

(1) Number of pages _____

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MADRAS RECORD OFFICE

~~Government~~ of Madras*Public Works*

DEPARTMENT

G.O. No.	1206-07	Press
B.P. No.		Mis.
Dated	30-4-1875	195

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
30th April 1875.*

No. 727. 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, 15th April 1875, No. 217 :—

I HAVE the honor to submit, for the sanction of the Government of India, a second revised estimate* for the construction of the Huggry bridge at the 297th mile on

* With plan No. 149.

the Bellary branch of the North West Line, Madras Railway.

2. This bridge was designed to consist of 34 openings of 70 feet from centre to centre, the roadway being carried on 140 feet continuous girders, each covering two openings. No alteration is proposed in the dimensions of the bridge, but only in the manner of constructing the piers.

3. The first estimate, amounting to Rupees 3,73,655 (exclusive of contingencies), provided for screw pile piers throughout; and, owing to the depth of sand proving to be greater than was anticipated, a supplemental indent, amounting to Rs. 24,532, for additional lengths of piling, was sanctioned in the Proceedings of Government, dated 7th December 1870, No. 2,970. Allowing

† Estimate	...	...	Rs. 3,73,655	for contingencies at 10 per cent. on the
Contingencies	...	...	37,366	original estimate, the total approximate
Extra piling	...	...	24,532	cost of the bridge constructed with screw
			4,35,553	pile piers would amount to Rs. 4,35,553.†

4. On reconsideration it was thought objectionable to use jointed piles, and a revised estimate, amounting to Rupees 5,87,758, was submitted on the 29th August 1871, providing for screw piles in the first nine piers only, where the hard substratum would be reached by one length of pile, and for the substitution of cast iron cylinders, 6 feet in diameter, in the remaining 24 piers. This estimate received the sanction of the Government of India in their letter, dated 31st October 1871, No. 2,200 R.,‡ and the construction of the bridge was

‡ Proceedings of Government, 16th November 1871, No. 2,911.

proceeded with according to the revised design up to the end of last year. The nine piers of screw piles were completed, and the cylinder piers all commenced, and in various stages of progress.

5. The failure of the Paupugnee and Cheyaur bridges in October last has proved that screw piles cannot be depended upon in rivers liable to scour where the bed of sand overlying rock is comparatively shallow (15 feet or so), and it is now considered desirable to construct the whole of the piers of the Huggry bridge of cylinders, and for this the estimate now submitted provides.

Vide Proceedings of Government, No. 310, dated 4th February 1875.

It has already been reported that the screw pile piers which had been erected have since been dismantled, and the materials utilized in the restoration of the damaged bridges on the North-West Line.

6. After crediting the original value of the screw pile piers, this estimate amounts to Rupees 7,01,174; and the additional sum requiring sanction will, therefore, be Rupees 1,13,416. § The Agent explains that, of this amount, Rupees 54,759 is due

§ Rupees 7,01,174
" 5,87,758
1,13,416

*Proceedings of the Madras Government, Public Works Department,
30th April 1875.*

to the increased price of iron. When the first estimate was framed the rate for cylinders was Rupees 121 per ton, and for cross girders Rupees 225; while in the present estimate which is based on the actual cost, they are charged at Rupees 156 and Rupees 255 per ton, respectively. The total length of the bridge being 2,380 feet, the cost per foot run will be Rupees 295. An indent for the required extra cylinders has been forwarded to England in anticipation of the sanction of Government, and it is hoped that the bridge will be completed before the close of 1876.

No. 728.

ORDER THEREON, 30th April 1875, No. 1,206.

RAILWAY, No. 91.

ORDERED that this revised estimate be submitted for the sanction of the Government of India.

(Here enter No. 1,207, dated 30th April 1875.)

(True Extract.)

PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, 30th April 1875.

No. 729.

No. 1,207.

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. 92.

SIR,—In your letter, No. 2,200 R., dated 31st October 1871, the sanction of the Government of India was communicated to a revised estimate, amounting to Rupees 5,87,758, for the bridge over the River Huggry on the North-West Line of the Madras Railway. This estimate provided for screw piles in the first nine piers and cast iron cylinders, 6 feet in diameter, in the remaining twenty-four piers of which the bridge is formed. It will be seen from the accompanying letter that at the end of last year, after the nine piers of screw piles had been completed and all the cylinder piers commenced, the failure of the Paupugnee and Cheyair Bridges conclusively established the unsuitability of screw piles in similar situations to that spanned by the Huggry Bridge, where a comparatively shallow layer of sand overlies a stratum of rock, and the river bed is liable to scour. It has accordingly been determined to use cylinders throughout for which the second revised estimate now submitted, amounting to Rupees 7,01,174, provides.

2. The estimate for the Huggry Bridge has been credited with the value (Rupees 1,50,565) of the materials of the screw pile piers, and these materials have been utilized on other bridges on the North-West Line. The additional amount now requiring sanction is Rupees 1,13,416 as shown on the estimate, but Rupees 54,759 of this sum is explained to be due to the rise in the price of iron since the last estimate was framed.

3. I am under the explanations afforded to request the sanction of the Government of India to the revised estimate now submitted; the sanction to lapse at the end of the eighth quarter after receipt.

I have the honor to be,

Sir,

Your most obedient servant,

Colonel, R.E.,

Secretary to Government.

Exd. A. Grubert.
Spare Copies

Railway Department.

CONSULTING ENGINEER'S OFFICE.

No. 217

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,

with plan
No. 149

I have the honour to submit for the sanction of the Government of India a second revised estimate for the construction of the Puggri bridge at the 297th mile on the Bellary branch of the North-West line, Madras Railway.

2. This bridge was designed to consist of 34 openings of 70 feet from centre to centre, the roadway being carried on 140 feet continuous girders, each covering two openings. No alteration is proposed in the dimensions

dimensions of the bridge, but only in the manner of constructing the piers.

3. The first estimate, amounting to Rs. 3,73,655, exclusive of contingencies, provided for screw pile piers throughout; and, owing to the depth of sand proving to be greater than was anticipated, a supplemental indent, amounting to Rs. 24,532, for additional lengths of piling was sanctioned in the Proceedings of Government dated 7th December, 1870, N^o. 2970. Allowing for contingencies at 10 per-cent on the original estimate, the total approximate cost of the bridge constructed with screw pile piers would amount to Rs. 4,35,553.

4. On reconsideration it was thought objectionable to use jointed piles, and a revised estimate, amounting

	Rs.
Estimate.	3,73,655
Contingencies	37,366
Extra piling	24,532
	4,35,553

amounting to Rs. 5,87,753, was submitted on the 29th August 1871, providing for screw piles in the first 9 piers only, where the hard substratum would be reached by one length of pile, and for the substitution of cast iron cylinders, 6 ft in diameter, in the remaining 24 piers. This estimate received the sanction of the Government of India in their letter dated 31st October 1871, N^o. 2,200 - Q: and the construction of the bridge was proceeded with according to the revised design up to the end of last year. The 9 piers of screw piles were completed, and the cylinder piers all commenced, and in various stages of progress.

5. The failure of the Pappugnee and Chyaur bridges in October last has proved that screw piles cannot be depended upon in rivers

* Proceedings of Government - 16th November 1871 N^o. 2911.

river is liable to scour where the bed of sand overlying rock is comparatively shallow, 15 feet or so, and it is now considered desirable to construct the whole of the piers of the Huggri bridge of cylinders, and for this the estimate now submitted provides.

It has already been reported that the screw pile piers which had been erected have since been dismantled, and the materials utilised in the restoration of the damaged bridges on the North-West line.

* note Proceeding of Government.
1231054

b. After crediting the original value of the screw pile piers, this estimate amounts to

Rs. 7,01,174; and the additional sum requiring sanction will therefore be Rs. 1,13,416. The Agent explains that, of this

amount

* Rs
7,01,174
5,87,758
1,13,416

amount, Rupees 54,759 is due to the increased price of iron. When the first estimate was framed the rate for cylinders was Rs 121 per ton, and for cross girders Rs 225; while in the present estimate which is based on the actual cost, they are charged at Rs 156, and Rs 255 per ton respectively. The total length of the bridge being 2380 feet, the cost per foot run will be Rs 295. An indent for the required extra cylinders has been forwarded to England in anticipation of the sanction of the Government, and it is hoped that the bridge will be completed before the close of 1876.

I have the honour to be
Sir
Your most obedient servant

Matthew Birtles Esq,
Consulting Engineer for P. & F.

Machrao
15th April
1875
18th

Read the following

From The Comr. for Railways. (H.B. No 217 d/15 April 1875)
 4.0 m 1206 of 30th April 1875

Ordered that this revised estimate be submitted for the sanction of the Government of India.

To The C. Secy for Rys.
 Recd 11-5-75.

H.B. No 207 d/30th April 1875
 To The Secretary to Govt. of India

Sir. In your letter No. 2200 R d/31st October 1874 the sanction of the Govt. of India was communicated to a revised estimate amounting to Rs 5,87,758 for the bridge over the River Kaveri on the N.W. line of the Madras Railway. This estimate provided for seven piers in the first 9 piers and cast iron cylinders

Mal
 26/11

C. Secy for Rys. 12/11

J.M. 1845 Lell

RAILWAY DEPARTMENT.
 No 2575-

From The Consulting Engineer, for Railways,

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

Dated 15th April 1875
 Recd 19th April 1875

No. 215

Encl

Handwritten signature

Plan and estimate

For the bridge bridge

Handwritten signature

- 4.0.12. Murch 175 No 3124313
- " 1.4.44 175 No 95697
- " 16.9.44 171 No 3134314
- " 21.1.44 171 No 3536355
- " 13.3.44 171 No 2394240
- " 7.8.44 170 No 1414442
- " 1.1.44 170 No 94444
- " 3.1.44 168 No 91444

c. 19.11.75

Cylinders, 6 ft in diameter,
in the remaining 24 Piers
of which the bridge is
formed. It will be seen
from the accompanying
letter that at the end of
last year, after the Piers
of Screw Piles had been
completed and all the
Cylinder Piers commenced,
the failure of the Pampunee
and Chegar bridges
conclusively established
the unsuitability of
Screw Piles in similar
situations to that spanned
by the Huggly bridge,
where ^{comparatively} a shallow layer
of sand overlies a
stratum of rock, and the
river bed is liable to
scour. It has accord-
ingly been determined
to use Cylinders throughout
for which the second
revised estimate now
submitted, amounting
to Rs 7,01,174, provides.
The

The estimate for
the Huggly bridge has
been credited with the
value (Rs 1,50,565) of the
materials of the Screw
Pile Piers, and these
materials have been
utilized on other bridges
on the R. W. line. The
additional amount
now requiring sanction
is Rs 1,13,416 as shown
on the estimate, but
Rs 54,759 of this sum is
explained to be due
to the rise in the price
of iron since the last
estimate was framed.

I am, under the
explanations afforded,
to request the sanction
of the Govt of India
to the revised estimate
now submitted; the
sanction to lapse at the
end of the eighth quarter
after

[Faint handwritten notes, possibly bleed-through from the reverse side.]

19-4-75

2505 ✓

Gobt. of (1875) Madras.

PUBLIC WORKS.

26

The Engineer-in-Chief
Supt. of Public Works
of Madras

Dated

Recd.

Encl

G. O. 30th Apl. 1875. No. 12067
1207

Nos. 727-728
729

Forwarding, for sanction,
a revised estimate for the
bridge over the Huggry river
North-West Line, Madras
Railway.

Bridge over the Huggry
River - Passing orders on the
revised estimate for the —
North-West Line, Madras
Railway.