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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	3004	Press
B.P. No.		Mis. _____
Dated	28-10-	195- ¹⁸⁷⁴

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
28th October 1874.*

No. 596. 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, 29th September 1874, No. 578:—

I HAVE the honor to lay before Government a report* by the Deputy Consulting Engineer upon the Northern Extension of the South Indian Railway,

extending from Madras to Cuddalore, and from Cuddalore to Tanjore. The works upon this line were inspected by Captain Thompson during July and August.

2. The progress of the masonry has been greatly retarded by the unusually heavy rain which has fallen since the beginning of May, and I fear that the completion of the line must of necessity be affected by this unfortunate loss of time and material.

3. In other respects the progress of the works seems to have been satisfactory, with one exception; and I understand that prompt measures were taken to remove the inferior masonry noticed by Captain Thompson in paragraph 8 of his report, and to ensure the execution of work in District VII. more in keeping with what is to be seen upon all other parts of the extensions in progress.

Note on the Northern Extension of the South Indian Railway from Madras to Tanjore.

I HAVE the honor to report having inspected the Northern Extension of the South Indian Railway between Madras and Tanjore in the months of July and August 1874. Owing to the constant and heavy rains which had fallen prior to, and during my inspection, a large amount of the masonry which had been executed in foundations of bridges and culverts could not be seen, being under water.

2. Up to the middle of August 1874, about 37,000 cubic yards of earthwork had been executed, and nearly four miles of the line were up to "formation level."

District I.—Length 7 Miles 0 Chains.
Engineer in charge, Mr. A. D. Fox.

The Madras passenger and goods stations, also the Sydapett and Chetput Stations, had been commenced. About 2,800 cubic yards of masonry had been done.

3. Good progress has been made in earthwork, 162,000 cubic yards having been executed up to the middle of August. Nearly 13, out of the 16 miles of line are up to "formation level."

District II.—Length 16 Miles 0 Chains.
Engineer in charge, Mr. F. Bullmore.

The Guindy, St. Thomas' Mount, Palaveram, and Vandaloer Stations are in this district. The first three have been commenced. Rather more than 1,000 cubic yards of masonry have been executed.

4. Earthwork has made good progress, about 158,000 cubic yards having been executed to the middle of August. Nearly 10½ miles of line have been brought up to "formation level."

District III.—Length 15 Miles 0 Chains.
Engineer in charge, Mr. H. W. Hudson.

The masonry had not made much progress, owing to the heavy and constant rains which had put a complete stop to brick-burning. The Goodavancherry Station had been commenced; 361 cubic yards of masonry were executed, but nearly all in the foundations of bridges and culverts which were under water.

5. Up to the middle of August about 62,000 cubic yards of earthwork had been executed. Nearly 6 miles of line were up to "formation level." Rather more than 100 cubic yards of masonry had been built.

District IV.—Length 12 Miles 0 Chains.
Engineer in charge, Mr. T. Nicholls.

The bridges over the Palar and Carangooly rivers fall within this district. Neither of them had been commenced, owing to the incessant rains, which had fallen since the cyclone of May, and which had put a stop to many masonry works, besides all brick-burning. Large brick-fields were being opened on the banks of the Palar at the south side, and three large drying sheds erected to keep the bricks from being injured by weather whilst drying for the kiln.

*Proceedings of the Madras Government, Public Works Department,
28th October 1874.*

Several Contractors in this and other districts of the Northern Extension lost large numbers of bricks during the cyclone of May last, in consequence of the bricks being unsheltered.

6. About 56,000 cubic yards of earthwork had been done up to the middle of August, and about 5½ miles of line brought up to "formation level." Masonry had only been commenced a short time before my inspection. About 60 yards had been executed. Masonry work in this as in all the other districts had been much delayed by constant rains.

District V.—Length 18 Miles 0 Chains.
Engineer in charge, Mr. C. Scott.

The Engineer's bungalow at Acharawak is nearly completed. The Acharawak station ground has been cleared of date-palm jungle, and a fence has been planted in the boundary mound.

7. This district is well advanced in earthwork. About 201,000 cubic yards have been executed, and 12½ miles of line brought up to "formation level." About 130 cubic yards of masonry have been built. Six minor bridges were in hand, and about 2½ miles of line had been turfed, and the Tindevanum and Woolacoor station grounds partly cleared and fenced. There is an old well in the Tindevanum station ground which may possibly prove to be of use.

District VI.—Length 18 Miles 0 Chains.
Engineer in charge, Mr. J. A. Jones.

stone was being delivered at the sites of thirteen others. About 2½ miles of line had been turfed, and the Tindevanum and Woolacoor station grounds partly cleared and fenced. There is an old well in the Tindevanum station ground which may possibly prove to be of use.

8. The earthwork of this district was well forward. About 101,000 cubic yards had been completed up to the middle of August. Masonry had only been commenced a short time before my inspection. In the cases of several minor bridges and culverts, the masonry was not good. I therefore communicated at once with the Chief Engineer on the subject, who has doubtless adopted such measures as will ensure the removal of all the bad masonry, and the execution of good work in future. In a bridge of three 30 feet spans over the Pombay river (the only one of the larger bridges then in hand) the masonry, although not so neat as it should have been, seemed up to the mark in point of strength.

District VII.—Length 16 Miles 0 Chains.
Engineer in charge, Mr. Clark (Native).

9. The principal works in this district are a bridge of five 30 feet girder openings over the Viceravandy river, at 92 miles 13 chains from Madras. An excavation for one abutment had been completed, the soil consisting of alternate layers of sand and clay. The foundations will be on wells, and the bridge of granite throughout above the wells.

10. A bridge of three 30 feet spans over the Pombay river, at 97 miles 30 chains from Madras. The north abutment was raised slightly above the river bed, and the cross walls were within a foot of that level. No. 1 pier was founded on hard red clay at a depth of 18 feet below the river bed. A bridge of two 20 feet spans over the Paupanaputtoo Pombay river, for which 50,000 bricks were ready. The land to be taken up for the Villapuram and Viceravandy station grounds had just been lockspitted.

District VIII.—Length 14 Miles 0 Chains.
Engineer in charge, Mr. E. W. Thompson.

11. About 125,000 cubic yards of earthwork had been executed up to the middle of August, and nearly 12 miles of line brought up to "formation level." Masonry had only been commenced a short time before my inspection, and progress had been much retarded in this as in all the other districts by the cyclone of May, and constant rains subsequently. Rather more than 300 cubic yards of masonry had been built.

12. This district includes the bridge of seventeen 100 feet girder openings over the Pooneaur river, which flows past the Akadavilly station ground, a short distance to the north of it. During the cyclone of May last, owing to the bursting of a bund on the left bank of the river higher up the station ground was 4 feet under water. On the flood subsiding a deposit of sand was found which had raised the level of the station ground 6 inches. Bricks for the Pooneaur bridge were being made in the 105th and 106th miles, but many of them were not sufficiently burnt.

13. The Engineer's bungalow at Punrooty was finished and inhabited. The earthwork of the district was all up to "formation level," with the exception of sidings at stations, and gaps at bridges under construction.

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28th October 1874.*

14. In this district, as in No. VIII, the earthwork is completed to "formation level," with the exception of sidings at stations and gaps where bridges are to be constructed. About 136,000 cubic yards of earthwork had been executed. The foundations of almost all the minor bridges have been put in, so that when dry weather sets in they may be easily and rapidly completed. About 1,300 cubic yards of masonry have been built. The station at Nellicoopum had been commenced.

District IX.—Length 12 Miles 0 Chains.
Engineer in charge, Mr. H. C. Baggalay.

15. The bridge of nine 100 feet girder openings over the Guddelum river at Cuddalore is included in this district. Work had not been commenced, but bricks were being made and burnt close to the bridge-site for both wells and superstructure. The small branch, or "wharf line," connecting the old town of Cuddalore with the main line was completed both in earthwork and masonry, and permanent-way was being laid along it. A large number of rails, sleepers, etc., had been landed at the wharves in Cuddalore Old Town.

16. This district had only just been commenced at the date of my visit to Cuddalore. Bricks were being made and burnt in the 8th and 15th miles. Those made in the 15th mile were intended for the bridge over the Paravannur river, near Poodoochuttrum.

District X.
Engineer in charge, Mr. H. C. Baggalay.

17. Between District X. and Tanjore, work had not been commenced. The line had been staked out northwards from Tanjore to a point about 17 miles distant on the banks of the Trimulrajennur river. Mr. Bowstead was continuing the staking out from this point to Combaconum; whence Mr. Hemans was proceeding with the same work northwards towards Myaveram.

18. With the exceptions noted above in paragraph No. 8, all the masonry which I had an opportunity of seeing appeared to be of good material and workmanship throughout the line.

19. About ⅓ths or rather less than one-eighth of the total estimated amount of masonry had been executed up to the middle of August; almost all in minor bridge work. Many lakhs of bricks were destroyed during the cyclone and subsequent rains (the loss fell chiefly on Contractors). Had the season been more favorable, there would doubtless have been a much larger amount of masonry work carried out.

20. In earthwork about ⅓ths or rather more than one-half the total estimated amount had been executed up to the middle of August. Out of 128 miles of line between Madras and Cuddalore, nearly 84 miles were completed in earthwork to "formation level."

BANGALORE,
27th September 1874.

(Signed) ROSS THOMPSON, Captain, R.E.,
Offg. Deputy Consulting Engineer for Railways.

No. 597.

ORDER THEREON, 28th October 1874, No. 3,064.

RAILWAY, No. 88.

ORDERED to be recorded.

(True Extract.)

Colonel, R.E.,

Secretary to Government.

To the Consulting Engineer for Railways.

Exd. T. O'Connor.

Spare Copies



31-8-74 S.P. 3

Note on the Northern Extension
of the South Indian Railway,
from Madras to Tanjore -

1. I have the honour to report -
Having inspected the Northern
Extension of the South Indian
Railway, between Madras and
Tanjore, in the months of
July and August - 1874

Owing to the constant and
heavy rains which had
fallen prior to and during
my inspection, a large
amount of the masonry
which had been executed
in foundations of bridges and
culverts, could not be seen -
being under water.

2. District - I
Length 7 Miles 0 Chains
Engineer in Charge
Mr A. D. Fox

Up to the middle of August - 1874
about - 37,000 Cubic Yards of

of Earth work had been executed
and nearly four miles of the
line were up to formation
level.

The Madras Passenger and
Goods Stations also the
Sydapet and Chelput
Stations had been commenced.
About 2800 Cubic Yards of
Masonry had been done.

District II

3.

Length 16 Miles 0 Chains
Engineer in Charge
Mr. F. Bullimore

Good progress has been made
in Earth work. 162,000

Cubic Yards of having been
executed up to the middle
of August. Nearly 13 out
of the 16 miles of line are
up to formation level.

The Gundy, St. Thomas' Mount
Palanrao and Vandaloor
Stations are in this District.

The first three have been
commenced. Rather more
than 1000 Cubic Yards
of masonry have been
executed.

District III

4. Length 15 Miles 0 Chains
Engineer in Charge
Mr. H. W. Hudson

Earth work has made good
progress. About 158,000 Cys
having been executed to the
middle of August. Nearly
10½ miles of line have been
brought up to formation level.
The masonry had not made
much progress, owing to
the heavy and constant
rains, which had put a
complete stop to brick
burning. The Goodaranchi
Station had been commenced.
361 Cubic Yards of masonry
were executed, but nearly
all in the foundations of
bridges and culverts which

Which were under water.

District IV

5.

Length 12 Miles 0 Chains

Engineer in Charge
Mr. J. Nicholls.

Up to the middle of August -
About 62,000 Cubic Yards
of Earth work had been
executed. Nearly 6 miles
of line were up to formation.

Levelled. - Pattern more than
100 Cubic Yards of Masonry
had been built.

The Bridges over the Palan
and Carangooly Rivers

of all within this District
had been commenced, owing to the

incessant rains, which
had fallen since the

Cyclone of May, and which
had put a stop to many

masonry works, besides all
brick burning. Large

brick fields were being

being opened on the banks
of the Palan, at the South
side, and three large drying
sheds erected, to keep the
bricks from being injured
by weather, whilst drying
for the kiln.

Several Contractors in
this and other Districts of
the Northern Extension, lost
large numbers of bricks &
during the Cyclone of May
lost, in consequence of the
bricks being unsheltered.

6. District V

Length 18 Miles 0 Chains

Engineer in Charge
Mr. C. Scott.

About 56,000 Cubic Yards
of Earth work had been done
up to the middle of August -
and about $5\frac{3}{4}$ miles
of line brought up to
formation level. Masonry
had only been commenced
a short time before my

Inspection. About 60 yards
had been executed.

Masonry work in this as in
all the other Districts had
been much delayed by
constant rains.

The Engineer's bungalow
at Acheraoak is nearly
completed. The Acheraoak
Station Ground has been
cleared of date-palm jungle,
and a fence has been planted
in the boundary mound.

District VII
Length 18 miles 0 Chains
Engineer in Charge
Mr J. A. Jones

This District is well advanced
in earth work. About
201,000 Cubic Yards have
been executed, and $12\frac{1}{2}$ miles
of line brought up to
formation level. About
130 Cubic Yards of masonry
have been built. Six

Minor bridges were in hand,
and stone was being delivered
at the sites of thirteen others.
About $2\frac{1}{2}$ miles of line had
been turfed, and the
Lindavanam and Woolacoor
Station grounds partly
cleared and fenced.
There is an old well in
the Lindavanam Station
ground which may
possibly prove to be of use.

District VIII
8. Length 16 miles 0 Chains
Engineer in Charge
Mr Clark (Native)

The earth work of this District
was well forward. About
101,000 Cubic Yards had
been completed up to the
middle of August. Masonry
had only been commenced
a short time before my
inspection. In the cases
of several minor bridges
and culverts, the masonry
was not good - I therefore

Communicated at once with
with the Chief Engineer on
the Subject, who has doubtless
adopted such measures
as will insure the removal
of all the lead-masonry and
the execution of good work
in future. In a bridge
of three 30ft spans, over
the Pombay River, (the only
one of the larger bridges then
in hand) the masonry
although not so great as
it should have been, seemed
up to the mark in point
of strength.

The principal works in this
District are a bridge of
5. 30ft spans opening
over the Viceravandy River,
21-92 miles 13 Chams from
Madras. An excavation
for the Abutment had
been completed. The soil
consisting of alternate layers
of sand and clay. The
foundations will be on talls,
and the bridge of Granite

9.

1. Granite Throughout - above
the walls.

10. A bridge of three 30ft spans
over the Pombay River, at
97 miles 30 Chams from Madras.
The North Abutment was
raised slightly above the River
bed, and the Cross walls
were within a foot of that
level. No pier was
founded on hard red clay
at a depth of 18 feet below
the River bed.

A bridge of two 20ft spans
over the Paupanapattur Pombay
River, for which 50,000 bricks
were ready.

The land to be taken up
for the Villapooram and
Viceravandy Station grounds
had just been allotted.

11.

District VIII
Length 14 miles 0 Chams
Engineer in Charge
Mr. P. W. Thompson
About 125,000 Cubic Yards
of Earthwork had been

District IX
Length 12 miles 0 chains
Engineer in Charge
Mr H. C. Baggaley

In this District, as in
No VIII, the Earth work is
Completed to formation level,
with the exception of Sidings
at Stations and Gaps where
bridges are to be constructed.
About 136,000 Cubic Yards
of Earth work had been ex-
ecuted.
The foundations of almost all
the minor bridges have been
put in, so that when dry
weather sets in, they may
be easily and rapidly
completed.

About 1300 Cubic Yards
of Masonry have been
built—
The Station at Mellicoopum
had been commenced



15. The bridge of masonry 100 ft. girders
openings over the Guddalur
River at Cuddalore, is
included in this District.
Work had not been commenced
but bricks were being made
and burnt close to the bridge
and site for both wells and
superstructure—

The small branch, or
"Wharf Line" connecting the
old town of Cuddalore with
the main line was completed
both in earth work and
masonry, and permanent-
way was being laid along it.
A large number of rails, sleepers
&c... had been landed at
the Wharves in Cuddalore Old
town.

District X
Engineer in Charge
Mr H. C. Baggaley

This District had only just
been commenced at the
date of my visit to Cuddalore.

Bricks were being made and
burnt in the 8th and 15th miles,
those made in the 15th mile
were intended for the bridge
over the Paravannur river,
near Poodochutram.

Between District ~~X~~ and 17.
Tanjore, work had not been
commenced, the line had
been staked out northwards
from Tanjore to a point about
17 miles distant on the banks
of the Simulrajapur river.
Mr Bowstead was continuing
the staking out from this
point to Combaconum
whence Mr Henius was
proceeding with the same
work northwards towards
Myanuram.

With the exception noted above 18.
in Para No 8, all the masonry
which I had an opportunity
of seeing, appeared to be of good
material and workmanship.

workmanship, throughout the
line

19. About $\frac{3}{25}$ or rather less than
one eighth of the total
estimated amount of masonry
had been executed, up to the
middle of August. Almost
all in minor bridge work.
Many lakhs of bricks were
destroyed during the cyclone
and subsequent rains, (the
loss fell chiefly on Contractors)
Had the season been more
favourable, there would
doubtless have been a
much larger amount of
masonry work carried out.

20. In earth work about $\frac{11}{20}$
or rather more than one
half the total estimated
amount had been executed,
up to the middle of August.
Out of 128 miles of line
between Madras and

And Cuddalore, nearly
84 miles were completed
in earthwork & formation
level.

Mr. 6123/74.
40-3064-28-10-74
L. 13. 8. 596

[Signature]

Capt. H. H.

Offg. Dy. Com. Engineer for Railway

September 27th 1874
Bangalore

29. left.
W.

Railway Department.

CONSULTING ENGINEER'S OFFICE.

No. 578.

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,

*
Dated 27th
September 1874.

I have the honour to lay
before Government a report by the
Deputy Consulting Engineer upon
the Northern Extension of the
South Indian Railway, extending
from Madras to Cuddalore, and
from Cuddalore to Tanjore. The
works upon this line were inspected
by Captain Thompson during
July and August.

2. The progress of the masonry
has been greatly retarded by the
unusually

unusually heavy rain which has fallen since the beginning of May, and I fear that the completion of the line must of necessity be affected by this unfortunate loss of time and material.

3. In other respects the progress of the works seems to have been satisfactory, with one exception; and I understand that prompt measures were taken to remove the inferior masonry noticed by Captain Thompson in paragraph 8 of his report; and to insure the execution of work in District VII more in keeping with what is to be seen upon all

all other parts of the Extensions
in progress.

I have the honor to be
Sir

Your most obedient servant

Mantua
Lieut. Col. R.

Cons: Engineer for Railways

2 Madras
29th September
1874
Exp. Acct.

1660

31

1

王右軍書

10

73

RAILWAY DEPARTMENT.

O. W. 1874 dep't.
No: 6123.

From
The Consulting Engineer
for Railways,

To
The Secretary to Government,
P. W. Department,
Fort Saint George.

Dated 29th Decr. 1874.
Recd. 1st Decr 1874.

E. I. V. No. 595

Submits a report
by the above Eng.
for Railways upon
the Southern Extension
of the S. & O. Railway
from Broadwood to
Hemel Hempstead
and with notes.

Received

3064

Received by Mr. W. J. P. W. 1874.
O. W. 1874 dep't.
No: 6123.

596-597

Recd 3/10/74. Recd 10/10/74.
Under date 1st Decr 1874.

6123
Gobt. of 1874 Madras.

PUBLIC WORKS.

To The Consulting Engineer
for Railways

Dated

Recd.

Encl. /

G. O. 28 Oct. 1874. No. 3064

from Cuddalore to
Sangre, recorded.

Nos 648 & 597
Inspection Report. P. 20
North Extension of the
The S. P. Ry. L. L. from
the line for P. 20 sub.
by the S. P. Ry. L. L. L.
submitting a report upon
the northern extension of the
S. P. Ry. extending from
Madras to Cuddalore &

RAILWAY DEPARTMENT.

The Consulting Engineer
for Railways.

The Secretary to Government,
P. W. Department,
Fort Saint George.

dated 29 Oct. 1874.
Recd. 1 Oct. 1874.

No. 598

submit a report
the Sangre & Sangre
Railway upon
the S. P. Ry. L. L. L.
from Madras to Cuddalore

596-597

Encl. 3/10/74. Recd. 3/10/74.
under 648 & 597. 1874.

from Madras to Cuddalore
submit a report
the Sangre & Sangre
Railway upon
the S. P. Ry. L. L. L.
from Madras to Cuddalore