 10 to Pier No 30 =
All culls in, to depth
varying between 12 and
20 feet.

From Pier No 30 to Pier No 45 =
Nothing done

From Pier No 45 to Pier No 54 =
Culls in, to depth varying
from 12 to 20 feet.

From Pier No 54 to Pier No 56 =
Certain walls on both
sides of bridge, and flooring
is complete.

90-23 April 75
in B M 6/7

Railway Department.

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CONSULTING ENGINEER'S OFFICE.

No. 193

From

LIEUT. COLONEL J. H. M. SHAW STEWART, R.E.,

Consulting Engineer for Railways,

To

COLONEL G. W. WALKER, R.E.,

Secretary to Government,

Public Works Department,

Fort Saint George.

SIR,

I have the honour to
submit, for the information
of Government, a note by the
dated 2nd April 1875. ^{Officiating Deputy Consulting}
Engineer upon the progress of
the following works, now
under construction between
Tallarpett and Arcanum, on
the South West line of the
Madras Railway:—

(1) Rebuilding of bridge
near Vammbady station
destroyed.

- (2) Rebuilding of bridge
near Mailputty station,
destroyed on above date.

- (3) Rebuilding of western portion of Joriatum bridge, destroyed on 26th October 1874.

- (4) Protective works to Palar bridge.

- (57) Protective works to
Goriatum bridge.

- (6) Protective works to
Pomey bridge.

These works were inspected by
Captain Thompson during each
week.

2 The Railway is.
Officers expect to have the bridges
near

316

near Venicmbady and Mailputty
finished by the middle of May,
and the Goriattum bridge by
the end of ~~that~~ month.

3. Owing to the unusual quantity of water in the beds of the rivers, the progress made with the protective works has been slower than was expected.

I have the honour to be

Per

Your Most Obedt Servant,

Maintained *George*

Los Cuyos Railway

Madras
5 April
1875

I am. I think I have been

Public Works Dept. 336

Proceedings of the Madras Government
Under date the 18/5

Read the following:-

From
The Const. Engineer for } H.C. No 193 of 5th April 1875.
Railway

Ordered to be
recorded.

The report is of interest, as shewing the progress actually made; but it is not reassuring as regards the prospects of early completion of the works. Even the Bridges are liable to be retarded at this season; and the protective works can make but slow way. I think it is well to be prepared for a little delay in the progress.

I am now travelling
 but in a few days
 will be in the city
 of Chicago, and
 will be glad to
 see you.

RAILWAY DEPARTMENT.

Mr. J. S. Deht
No. 2317

From
The Consulting Engineer,
for Railways,
To
The Secretary to Government,
P. W. Department,
Fort Saint George.
Dated *5th April* 1875
Recd. *10th April* 1875

No. 193
Encl.

Submitting a Note

by the officiating Deacons

Cancelling Engineer upon
the progress of the work.

Edw. Ballou

of neonium, in the South-
West line of the diaphanous

Palmer

5. H. 1152.23.4.75

Officers expect to have the bridges near

progress. The difficulties
caused by the nature
of the past season,
have been aggravated
by the wide extent of the
disasters, which have
no doubt prevented
as great concentration
of labour, materials,
and supervision, as
could have been
desired on the works
referred to in this
report.

l.m.w.

Inspection Report

GO-1152

2317

W. H. C.

612-613

2nd attch. C-11-675

C. E. C. C.

P. H. Dept. 356/5

Proceedings of the Madras Government

Read the following:-

From the Com Engineer
for Railways } (H. No. 193 dated 5th April 1875)

G. O. No. 1152 of 23rd April 1875
Ordered to be re-
corded.

His Excellency the
Governor in Council looks
to the Officers in charge
for as speedy completion
of these works as is con-
sistent with safety.

l.m.w.

Inspection Report

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Gobt. of 1875: Madras.
PUBLIC WORKS.

*Chief Engineer
of Railways*

Dated

By

Encl.

G. O., 23rd April 1875, No. *P 1152*

No. 512 - 013

*Madras Railway - Passing
orders on Deputy Consulting
Engineers report on the
progress of the works now
under construction between
Marpett and Arcconum.*