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MADRAS RECORD OFFICE

Government of Madras

Public works

DEPARTMENT

G.O. No.	1757-58	Press
B.P. No.		Mis.
126-127-128		
Dated	8. 7.	1873.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
8th July 1873.*

No. 126. 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, 18th June 1873, No. 334 :—

I HAVE the honour to forward revised estimates for the construction of the Great Southern of India Extension from Trichinopoly to Tuticorin and Tinnevely, amounting to Rupees 106, 64,022, or Rupees 49,600 per mile. As the plans of the masonry works, excepting in the substitution of 70 feet for 50 feet openings in the bridges over the Vygay, Vypar, and Chittaur, are the same as originally designed, it has been thought unnecessary to re-submit them. The details of "stations and buildings" are not yet completed, but the amount under this head will not exceed the Rupees 4,000 per mile sanctioned by the Government of India.

2. The total amount to which sanction has already been accorded is Rupees 96,12,000 as follows:—

	Rs.
G. O., No. 803, Mar. 21st 1872	93,50,000
Do. ,, 2,141 Sept. 9th ,,	12,000
Do. ,, 2,176, ,, 13th ,,	2,50,000
Total...	96,12,000

leaving a sum of Rupees 10,52,022 for which sanction is now solicited. The comparative statement attached shows the particulars in which these estimates differ from those originally submitted, and the Chief Engineer, in his letter to the Agent, dated 31st May 1873, No. 1,328, so fully explains the causes of these variations that but little comment is necessary.

3. The whole of the additional expenditure will be due to the great rise in the price of iron since the original estimates were framed, the rates now entered being founded on those at which the contracts have been actually let. The cost of "ballast and permanent-way" has been increased from Rupees 15,409 to Rupees 19,606 per mile of line, including sidings; and "construction of line" from Rupees 10,483 to Rupees 11,876 per mile.

4. The increased Indian expenditure under "construction of line" will be more than met by the saving under "maintenance of line", so that there will be a decrease on the sanctioned Indian expenditure of Rupees 30,672. The rates entered for masonry are the lowest at which the Chief Engineer considers really good sound work can be procured; they vary from Rupees 8 to Rupees 15, the average being Rupees 11-5-10.

5. The modifications in the masonry works proposed by the Chief Engineer, in providing additional waterway where further experience has shown the same to be necessary, and in increasing the depth of foundations in some cases, have my entire concurrence, and I beg to recommend the revised estimates for the sanction of the Government of India.

*Proceedings of the Madras Government, Public Works Department,
8th July 1873.*

GREAT SOUTHERN OF INDIA RAILWAY.

*Letter from the Chief Engineer, to the Agent, dated Trichinopoly, 31st May 1873,
No. 1,328.*

I HAVE now the pleasure to forward a revised set of estimates for the construction of the Southern Extension. Details of the amounts set against stations are being prepared and will be forwarded as speedily as possible.

2. The estimates contain such detailed information as will, I trust, justify my making but a short explanatory memorandum here.

3. From the accompanying comparative statement marked A., you will see that the total amount sanctioned by Government, viz., Rupees 96,12,000, is exceeded in the present revision by Rupees 10,52,022.

G. O., No 803, 21st March 1873	...	...	91,50,000
Do. " 2,141, 9th Sept. "	...	...	12,000
Do. " 2,176, 13th " "	...	...	2,50,000
			96,12,000

4. The additional expenditure is required on account of the rise in the price of English stores, the total revised estimated amount for Indian expenditure being within the amount already sanctioned under that heading.

5. Sanction having been given to expenditure in lump sums under the main or final heads of accounts, I have, for the sake of comparison, been obliged in the accompanying Statement A., (column sanctioned expenditure) to allocate the items under the sub-heads, in the ratio of the sums divided into English and Indian, respectively, under these sub-heads in my original estimate. The principal items in the increased cost are, of course, permanent-way and girders. In the original estimate the cost of rails was taken at Rupees 102 per ton inclusive of freight insurance and landing charges, and the price for wrought-iron girders was Rupees 200 per ton, whereas in the revised estimates the prices are Rupees 140-13-8 and Rupees 233 per ton, respectively, based upon the actual contract rates for which the material has been let in England.

6. It will be seen from the estimate that, although the total cost of earthwork remains practically the same, the quantities of work to be done are greater. The increased quantities are due to several slight alterations in the gradients to get more headway for bridges and to be above danger from flood-water, I have been able to reduce the rates for earthwork in some of the districts south of Madura, and the total cost has thus been kept about the same as sanctioned by Government. The alterations in the gradients will be shown on the revised copy of the working section, which I hope to forward soon. The rates for masonry have been reduced, as far as I consider safe, to ensure really good sound work. Since the Engineers were posted to their respective districts, I have, under the light of a closer and more lengthened experience of the country, had to allow an aggregate of about 370 lineal feet additional waterway in culverts and minor bridges, the masonry quantities have been increased by this also by the necessity for going deeper, than I had in all cases anticipated, to get into the hard with our foundations. The aggregate cost too of the masonry has been increased by the difficulty experienced, and to come, in foundations in some of the larger rivers, in the deep sandy beds of which sheet piling has to be used to enable me to get down to the hard substratum upon which alone it is safe to build, and the scarcity and uncertainty of the supply of labour, especially in such troublesome works, has greatly enhanced the cost of baling. I believe that by careful watching we have arrived at a very close approximation to actual requirements in waterways. There may still be required a few additions to the allowance already made in localities where no works exist as a guide, but these will be among culverts or minor bridges, and the cost of them will, if ultimately required, be met from the amount set down for contingencies and extra masonry.

7. A considerable reduction in the Indian expenditure has been made in the item "maintenance", Rupees 1,30,385 being the saving due to a reduction in the estimated cost previously sanctioned. From the experience I have now had of the nature of the soils to be upheld, I think that the reduced rate (i. e. Rupees 50 against Rupees 75 per mile per mensem for two years) will suffice for the average cost of maintenance.

*Proceedings of the Madras Government, Public Works Department,
8th July 1873.*

No. 127. ORDER THEREON, 8th July 1873, No. 1,757.

RAILWAY, No. 15.

UNDER the explanations afforded in these papers, His Excellency the Governor in Council resolves to submit, for the sanction of the Government of India, the revised estimates, amounting to Rupees 106,64,022, for the construction of the Southern Extension of the Great Southern of India Railway from Trichinopoly to Tinnevely and Tuticorin, for which a sum of Rupees 96,12,000 has already been passed.

(Here enter No. 1,758, dated 8th July 1873.)

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Consulting Engineer for Railways.

Exd. W. H. French.

PUBLIC WORKS DEPARTMENT,
OOTACAMUND, 8th July 1873.

No. 128.

No. 1,758.

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. 16.

No. 325 G. R., dated 2nd March 1872	Rs. 93,50,000
No. 1,351 G. R., „ 21st August 1872	12,000
No. 1,400 G. R., „ 29th „ 1872	2,50,000
	<u>96,12,000</u>

SIR,—I am directed by His Excellency the Governor in Council to submit herewith revised estimates, accompanied by a comparative statement, showing an excess of Rupees 10,52,022 over the sum sanctioned in the letters quoted in the margin for the construction of the Southern Extension of the Great Southern of India Railway from Trichinopoly to Tinnevely and Tuticorin.

2. It will be observed that the Chief Engineer of the Company attributes the additional expenditure to the rise in the price of iron in the Home market subsequently to the preparation of the original estimates, and, under these circumstances, I am to recommend that sanction be accorded to the revised estimates which have apparently been framed with considerable care and a due regard to economical considerations. The proposed modifications I am to add have the full approval of the Consulting Engineer.

3. The cost per mile of the Southern Extension Railway stands, according to the revised estimates, at Rupees 49,600.

I have the honour to be,

Sir,

Your most obedient servant,

Colonel, R.E.,
Secretary to Government.

Exd. W. H. French.
Spare Copies.

Railway Department.

CONSULTING ENGINEER'S OFFICE

No. 334

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 honor to forward revised estimates for the construction of the Great Southern of India extension from Trichinopoly to Tuticorin and Trimmell amounting to Rs 106,64,022, or Rs 49,600 per mile.

As the plans of the masonry works, respecting the substitution of 70 feet for 50 feet openings in the bridges over the Vaygar, Vayhar, and Chittaur, are the same as originally designed, it has been thought unnecessary to resubmit them

them. The details of stations and buildings are not yet completed, but the amount under this head will not exceed the £ 4000 per mile sanctioned by the Government of India.

2. The total amount to which sanction has already been accorded is £ 96,12,000, as follows:-
G.O. No 803, March 21—1872—£ 93,50,000.
"—No. 2141 September 9—1872—" 12,000
"—No. 2176 September 13—1872—" 2,50,000

leaving a sum of £ 10,52,022 for which sanction is now solicited.

The comparative statement attached shows the particulars in which these estimates differ from those originally submitted, and the Chief Engineer, in his letter to the Agent, dated 31st

May 1873, No 1328, so fully explains the causes of these variations that but little comment is necessary.

3. The whole of this additional expenditure will be due to the great rise in the price of iron since the original estimates were framed: the rates now entered being founded on those at which the contracts have been actually let. The cost of "ballast and permanent way" has been increased from £ 15,409 to £ 19,606 per mile of line, including sidings; and "Construction of line" from £ 10,483 to £ 11,876 per mile.

4. The increased Indian expenditure under "Construction of line" will be more than met by the saving under "Maintenance of line", so that there will be a decrease on the sanctioned Indian expenditure of £ 30,672. The rates entered for masonry are the lowest at

at which the Chief Engineer considers
really good sound work can be procured:
they vary from Rs 8 to Rs 15, the average
being Rs 11.5.10.

The modifications in
the masonry works proposed by the
Chief Engineer, in providing additional
waterways, where further experience has
shown the same to be necessary, and in
increasing the depth of foundations in
some cases, have my entire concurrence,
and I beg to recommend the revised
estimates for the sanction of the Govern-
ment of India.

I have the honour to be

Sir,

Your most obedient servant.

Madras 2. Macartney St. Hol. R.R.
18 June 1873. Cons. Engineer for Railways.

Yrs.

W. B. B.

P. W. D.

Proceedings of the Madras Government,
Under date the

187

Read the following:—

From the Joint Secy for Ry. (R. No. 334 of 18 June/73)

Under the expla-
nation afforded in
these papers His Excellency
the Governor in
Council resolves to
submit for the sanction
of the Government of
India the revised Es-
timates amounting to
Rupees 106,64,022 for
the construction of the
Southern

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

From
The Consulting Engineer
for Railways,

1873.
No. 3346.

RAILWAY DEPARTMENT.

P. W. 1873 Robert
Joint Secy for Ry.

Dated 18th June 1873.
Recd. 19th June 1873.
No. 3346.

Forwarding
revised estimate
for the construction
of the Great Southern
railway from Trichy
to Lutterlintham
amounting to Rs 106
64 022 of 18 June/73.

To Mr

Copy to Secy to Govt

Southern Extension of the
Great Southern of India
Railway from Trichin-
opoly to Trinnevelly
and Tuticorin, for which
a sum of Rs 9,12,000
has already been passed.

To
The Commg. Eng^r
for Railways.
Dated 17/7/73

To
The Secretary to the
Government of India.
Sir,

I am directed
by His Excellency the
Governor in Council to
submit herewith revised
Estimates accompanied
by a Comparative
Statement

x
No 325 G. R. 1/2nd March
1872 - Rs 9,35,000
" 1351 G. R. 1/2nd Aug^t 1872 - - 12,000
" 1400 " " 29th " - - - 250,000
96,12,000 of the Southern
Extension of the Great
Southern of India
Railway from Tri-
chinopoly to Trinnevelly
and Tuticorin.

Statement showing
an excess of Rs 10,52,022
over the sum sand-
tioned in the letter^x
quoted in the margin
for the construction
of the Southern
Extension of the Great
Southern of India
Railway from Tri-
chinopoly to Trinnevelly
and Tuticorin.

It will be
observed that the Chief
Engineer of the Com-
pany attributes the
additional expenditure
to the rise in the
price of iron in the
Home Market -
Subsequently

subsequently to the pre-
paration of the original
Estimates, and under
these circumstances
I am to recommend
that sanction be accord-
ed to the revised Es-
timates which have
apparently been framed
with considerable care
and a due regard
to economical consider-
ations. The proposed
modifications I am to
add have the full
approval of the Con-
sulting Engineer.

The cost per
mile of the Southern
Extension Railway
stands

stands according to
the revised Estimates
at Rupees 49,600.
G.M.W.

Revised 17/7/73 with
No 1757 + 17 rupees

25

Op 3546

G.O. of 1873 Madras.

PUBLIC WORKS.

To the Consulting Engineer
for Railways
to the Secretary to the
Government of India

Dated

Recd.

Encl. 1

G. O. 8 July 1873, No 1757-1758

Nos 126-127 & 128

Southern Extension of the
G S of I Railway. Paper
orders in letter from the
Engineering Submitting re-
vised estimates for the
construction of the G S Ex-
tension.

Forwarded, with remarks,
revised estimate for the con-
struction of the Southern Ex-
tension of the G S of I Railway.