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MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No. 2021-22
B.P. No.

Press
Mis.

Dated

27-7-

4874

195

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
27th July 1874.*

No. 586. \ 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, 23rd June 1874, No. 365 :—

REFERRING to my letters marginally noted, I have the honor to submit, for the sanction of the Government of India, estimates* of the cost of constructing two bridges designed to span the breaches at 105-11 miles and 123-23 miles on the South-West Line of the Madras Railway, caused by the floods during the 5th and 6th May 1874.

No. 270, dated 8th May 1874.

„ 279 „ 11th „ „
„ 295 „ 15th „ „
„ 307 „ 20th „ „
„ 323 „ 1st June „

* With plans with Agent's letters Nos. 452 and 513, dated 23rd May and 10th June 1874.

2. The bridge carried away at 123-23 miles consisted of five 15 feet girder openings, and it is proposed to build in its place a bridge of three 30 feet openings. The estimated cost is Rupees 27,866. In the enclosed report the Chief Engineer explains the circumstances under which the bridge was destroyed, attributing the accident to the breaching of three tanks in the valley of the Vaniembady river above the line of railway; but the District Engineer of Salem, who was addressed on the subject, forwarded a report from the Range Officer, in which it was denied that any tanks in that valley had been breached. I accordingly asked Captain Thompson, Deputy Consulting Engineer, to inspect personally the valley of the Vaniembady river; and the enclosed report, corroborating the statement made by the Railway Engineers, sets all doubts at rest.

3. At 105-11 miles the damaged bridge consisted of four 15 feet girder openings, and it is now proposed to replace it with two 30 feet openings. The estimated cost is Rupees 14,892. The accident at this place was caused by the breaching of an irrigation channel led from the Palar river. The channel has no regulating sluice, and a large volume of the Palar water was consequently brought down through the breach direct upon the bridge.

4. The localities connected with the two accidents are shown in the accompanying sketches.

5. In his letter, No. 513, the Agent writes as follows :—

“ There can, I think, be no doubt that the breach near Vaniembady, at the 124th mile, was caused by the bursting of tanks, and the one near Mailputty, at the 105th mile, by the breaching of an irrigation channel which was unprovided with a regulating sluice. The Company has always maintained that it is entitled to recover the expenditure entailed upon it by accidents of this nature, caused, as we believe, by the negligence of others, but until the appeal in the Carwaitnugger case, which is now pending in England, is decided, I am not in a position to press the Company's claim in this respect.

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27th July 1874.*

"3. With reference, however, to the 2nd paragraph of my letter No. 452, of the 23rd ultimo, and to the two estimates forwarded therewith, I trust that the circumstances, as now described by the Acting Chief Engineer, will be sufficient to show that the two accidents in question were cases of "extraordinary casualties," such as are referred to in the 11th paragraph of Sir Charles Wood's despatch, No. 17, dated the 9th of March 1864, and that, as proposed by Mr. Going, the Government will be pleased to sanction as a charge to Capital the difference between the cost of the proposed new bridges and the actual cost of the original bridges which they are to replace."

6. If Sir Charles Wood's ruling, in the despatch quoted by the Agent, be held to be applicable to the cases now under consideration, of the cost of the new bridge at 123-23 miles, Rupees 11,454 will be chargeable to Capital and Rupees 16,412 to Revenue. And of the cost of the new bridge at 105-11 miles, Rupees 10,125 will be chargeable to Capital and Rupees 4,767 to Revenue.

7. For the portions chargeable to Capital, funds are available from Schedule B, "Unforeseen requirements," in the Budget Estimate for 1874-75; and the sanction will lapse at the end of the eighth quarter after their receipt.

8. As it is of great importance that the works should be proceeded with at once, I have authorized their commencement in anticipation of sanction.

Note on the Vaniembady River and condition of the Tanks in immediate connection with it.

I HAVE the honour to report that I made an examination yesterday (June 17th, 1874) of the Vaniembady river and the tanks in immediate connection with it, above the South-West Line of the Madras Railway.

2. I proceeded by the public road to the head of the Vaniembady valley, and then followed the course of the stream down to the point where it crosses the line of rail in the 124th mile.

3. From the head of the valley, four tanks are situated in the following order:—

1st.—The Puchnary or "Paikary" tank, about 8½ miles from Vaniembady.

2nd.—The Covenary tank, about the same distance from Vaniembady and immediately below the Paikary tank.

3rd.—The Cothacootay tank, below the Covenary, and about four miles from Vaniembady.

4th.—The Vaypampett tank, about two or two and a half miles from Vaniembady.

4. The Puchnary or Paikary tank is breached in four places; a stream of about 5 feet in width and 3 or 4 inches in depth is flowing from it into the Covenary tank immediately below.

The bund of the Paikary tank forms part of the public road. Owing to its being breached all wheel traffic now makes a detour over the fields above the tank. The repairs of the bund have apparently not been commenced yet.

5. The Covenary, which receives the surplus of the Paikary tank, has been breached at both ends. The breaches are partially repaired.

6. In the Cothacootay tank, which receives the surplus of the Covenary, there is a wide, deep breach at one end of the bund, through this breach a stream of 8 or 10 feet in width and several inches in depth still rushes into the Vaniembady river.

7. The Vaypampett tank is breached in two places, the water escaping to the Vaniembady river, not far from line of rail.

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27th July 1874.*

This tank is independent of the three abovementioned, not receiving any of their surplus water.

8. I made inquiries from a number of villagers along the course of the stream as to when and why the tanks breached; they were unanimous in saying that "the heavy rains of about forty days ago in May month caused all the damage;" that "the Cothacootay tank breached because the Paikary and Covenary tanks above it had breached," and that the Vaniembady village and bridge had suffered as they did "in consequence of the breached tanks discharging into the Vaniembady river."

9. Mr. French, Assistant Engineer, who was deputed by the Acting Chief Engineer of the Madras Railway to examine the Vaniembady river and tanks connected with it, has submitted a report on the subject, dated May 22nd 1874. I cannot add any thing further to this report of Mr. French's, the information given in which appears to me to be perfectly accurate in every detail.

MADRAS,
18th June 1874.

(Signed) ROSS THOMPSON, Captain, R.E.,
Offg. Deputy Consgr. Engr. for Railways.

From R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Madras, 23rd May 1874, No. 452.

WITH reference to my letter No. 434, of the 19th instant, and to previous correspondence, I have the honor to forward herewith, for submission to Government, plans* and estimates for

* Nos. 187 and 189.
the two bridges designed to span the breaches at 105th mile 11th telegraph post, and 123rd mile 23rd telegraph post, South-West Line, caused by the cyclone of the 5th instant. The cost of the new bridge at 105th mile 11th telegraph post, is estimated to be Rupees 14,892, and of the one at 123rd mile 23rd telegraph post Rupees 27,866.

2. In forwarding the estimates to me the Acting Chief Engineer makes the following observations:—

"As this was a casualty of quite an exceptional nature, I have, in accordance with clause 11 of Sir Charles Wood's despatch, dated 9th March 1864, charged to Capital the difference between the estimated cost of each of the proposed bridges and the actual cost of the original bridges which they are to replace.

"That the casualty was an extraordinary one, I trust to be in a position to show when preparing my further report on the circumstances of it as I expect to do shortly."

3. In the meantime it is of the utmost importance that the work shall be proceeded with at once, and I beg that, leaving the question of the allocation of the expenditure to be finally determined hereafter, you will be so good as to give authority for the commencement of operations in anticipation of the sanction of Government.

4. Information as to provision in the Budget and as to the date on which the sanctions will lapse is given on the face of the estimates.

From R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Madras, 10th June 1874, No. 513.

WITH reference to your letter No. 503, of the 2nd instant, I have the honor to enclose you a copy of the Acting Chief Engineer's letter, No. 373, dated the 8th idem, regarding the circumstances connected with the accidents on the 6th ultimo at the 105th and 124th miles of the South-

*Proceedings of the Madras Government, Public Works Department,
27th July 1874.*

West Line. I also enclose you a copy of Mr. French's report on the two sketches alluded to by Mr. Going.

2. There can, I think, be no doubt that the breach near Vaniembady, at the 124th mile, was caused by the bursting of tanks, and the one near Mailputty, at the 105th mile, by the breaching of an irrigation channel which was unprovided with a regulating sluice. The Company has always maintained that it is entitled to recover the expenditure entailed upon it by accidents of this nature, caused, as we believe, by the negligence of others, but until the appeal in the Carwait-nugger case, which is now pending in England, is decided, I am not in a position to press the Company's claim in this respect.

3. With reference however to the 2nd paragraph of my letter, No. 452 of the 23rd ultimo, and to the two estimates forwarded therewith, I trust that the circumstances, as now described by the Acting Chief Engineer, will be sufficient to show that the two accidents in question were cases of "extraordinary casualties" such as are referred to in the 11th paragraph of Sir Charles Wood's Despatch, No. 17, dated the 9th of March 1864, and that, as proposed by Mr. Going, the Government will be pleased to sanction as a charge to Capital the difference between the cost of the proposed new bridges and the actual cost of the original bridges which they are to replace.

From T. H. GOING, Esq., Acting Chief Engineer, to R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, dated Madras, 8th June 1874, No. 373.

With reference to Consulting Engineer's letter No. 503, of 2nd instant, I have now the pleasure to submit, as promised in mine No. 336, a further report of the circumstances which caused the accidents on the 5th ultimo at 105th and 124th miles, South-West Line.

First.—As to the breach at 123-23, I deputed Mr. French to make a special examination of the valley of Vaniembady river, and his report confirms the statement made with my letter No. 315 of 13th ultimo, as to the Cothacotay tank having burst. It will be seen by his statement, of which a copy is herewith enclosed together with explanatory plan, that a chain of three tanks (A, C, D, on plan and statement) burst and the accumulated water came down on the railway at 123-23, carrying away the bridge there. The Vaniembady river, which was spanned by this bridge, was already in very heavy flood from the great fall of rain which occurred in the valley on the day of the cyclone, when the sudden accession of water from the breached tanks came down. The large masses of brickwork which were carried by the stream for considerable distances prove how irresistible must have been the force of the flood. One of these portions of the ruined bridge, measuring 12 feet by 4 feet by 4 feet, was swept away to a distance of about 150 yards.

Second.—As to the breach at 105-11. The damage to the bridge of four 30 feet arches at this place was caused by the breaching of an irrigation channel which takes off from the Palar river above the railway, and is unprovided with a regulating sluice. On the day in question the Palar river was in very heavy flood and over-flowed its east bank above the railway. The bridge at 105-11 was probably designed, in the first instance, to carry away such extraordinary overflows of the Palar, of which such portion as did not return to the river as it subsided would otherwise continue to lie in the low grounds above the railway. It would do no further mischief than this, and probably the bridge might have been omitted. The immediate cause of the scour which undermined the bridge and ruined the upper half of it was the breaching of the irrigation channel at a point opposite to the bridge. As this channel has no regulating sluice it brought down the Palar water direct to the bridge in question, through the breach, till an immense volume had accumulated, and the mischievous effect was greatly increased by a stack of straw which, as stated in my letter No. 315 of 13th ultimo, had been washed with the flood to the bridge and arrested there.

I forward herewith a sketch (not to scale) which will give some idea of the general features of the locality.

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27th July 1874.*

MADRAS RAILWAY.

Report detailing damage done to tanks in the Vaniembady Valley on May 6th, 1874.

Name of Tanks.	Distance from Vaniembady.	Average area when full.	Number of Calingulahs.	Condition of bund.	Cause of failure.	Revetted or not.	Remarks.
(A.) Puchary.	8½	½ Sq. M. ...	1, forty feet wide.	With the exception of two breaches 60' x 10' and two breaches 20' x 6' the bund is in good order. Masonry of calingulah is not damaged.	Calingulah was neither wide enough nor low enough to discharge the surplus water in time to save the bund. The consequence was the water ran over the lowest parts of the bund and breached them.	Yes, roughly on the inner side.	The bund of this tank forms a part of the public road from Vaniembady to some large villages lying to the south-east of Vaniembady.
(B.) Covenary.	8½	½ " "	Nil	Good, with exception of slight breaches at both ends.	Water from Puchary tank run through Covenary tank, but fortunately the natural ground (at the ends of Covenary bund) was low enough to let out the surplus water quickly.	Do.	Little or no damage was done to this tank.
(C.) Cothacotay	4	½ " "	Calingulah was carried away.	With exception of a breach 200' x 13' (where calingulah used to stand) the bund is in good order.	Water from Puchary tank ran into this tank, carried away its calingulah and breached its bund.	Do.	The waters from Puchary and Covenary flowed together towards the railway line.
(D.) Vapampett.	2½	½ " "	1 Rough, natural calingulah.	Breached in two places. Bund is low and badly earthed up.	Water rose over bund and breached it.	Do.	The water from this tank flows into the Vaniembady river, not far from bridge.

(Signed) G. A. F. FRENCH,
Resident Engineer.

22nd May 1874.

*Proceedings of the Madras Government, Public Works Department,
27th July 1874.*

No. 587.

ORDER THEREON, 27th July 1874, No. 2,021.

RAILWAY, No. 61.

ORDERED that these papers be communicated to the Chief Engineer for Irrigation, in continuation of former

reports, and that the plans and estimates be forwarded to the Government of India for sanction.

2. The District Engineer, Salem, will explain the discrepancy between the report furnished by the Deputy Consulting Engineer for Railways and that submitted by the Range Officer of the Tripatore Range as to the breaching of tanks in the valley of the Vaniembady river. It is presumed that the report referred to by the Consulting Engineer in paragraph 2 of his letter above recorded is that dated 9th May 1872, No. 83, printed with the Proceedings of Government, No. 1,656, dated 19th June 1874.

(Here enter No. 2,022, dated 27th July 1874.)

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Consulting Engineer for Railways, with G. O., No. 1,656, dated 19th June 1874.
.. Chief Engineer for Irrigation.
.. District Engineer, Salem.

Exd. S. T. Austin.
Spare Copies

PUBLIC WORKS DEPARTMENT,
OOTACAMUND, 27th July 1874.

No. 588.

No. 2,022.

FROM

COLONEL G. W. WALKER, R.E.,
*Secretary to the Government of Madras,
Public Works Department,*

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

RAILWAY, No. 62.

• 15th June 1874, No. 1,582.
15th " " " 1,583.
18th " " " 1,640.

SIR,—In forwarding for the information of the Government of India the reports recorded in the accompanying Proceedings* of this Government, regarding the destruction of two bridges on the South-West Line of the Madras Railway

during late heavy rains, I am directed to transmit copy of a letter from the Consulting Engineer for Railways giving cover to plans with estimates, amounting to Rupees 27,866 and Rupees 14,892, respectively, for the reconstruction of the bridges. And in applying for sanction to the same, I am to request the orders of the Government of India as to the incidence of the charges, as also their confirmation of the proceeding of the Consulting Engineer in authorizing the commencement of the works in anticipation of sanction.

2. The attention of the Chief Engineer for Irrigation has been drawn to the causes which are stated by the Railway Authorities to have led to the accidents.

I have the honor to be,

Sir,

Your most obedient servant,

Colonel, R.E.,
Secretary to Government.

Exd. S. T. Austin.
Spare Copies

Note on the Vancumbady River,
And Condition of the Tanks in
Immediate Connection with it.

1. I have the honour to
report - that I made
an Examination yesterday
(June 17th 1874) of the
Vancumbady River
and the Tanks in
Immediate Connection
with it, above the
South West Line of
the Madras Railway.
2. I proceeded by the
Public Road to the
head of the Vancumbady
Valley, and then
followed the course
of the Stream, down
to the point where
it crosses the line
of Rail, in the 124th

From the head of the Valley, four tanks are situated in the following order 3.

2nd The Cornary tank
about the same
distance from Vancouver
and immediately below
the Railway tank.

4 1/2. The Vaypampett
Camp, about two or
two and a half
miles from Vancimbady.

The Pucknary or Pitkary 4.
Camp is breached in
four places, a stream

of about 5 feet in
width, and 3 or 4
inches in depth, is
flowing from it, into
the coronary tank
immediately below.

The land of Mr. Parker
contains part of
the public road.

Owing to its being
 breached, all wheel
 traffic now makes
 a detour, over the
 fields above the
 tank. The repairs
 of the tank have
 apparently not been
 commenced yet.

5. The Covey, which receives the surplus of the Parkery tank, has been braced at both ends. The braces are partially repaired.

6. In the Cothacootay

Tank, which receives
the surplus of the
Coronary. There is
a wide deep breach
at one end of the
bank, through this
breach a stream
of 8 or 10 feet in
width and several
inches in depth
still rushes into the
Tancumbady River.

The Tapanpelt tank 7.
is breached in two
places. The water
escaping to the
Tancumbady River
not far from the
line of rail.
This tank is inde-
pendent of the
three above mentioned,
not receiving any
of their surplus water



8. I made inquiries
from a number of
villagers along the
course of the stream,
as to when, and
why, the tanks
breached. They were
unanimous in
saying, that "the
heavy rains of about
40 days ago, in
May month" caused
all the damage,
that "the Colacottay
tank breached became
the Peikary and
Coronary tanks
above it had breached
and that the
Tancumbady Village
and bridge had
suffered as they did
"in consequence of the
breached tanks
discharging into

The Vancumbady River.

Mr French (Assistant Engineer) who was deputed by the Acting Chief Engineer of the Madras Railway to examine the Vancumbady River and tanks connected with it has submitted a report on the subject dated May 22nd 1874 - I cannot add any more further to the report of Mr French. The information given in which appears to me to be perfectly accurate in every detail.

Madras
June 18th 1874

Wm. Thompson

Capt. R.E.
Sd/-y. Dy. Com. Engrs for Railways

27/2/74 M.P.

21. 2/2/74

No. 513,

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE.

Madras, 10th June 1874.

From

R. B. Elwin Esq.
Agent and Manager. M. R. Co.

To

Mr. J. H. Shaw Stewart, R.E.
Consulting Engineer for Railways.

Sir,

With reference to your letter
of 503 of the 2^d instant, I have the honour
to enclose you a copy of the Acting Chief
Engineer's letter of 373 dated the 8th idem,
regarding the circumstances connected with
the accidents on the 6th ultimo at the 105th and
124th miles of the South West Line. I also
enclose you a copy of Mr. French's Report
and the two sketches alluded to by Mr.
Goring.

There can I think be no doubt
that the breach near Vanimbady, at
the 124th mile, was caused by the bursting
of Tanks, and the one near Mailputty,
at the 105th mile, by the breaching of an
Irrigation Channel which was unprovided
with a regulating sluice. The Company
has always maintained that it is entitled
to recover the expenditure entailed upon
it by accidents of this nature, caused or

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P. G. 727 July/74
In R. W. 586.

18. June. 1874

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we believe by the negligence of others, but until the appeal in the Carwant-nigger case, which is now pending in England, is decided, I am not in a position to press the Company's claim in this respect.

3. With reference however to the second paragraph of my letter of 452 of the 23rd ultimo and to the two Estimates forwarded therewith, I trust that the circumstances as now described by the Acting Chief Engineer will be sufficient to show that the two accidents in question were cases of "extraordinary casualties" such as are referred to in the 11th paragraph of Sir Charles Wood's Despatch of 17th stated the 9th of March 1864, and that as proposed by Mr. Goring the Government will be pleased to sanction as a charge to Capital the difference between the cost of the proposed new Bridges and the actual cost of the original Bridges which they are to replace.

I have the honour to be,
Sir,

Your most obedient Servant

W. J. Smith

Agent & Manager.

Presenting Copy of
a letter from the
Chief Engineer regarding
the Calingulak.
Connected with the
accident on the 6th
at the 14th and 134
Miles N. of M. 140

125. 7. 27. 18 July 1914
In N. 1. 1. 586. Dated 10th August 1874
Recd. 11. 11. 1873

N. 3863/74
2

The Consulting Engineer
for Railways

The Agent and Manager.

MADRAS RAILWAY.

Report detailing damage done to tanks in the Canningbary Valley on clay 6th 1874

State of Tanks	Estimated (damaged) from Canningbary body	Area of full	Number of Calingulak	Condition of Bund	Cause of failure	Revetted or not	Remarks
(A) Puchunary	8 1/2	1 1/2 days	1. forty ft wide	With the exception of two breaches 66' x 10' and two breaches 20' x 6' the bund is in good order. However, of Calingulak is not damaged.	Calingulak was neither side of the bund nor low enough to discharge the surplus water in time to reach the bund. The Canningbary water was over the bund part of the bund and was washed them.	Yes - roughly from inner side.	The bund of this tank forms a part of the Public Road from Canningbary to the village of Canningbary S.E. of Canningbary.
(A) Canningbary	8 1/2	1/4	Nil	Good - with exception of slight breaches at both ends.	Water from Puchunary tank runs through Canningbary tank but for the natural ground (at the end of Canningbary) was low enough to prevent the surplus water quickly.	Yes - roughly from inner side.	Little or no damage was done to this tank.
(B) Canningbary	14	3/4	Calingulak with exception of a breach 200' x 15' (where Calingulak was cut away and extended) the bund is in good order.	Water from Puchunary tank ran into this tank. Canningbary tank was away at Calingulak and breached the bund.	Yes - roughly from inner side.	The water from Canningbary and Canningbary flowed together towards the Railway line -	

Name of Bank	Distance from Channel body	Area when full	Number of Calculations	Condition of Bank	Causes of Failure	Revetted or not	Remarks
St. Pauls	2 1/2	1/2 sq. m.	1 Rough natural Calculations below and body earthed up.	Bunched in two places. Bank below and body earthed up.	Water ran over bank and bunched it.	Yes - roughly on the inner side.	The water from the bank flows into the main body River, not far from Bridge.

True Copy!
J. H. Goring
Chy. Engrs.

1801 G. A. G. G. G.
President Engineer.

22 May 1874.

True Copy!
W. J. G. G.
Agent & Manager.

W. J. G. G.

2373

Madras Railway Company
Chief Engineer's Office
Madras 2 June 1874.

The Agent and Manager,
Dear Sir,

With reference to Consulting Engineer's letter 2503 of 2^d instant, I have now the pleasure to submit, as promised in mine 2536, a further report of the circumstances which caused the accidents on the 5th section, at 105th and 124th miles, S. R. Line.

First - as to the breach at $\frac{123}{23}$ - I deputed Mr French to make a special examination of the Valley of Vannembady River, and his report confirms the statement made with my letter 2515 of 15th ultimo as to the Cotha Cotha tank having burst. It will be seen by his statement, of which a copy is herewith enclosed together with explanatory Plan, that a chain of 3 tanks (A. C. D. on Plan and statement) burst and the accumulated water came down on the Railway at $\frac{123}{23}$ carrying away the Bridge there. The Vannembady River which was spanned by this Bridge was already in very heavy flood from the great fall of rain which occurred in the Valley on the day of the Cyclone, when the sudden accession of water from the breached tanks came down. The large masses of Birchwood which were carried by the stream for considerable distances prove how irresistible must have been the force of the flood. One of these

P. W. 3863/74
3

P. L. 727 July/74
In 18 No 586.

portions of the ruined Bridge, measuring
12 feet x 4 feet x 4 feet was swept away to
a distance of about 150 yards.
Second - as to the breach at 105. The
damage to the Bridge of 4-30 feet arches at
this place was caused by the breaching of
an irrigation channel which takes off
from the Palar River above the Railway
and is unprovided with a regulating
sluice. On the day in question the Palar
River was in very heavy flood and over-
flowed its East Bank above the Railway.
The Bridge at 105 was probably designed
in the first instance to carry away such
extraordinary overflows of the Palar; of
which such portions as did not return to
the River as it subsided, would otherwise
continue to lie in the low grounds above
the Railway. It would do no further
mischief than this and probably the Bridge
might have been omitted. The immediate
cause of the scour which undermined
the Bridge and ruined the upper half
of it was the breaching of the irrigation
channel at a point opposite to the Bridge.
As this channel has no regulating sluice
it brought down the Palar water direct
to the Bridge in question, through the
breach, till an immense volume had
accumulated and the mischief was
effect was greatly increased by a
stack of straw which, as stated in my
letter of 3/5 of 13th inst., had been washed
with the flood to the Bridge and arrested

there. I forward herewith a sketch
(not to scale) which will give some
idea of the general features of the locality.

Yours faithfully
J. H. Poiry
Asst. Chief Engineer.

True Copy

M. J. K. K. K.
Agent & Manager

1/26/22.7.9.

Engd

No. 452.

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE.

Madras, 23rd May 1874.

From

P. D. Edwin Esq.
Agent and Manager, M. R. Co.

To

Mr. J. H. Shaw Stewart, Esq.
Consulting Engineer for Railways.

SIR,

With reference to my letter
No. 434 of the 19th instant and to previous
correspondence, I have the honour to
forward here with for submission to
Government Plans and Estimates for
the two Bridges designed to span the
breaches at 105th 11 and 123rd 23 South West
Line caused by the Cyclone of the 5th instant.
The cost of the new Bridge at 105th 11 is estimated
to be Rs. 14,892, and of the one at 123rd 23.

Rupces 27,866.

In forwarding the Estimates
to the Acting Chief Engineer makes the
following observations:

"As this was a casualty of quite
an exceptional nature, I have in accord-
ance with clause 11 of Sir. Charles Wood's
despatch dated 7th March 1864 changed
to Capital the difference between the estimated
cost of each of the proposed Bridges and

P. W. 3863/74
4

Pl. 727 July/74
In S N: 586.

*
C 105187 and
188.

47
the actual cost of the original Bridges
which they are to replace.

That the Casualty, was an extra-
ordinary one, I trust, to be in a position
to show when preparing my further report
on the circumstances of it as I expect to do
"shortly".

3. In the meantime it is of the
utmost importance that the work shall be
proceeded with at once, and I beg that,
leaving the question of the allocation of the
expenditure to be finally determined here-
after, you will be so good as to give authority
for the commencement of operations in
anticipation of the sanction of Government.

4. Information as to provision
in the Budget and as to the date on which
the sanctions will lapse is given on the
face of the Estimates.

I have the honour to be,
Sir,

Your most obedient Servant

W. B. John

Agent and Manager

10.9.74 27 July/74
 In G. N. 586
 P. N. 3863/74
 5

Forwarding for the
 attention of Mr. P. N.
 and Mr. P. N. for the
 two bridges designed
 to span the breaches
 at 105 and 123 miles
 South of Madras -

Date 23rd May 1874
 Recd. 25th

No. 403

From
 MADRAS RAILWAY.
 The Agent and Manager,
 To
 The Consulting Engineer
 for Railways.

Result in G. N. 5033 2 June 1874

Railway Department. CONSULTING ENGINEER'S OFFICE.

No. 365

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,

N. 270 dated 8 May/74
 -279 - - - 11 - - -
 -295 - - - 15 - - -
 -307 - - - 20 - - -
 -323 - - - 1 June -
 with plans
 with Agents letters
 N. 452 and 513
 dated 23rd May and
 10 June 1874.

Referring to my letters men-
 tioned I have the honour to submit,
 for the sanction of the Government of
 India, estimates of the cost of constructing
 two bridges designed to span the breaches
 at $\frac{105}{11}$ miles and $\frac{123}{23}$ miles on the South-
 West line of the Madras Railway, caused
 by the floods during the 5th and 6th May
 1874.

The bridge carried away at $\frac{123}{23}$
 miles consisted of five 15 feet girder openings,
 and it is proposed to build in its place
 a bridge of three 30 feet openings. The es-
 timated cost is Rs. 27,000. In the

enclosed

L.O. No. 7

days with SO H^c = 1656

9/19 June /74 v

Para 2

nation v. Y. P. S. B. C. L. A. T. I. O. N.

of des. of 1/4

The Secretary to the
Government of India
Sir,

In forwarding
for the information of the
Government of India
the reports recorded in
the accompanying Pro-
ceedings of His Govern-
ment regarding the
destruction of two bridges
on the South-West Line
of the Madras Railway
during late heavy rains,
I am directed to transmit
copy of a letter from the
Consulting Engineer
for Railways giving
cover to Plans with
Estimates

Para 2. The S. Engineer, Salem will explain the
discrepancy between the report furnished
by the Dy Consulting Engineer for Railways
and that submitted by the Range Officer
of the Trapatore Range as to the
breaching of banks in the valley of
the Vaniambad river. It is presumed
that the report referred to by the Con-
sulting Engineer in para 2 of his
letter above recorded is that dated
9th May 1872 N^o 88, printed with the
Proceedings of Govt. N^o 1656 of 19th June 1874.

15th June 1874 N^o 1582
15th — — — — — " 1583
18th — — — — — " 1640.

16
Estimates amounting
to Rupees 27,866 and
Rupees 14,892 respectively
for the reconstruction
of the Bridges. And
in applying for sanc-
tion to the same, I
am to request the
orders of the Govern-
ment of India as to
the incidence of the
charges, as also their
confirmation of the
proceeding of the
Consulting Engineer
in authorizing the
commencement of the
works in anticipation
of sanction.
The attention
of

of the Chief Engineer
for Irrigation has been
drawn to the causes
which are stated by
the Railway Authorities
to have led to the
accidents.

Enc

1258 60 588.
10 Copies of 30 Copies of Premiums
proceedings of 4/8/74 4 Plans
7 Estimates + 2 Copies of a sketch of
the Prop referred to in the margin of the
letter dated 4/8/74
Recd 7/7/74
Circ 1/7/74 Received 16 July 74
recd 26 June 74

Dated

Recd.

Encl. 5

G. O. 27 July

1874, No.

2021

2022

Nos. 586-588.

Left on the S. W. line, Mexico

correspondence,

~~papers~~ Submitted by the

Major for Phys. on the subject

of destruction of certain

ships, Com^d Wm. J. Hay

and the plans &

for their reconstruction

are to be forwarded

in the sanction of the

Govt of India -

He. Dr. Engr. Salera to explain the

discrepancy between the report furnished

by the Engr. for the report submitted

as to the breach in the Valley etc.

Recd 11/11/74
Gen 1/7/74 Recd 16 July 74
Despatch 26 June 74 2. 2. 74