

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No.

370 (By)

Press

Mis.

Dated

8-2-

1877.

Not to be folded or roughly handled

No. 110. Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Major-General G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 18th January 1877, No. 43 :—

ADVERTING to the Proceedings of Government, under date the 23rd December 1876, No. 3,530, I have the honor to submit, for the consideration of Government, letters as per margin from the Agents of the Madras and South Indian Railways, in reply to a request that they would bring forward proposals for any

From Agent, Madras Railway, No. 120, dated 17th January 1877.
From Agent, South Indian Railway, No. 2,696, dated 12th January 1877.
From Agent, South Indian Railway, No. 2,703, dated 13th January 1877.

works likely to exert a beneficial influence over their lines, and of a nature suitable for execution by relief labour.

2. The Chief Engineer of the Madras Railway has forwarded a list of nine such works, which appear in every way suited to the object in view, subject to the following remarks :—

No. 1.—The Railway is at present doubled between Madras and Perambore, a distance of about $9\frac{1}{2}$ miles ; and the doubling from Perambore to Ambatoor, a further distance of about 6 miles, has been sanctioned. From Ambatoor to Arcconum the distance is about 33 miles ; and of this portion the *earthwork* has been doubled as far as Trivellore, leaving about 16 miles to be doubled. The necessity for doubling the line between Ambatore and Arcconum has not yet been established ; but the work is one which, without doubt, will become necessary sooner or later ; and, in my opinion, the doubling of the *earthwork* may now be fitly undertaken as a relief work.

No. 5.—In connection with this work I would suggest that the bund of the Mennoorketchama tank be raised and strengthened. In my opinion the bund might with advantage be raised at least 6 feet above the maximum water-level, with a rear slope of 2 to 1.

The supply-channel to the Munnoor tank, which crosses the line of railway, might also with advantage be repaired and strengthened. This is alluded to by Mr. Robinson under the name of the "Yerrakalva channel."

No. 6.—The alignment of this embankment, on the right bank of the river, has been marked out, to the approval of all concerned. The work will probably be at once put in hand by the District Engineer.

3. Upon the South Indian Railway it will be seen that no works have been suggested, with the exception of the conversion of the Arcconum-Conjeveram section, and the construction of the Chingleput-Conjeveram section. These two works have already been brought prominently to the notice of Government ; and the earthwork upon the Arcconum-Conjeveram line is understood to be now under execution by relief labour. The earthwork between Chingleput and Conjeveram will give employment to a large number of people ; and there is probably no work connected with the Railways in this Presidency which is better suited for execution at this crisis. The completion of the link will greatly influence the traffic on the South Indian Railway.

4. I would suggest that advantage be taken of this opportunity to place in a secure condition the bunds of all tanks which, by breaching, could injure the lines of

*Proceedings of the Madras Government, Public Works Department,
3rd February 1877. No. 370.*

railway. The raising and strengthening of such bunds would afford work near the villages, of a nature which would both secure the hearty co-operation of the head-men, and prove of great value to Government. The excavation of supply-channels, and the repair of those which have fallen into disuse, are also works that tend to serve railway interests, by bringing into play the action of tanks in moderating floods.

From R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, to Lieut.-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Madras, 17th January 1877, No. 120.

ADVERTING to your letter of the 5th instant, No. 25, I have the honor to enclose you copy of a communication* I have received from the Chief Engineer, and also a copy of the list referred to therein, showing the earthworks which Mr. Robinson considers may with advantage be undertaken as relief works.

2. I beg to draw your special attention to the first work mentioned on the list, viz., the embankment for a double line of rails between Trivellore and Arcotum. You are aware of the difficulty experienced in working the present heavy traffic between Madras and Arcotum, and that it is in consequence intended to submit an application to Government for authority to complete the double line between those points. I hope therefore that you will be able to recommend the immediate construction of the earthwork with famine labour.

From W. R. ROBINSON, Esq., Chief Engineer, to R. B. ELWIN, Esq., Agent and Manager of the Madras Railway, dated Madras, 16th January 1877, No. 65.

Your endorsement on Consulting Engineer's letter, No. 25, of the 8th instant. I herewith forward a list of useful earthworks which may be thrown up by relief labour. There would be no difficulty in commencing them at once, and I shall be glad to give every assistance in laying them out. I have added notes showing their comparative usefulness. I am in communication with the Resident Engineers on this subject, and will probably be able to add to the list in a short time.

LIST OF PROPOSED RELIEF WORKS.

Works.	Remarks.
No. 1. Doubling the railway embankment from Trivellore to Arcotum.	This is a work I shall be glad to see carried out at once, as we shall probably ere long have to double the line to Arcotum.
No. 2. Embankment at Naggery river.	
No. 3. Strengthening railway bank from Naggery bridge two miles northwards.	This work would be only useful in event of the river embankment being abandoned.
No. 4. Embanking stream at 116th mile, 5th telegraph post, from Jullalamadgo tank to bridge. Diversion of line to enable me to build additional three 30 feet openings to single 30 feet arch at 116th mile, 5th telegraph post.	Small works, but very useful.

*Proceedings of the Madras Government, Public Works Department,
3rd February 1877. No. 370.*

Works.	Remarks.
No. 5. Strengthening railway embankment under Manoor Koteluma tank, from 130th mile, 6th telegraph post, to 130th mile, 12th telegraph post, and making diversion at bridge at 130th mile, 8th telegraph post (single 20 feet opening in lieu of single 12 feet arch); making diversion of line for building bridge three 30 feet openings in lieu of single 6 feet arch at 131st mile, 3rd telegraph post, and doubling the line for a mile to the north of Manoor Koteluma tank.	The District Engineer may find it advisable to take advantage of relief labor to strengthen the embankment of the Yerrakalva channel.
No. 6. Embankment of Paupagnee river.	
No. 7. Strengthening railway embankment from single 20 feet opening at 173rd mile, 9th telegraph post, to 3,000 feet east of east abutment of Paupagnee bridge and from 450 feet west of west abutment of Paupagnee bridge to single 6 feet arch at 176th mile, 15th telegraph post.	If embankment of river is carried out, this work would not be necessary.
No. 8. Strengthening the railway embankment from Moodancoor station to 199th mile, 10th telegraph post.	This would always, I think, be a useful work.
No. 9. Embankment from public road to railway, to guide drainage of Chintagoonta tank through bridge at 197th mile, 9th telegraph post, and prevent it flooding the country to the south.	A very necessary work.

MADRAS,
16th January 1877.

(Signed) W. R. ROBINSON,
Chief Engineer.

From W. S. BLETTS, Esq., Agent of the South Indian Railway, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Negapatam, 12th January 1877, No. 2,696.

Your letter No. 18 of the 8th instant. A large amount of work could be supplied for the furnished inhabitants of the Chingleput District were the works upon the Chingleput-Conjeeveram section started. It is, I believe, considered by both the Madras and the Supreme Governments that this extension should be constructed, and there could be no time more suitable than the present for starting the works. The line would greatly benefit the district, and the working of it would bring upon the main line traffic which is now conveyed by road, and which must continue to be so conveyed until the link between Chingleput and Conjeeveram is railed in.

2. Inquiry shall be made as to work in other districts, but I doubt whether anything suitable for famine relief can be found.

From the same Officer, dated Negapatam, 13th January 1877, No. 2,703.

In continuation of my letter, No. 2,696, of yesterday, I have to inform you that the Acting Chief Engineer reports, "with the exception of the portions of the Arcotum-Conjeeveram section, which have been already allotted as famine relief works, I do not know of any other work falling within the category given by the Consulting Engineer which is available for relief work."

No. 111. ORDER THEREON, 3rd February 1877, No. 370.

RAILWAY, No. 6.

His GRACE the Governor in Council approves of the immediate execution of the following work by the Railway Authorities :—

No. 1.—Doubling earthwork of Railway from Trivellore to Arcotum, 16 miles.

*Proceedings of the Madras Government, Public Works Department,
3rd February 1877. No. 370.*

As regards Nos. 4 and 5, the information is insufficient. The attention of the District Engineer, Cuddapah, is however called to the Railway Chief Engineer's remarks as to strengthening the embankment of the Yerrakalva channel.

No. 6.—Paupagnee river embankment is already being carried out.

No. 8.—Strengthening the railway embankment from Moodanoor station to 199th mile 10th telegraph post may be undertaken by the Company.

No. 9.—Training wall from public road to railway, to guide the waters of the Chintagoonta tank now breached and abandoned. This is a necessary work, which the District Engineer, Cuddapah, should plan and carry out, with or without assistance from the Railway Executive staff. The embankment which diverts drainage into the tank may be breached if considered necessary by the Railway officers.

2. The extension of the Arcot and Chingleput section to Chingleput awaits the decision of Sir Richard Temple, who is now inspecting that tract of country.

(True Extract.)

Lieut.-Colonel, R.E.,
Secretary to Government.

To the Consulting Engineer for Railways.
„ District Engineer, North Arcot.
„ „ „ Chingleput.
„ „ „ Cuddapah.
„ Chief Engineer for Irrigation.
„ Revenue Department.
„ Examiner of Railway Accounts.
„ „ of Public Works Accounts.

Exd. S. T. Austin.

8 pare Copies

Office of Consulting Engineer for Railways,

MADRAS.

23. Jan. 1877.

My dear General.

The work at the Nuzvid
river to which you allude,
mentioned at cost of
Rs 17,965 as per Pro: of
W. 524 of 2nd March 1874,
has been carried out
long since. But I am
not of opinion from a
late inspection that
advantage might be taken

Madras, 17th January 1877.

The Agent and Manager of the M. R. Co.

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

of the present Apurthim Railway people will
to ~~make~~ place the rails have no difficulty in
at that point still not pointing out the work.

beyond the possibility.
flood injury. No one
agreed with him, &
accepted their opinion.

Smith is out of Madras
but now - having gone
to make final inspection
of line between Tanjore
& Mayavaram. But

Yours sincerely

W. H. Stewart

adverting to your letter of
25. I have the honour
to copy of a communication
from the Chief Engineer,
of the list referred to
of the earthworks which
considered may with advantage
as relief works.

to draw your special
work mentioned on the
the embankment for a
rails between Tiruvallur

and Arcot. You are aware of the
difficulty experienced in working the
present heavy traffic between Madras
and Arcot, and that it is in con-
sequence intended to submit an application
to Government for authority to complete
the double line between those points.

of the present opp
to make place to
at that point as
beyond the post
Hood injury.
agreed with him
accepted their
Smith is out of
just now - have
to make final use
of line between
& Myer's run.

No. 120

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE.

Madras, 17th January 1877.

From

The Agent and Manager of the M. R. Co.

To

Mr Col J Hallowell Stewart, R.E.
Consulting Engineer for Railways.

Sir,

Adverting to your letter of
the 8th instant at 25, I have the honour
to enclose you the copy of a communication
dated 16th Jan'y 1877. I have received from the Chief Engineer,
and also a copy of the list referred to
therein showing the earthworks which
Mr Robinson considers may with advantage
be undertaken as relief works.

I beg to draw your special
attention to the 1st work mentioned on the
list, namely, the embankment for a
double line of rails between Tiruvellore
and Arcotum - You are aware of the
difficulty experienced in working the
present heavy traffic between Madras
and Arcotum, and that it is in con-
sequence intended to submit an application
to Government for authority to complete
the double line between those points.

TV //

I hope therefore that you will be able
to recommend the immediate construction
of the canal to be with Indian labour

I have the honour to be,
Sir,

Your most obedient servant,

J. H. Bellis.

for the Agent & Manager.

a 65.

Madras Railway Company
Chief Engineer's Office
Madras 16th Jan'y 1877.

The Agent and Managers.

Dear Sir,

Your endorsement on Consulting Engineer's
letter a 25 of the 8th inst.

I herewith forward a list of useful
Cartworks which may be the saving of a great deal of
labour. There would be no difficulty in com-
mencing them at once and I shall be glad
to give every assistance in laying them out.
I have added notes showing their comparative
usefulness.

I am in communication with the
Resident Engineer on this subject and will
probably be able to add to the list in a
short time.

Yours faithfully
W. R. Robinson
Chief Engineer.

(True Copy)

J. H. Mellis
for the Agent & Managers

List of proposed Relief Works to
accompany letter of 13 dated 16th Jan'y 1877

Works	Remarks
1. Doubling the Railway embankment from Trivellore to Arcasur.	This work is to be done in the first instance at a cost of Rs. 10,000. It is to be done in the first instance at a cost of Rs. 10,000. It is to be done in the first instance at a cost of Rs. 10,000.
2. Embankment at Staggery River.	
3. Strengthening Railway bank from Staggery Bridge two miles northwards.	
4. Embanking stream at 11 $\frac{1}{2}$ hrs. from Jullaham adoo Tank to Bridge. Diversion of line to enable us to build additional three 30 feet openings to single 30 feet arch at 11 $\frac{1}{2}$ hrs.	This work is to be done in the first instance at a cost of Rs. 10,000. It is to be done in the first instance at a cost of Rs. 10,000. It is to be done in the first instance at a cost of Rs. 10,000.
5. Strengthening Railway embankment under house or Ketchur's tank from 13 $\frac{1}{2}$ hrs. to 13 $\frac{1}{2}$ hrs. and making diversion at Bridge at 13 $\frac{1}{2}$ hrs. (single 30 feet opening in lieu of single 12 feet arch) making diversion of line for building Bridge three 30 feet openings in lieu of single 6 feet arch at 13 $\frac{1}{2}$ hrs. and doubling the line for a mile to the tank at house or Ketchur's Tank.	This work is to be done in the first instance at a cost of Rs. 10,000. It is to be done in the first instance at a cost of Rs. 10,000. It is to be done in the first instance at a cost of Rs. 10,000.

Works

Remarks

Embankment of Pampunee River

P.W.D.

19 JAN 77

NR 500

Strengthening Railway Embankment from single 20 feet opening at 173 hrs to 300 feet each of East

abutment of Pampunee Bridge and from 450 feet west of west abutment of Pampunee Bridge to single 6 feet arch at 175 hrs. 11/2 miles

Strengthening of the Railway embankment from 1100 feet to 1470 hrs. 11/2 miles

Crack in bank from Public Road to Railway to quench drainage of Chintapondra Tank through Bridge at 197 hrs. and prevent it of loading the country to the south

Madras Railway
Chief Engineer's Office
Madras 16th Jan 1877

W. R. Robinson
Chief Engineer

True Copy

J. N. Nelson
for the Agent & Engineer

No. 2703

South Indian
GREAT SOUTHERN OF INDIA RAILWAY.

AGENT'S OFFICE,

NEGAPATAM, 13 January 1877

From

THE AGENT,

South Indian
Great Southern of India Railway,

To

The Consulting Engineer for Railways
Madras.

SIR,

In continuation of my letter No. 2696 of yesterday, I have to inform you that the Acting Chief Engineer reports "with the exception of the portions of the Arcotum Bojeveram section which have been already allotted as 'Relief Works'. I do not know of any other work falling within the category given by the Consulting Engineer which is available for 'Relief work'."

I have the honor to be
Sir,

Your most obedient servant

William B. H.
Agent

No. 2696

GREAT SOUTHERN OF INDIA RAILWAY.

AGENTS OFFICE.

NEGAPATAM, 12th January 1877.

From

THE AGENT,

Great Southern of India Railway.

To

The Consulting Engineer for Railways

Madras.

SIR,

Your letter of the 8th Instant. a large amount of work could be supplied for the famished inhabitants of the Chingleput District were the works upon the Chingleput - Conjevaram section started. It is I believe considered by both the Madras and the Imperial Governments that this extension should be constructed, and there could be no time more suitable than the present for starting the works. The line would greatly benefit the district, and the working of it would bring upon the main line traffic which is now conveyed by road and which must continue to be so conveyed until the link between Chingleput and Conjevaram is railad in.

Enquiry shall be made as to work in other districts, but I doubt whether anything suitable for famished relief can be found.

I have the honour to be,
Sir,

Your most obedient servant

James Scott
Agent.

RAILWAY DEPARTMENT.

CONSULTING ENGINEER'S OFFICE,

Madras, 18th January 1878.

No.

From

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

Consulting Engineer for Railways,

To

MAJOR-GENERAL G. W. WALKER, R.E.,

Secretary to Government,

Public Works Department,

Port Saint George.

Sir,

Referring to the Proceedings of Government under date the 28th December 1876, No 3530, I have the honour to submit for the consideration of Government letters as per margin from the Agents of the Madras and Ceylon Indian Railways, in reply to a request that they would bring forward proposals for any works likely to exert a beneficial influence over their lines and of a nature suitable for execution.

From Agent of the Railway & Co. dated 17th Jan. 1878
No. S. I. Railway 2696
No. 2703

execution by Relief labour.

2 The Chief Engineer of the Madras Railway has forwarded a list of nine such works, which appear in every way suited to the object in view, subject to the following remarks:

No. 1. The railway is at present doubled between Madras and Perambore, a distance of about $3\frac{1}{2}$ miles; and the doubling from Perambore to Ambatour, a further distance of about 6 miles, has been sanctioned. From Ambatour to Arcanum the distance is about 33 miles; and of this portion the earthworks has been doubled as far as Irivellore, leaving about 16 miles to be doubled. The necessity

1172
necessity for doubling the line between Ambatour and Arcanum has not yet been established; but the work is one which without doubt will become necessary sooner or later; and in my opinion the doubling of the earthworks may now be fitly undertaken as a Relief work.

No. 5. In connection with this work, I would suggest that the bund of the Munnoor Ketchaina tank be raised and strengthened. In my opinion the bund might with advantage be raised at least 6 feet above the maximum water level, with a rear slope of 2 to 1.

The

The supply channel to the Annamoor tank, which crosses the line of railway, might also with advantage be repaired and strengthened. This is alluded to by Mr. Robinson under the name of the "Yerra Kalva channel."

No. 6. The alignment of this embankment, on the right bank of the river, has been marked out to the approval of all concerned. The work will probably be at once put in hand by the District Engineer.

3. Upon the South Indian Railway it will be seen that no works have been suggested, with the exception of the conversion of the Arcotum-Conjeveram section,

section, and the construction of the Chingleput-Conjeveram section. These two works have already been brought prominently to the notice of Government; and the earthworks upon the Arcotum-Conjeveram line is understood to be now under execution by Relief labour. The earthworks between Chingleput and Conjeveram will give employment to a large number of people; and there is probably no work connected with the railways in this Presidency which is better suited for execution at this crisis. The completion of the link will greatly influence the traffic on the South Indian Railway.

4. I would suggest that advantage

advantage be taken of this opportunity to place in a secure condition the bunds of all tanks which by breaching could injure the lines of railway. The raising and strengthening of such bunds would afford work near the villages, of a nature which would both secure the hearty cooperation of the head-men, and prove of great value to Government. The excavation of supply channels, and the repair of those which have fallen into disuse, are also works that tend to serve Railway interests, by bringing into play the action of tanks in moderating floods.

J

274
I have the honour to be,

Sir,

Your Most Obedt. Servant,

Manthorpe L. H. C. R. C.

Genl. Engrs. Railway

Go to 1300 - 8-24-5-1/6
 See 1840 - 8-20-7-1/6
 See 3584 - 9-21-12-0
 See 3530 - 9-23-12-0
 See 116 - 8-15-1-7-75

P.W.D.
 19 JAN 77
 No. 500

Go to 2634 - 8-30-9-76
 See 3299 - 9-6-12-0
 ' 3344 - 9-9-12-0
 Also 5 - 1-12-76

P. W. DEPARTMENT.

Read the following:—

Transmit the Consulting Engineers for
 Railways dated 18th January 1877.

FOR ORDERS.

Transmit Major Genl R. G.
 Secretary to Govt & Co.

To: Council
 P. W. D.
 1877

I think these should
 be made with advantage
 be described in form
 There are no 3rd class
 1st & 2nd class
 The present 1st class
 2nd class
 3rd class

See - 19 - 1 - 7

Sub-committee
 Letters from the
 of the Board as I don't
 know how to write
 send to the
 chief works

Dated 18th January 1877
 Received No. 437

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

From
 The Consulting Engineer
 for Railways,
 RAILWAY DEPARTMENT.

FOR ORDERS.

Proposed Railway Relief Work,

Madras Line.

N^o 1. Doubling East branch
of Railway from Traveller
to ... - 16 miles.
Works required.

N^o 2 + 3 - Submerging
the Mangalore River - 91.
strengthening Northern
approach to bridge.
In accompanying table.

R. 44,430 were saved.
for protective work to the
bridge itself -

R. 17,650 for submerging
the River - 4.
This was carried out
the necessity for the
work was proposed, a
cost of ...

N^o 4 - River submerging
and road widening
at 116 - No information.

May be called for -
N^o 5 - Strengthening the
Railway line, & adding
waterworks, between 130
6

Recd 1-2-77

19-1-76

and $\frac{13\phi}{3}$ Infor:
mountain in detail
is required -
District Engineer's
attention may be
called to the strength
of the
Munawar Kachan
Tank & Sukh
Channel -

Nº 6 Pampunee
River, Pamban
about to be carried
out by District En:
since -

Nº 7 - Not reg? if
is undertaken -

Nº 8. Strengthening
Kachan Tank
from Munawar
Station to $\frac{199}{10}$ -

Detailed papers
may be called for

Nº 9 Training Wall
from Public Road
to road way to provide
the waters of the
Chintagunta Tank
now breached &

abandoned in a
necessary work, at
the District En:
may be called on
to plan & carry
out, with as much
out as possible
from the Railway
Department Staff -
He should also
branch the District
which directs
Department, with the
Tank, if deemed
by the Railway
Officers -

S. J. Railway

Conjunctive - (and)

date of Extension

to work deemed

to be - but held

back by date

minution not

to extend from

numbers - for

exception might

be made on the

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section -

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Rain - 1-2-77
Rto 1-2-77

No 370

Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Usua date the 3 Feb 77
Read the following :-

The Commissioning Engineer (M. No. 450 of 18th June 1877) for
for Railway & ...

Also by order of the Governor
in Council, approves of the
immediate execution of
the following work by
the Railway Authorities
to be doubling & widening
of Railway from Tiruvellore
to ... 16 miles.
As regards No 14 and 5
the information is in
specification. The attention
of the District Engineer,
Cuddalore, is however
called to the Railway
Chief Engineer's remarks

1877-0-2-77

No 8. Strengthening the
embankment of the Zam-
holam Channel.

No 10. Pampunee River
embankment is already
being carried out.

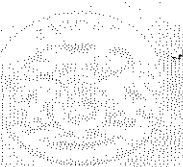
No 8. Strengthening the
Railway embankment
from Mood accommodation

to 199 may be under-
taken by the Company

No 9. Training wall
from Public Road to
Railway to guide the

waters of the Chindaganta
Sanku now breached.

And abandoned. This
is a necessary work
which the District
Engineer, Cuddapah



should plan and carry
out, with or without
assistance from the
Railway Executive Staff.

The embankment which
diverts drainage into
the Sanku may be breached
if considered necessary
by the Railway Officers.

The extension of
the Cuddapah Rangirani
section to ^{Chingleput} ~~Cuddapah~~

awaits the decision of
Sir Richard Temple
who is now inspecting
that tract of Country.

Chief Engineer for Ryots
" Chingleput
" Cuddapah
Chief Engineer for Ryots
" Ryots
" Ryots
" Ryots
" Ryots

Decd - 6-2-77

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