

- (1) பக்கங்களின் எண்ணிக்கை 22
 (2) புதுக்கித் திருப்பிய நாள் July 89
 (3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம் lax

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

38

PWD துறை

அரசாணை எண். மு. கோப்புத் தாள் எண்.	14 29	அச்சகம் பலவகை
நாள் :	29 5 1889	198

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

11 sheets

447211

25/7

29TH MAY 1889, No. 1429 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

General.
Account.

READ—the following papers:—

From A. A. JOPP, Esq., Director-General of Stores, to the Secretary to the Government of Madras, Public Works Department, dated India office, Whitehall, S.W., 29th March 1889, No. 3817.

With reference to your letter No. 500 W. of 19th February 1889, transmitting an indent for ironwork required for the Talavasal bridge in the Salem district, I have the honor to forward herewith a copy of a report on the subject by the Consulting Engineer to this office.

2. You will observe that Sir A. Rendel suggests that a plate girder riveted bridge, as originally contemplated for this work, would be preferable to the type design for a pinned bridge demanded in the indent, and he appends to his report a sketch of the pattern of bridge recommended, the cost of which, for the nine spans required, is estimated at about £1,250 delivered in England, whereas the cost of the pinned bridge demanded in the indent would be about £2,000, to which must be added the cost of the timber for planking and curbs to be provided in India.

3. In these circumstances, designs will be prepared for a plate girder riveted bridge as shown in Sir A. Rendel's drawing, and also for a pinned bridge in accordance with the type design; and I shall await your decision as to the type to be supplied, which might be communicated by telegraph.

ENCLOSURE.

Copy report by Consulting Engineer, dated 16th March 1889.

There is a considerable resemblance between this case and that of the Gadilam bridge on which I reported under date of 16th November 1888. The Engineer on the spot prepared in this case a design for riveted girders for which he was afterwards told by head-quarters to substitute a type design apparently simply because it was the type, and his own design has been condemned and is not even sent home with the papers.

2. I consider, however, that the course originally intended, viz., to have a plate or lattice riveted girder bridge, was undoubtedly the right one. The type design with a wooden roadway is 20 per cent. heavier than a plate girder bridge would be with an iron roadway and the work it involves is of a much more costly character, so that I think the cost of a plate girder bridge with iron roadway equal in strength to the type design with a wooden would be less than half the cost of the latter.

3. The saving of weight above estimated assumes that the main girders would be put under the roadway so as to save the weight of cross girders and trimmers. The levels of the piers and of the roadway might be raised a little. I should then cover the main girders transversely with corrugated iron plates which form (when ballasted) a much better and more durable roadway for traffic and probably a cheaper one than planking, and at the same time contribute to the structural strength of the bridge. I should place the main girders 10 feet apart and let the corrugated plates overhang on each side by 2 feet 6 inches or 3 feet, thus giving a roadway width of 14 feet clear (which is that of the type) or 15 feet if desired. This class of roadway has been asked for in preference to planking and asphalt in two recent communications from different parts of India

and might have been in this case if the loads provided for in the type drawings did not seem to forbid it. The bridge I am recommending is of the same pattern as the smaller bridges on the Toungoo-Mandalay Railway, but of course lighter. I append a sketch. The weight of material in one span is as follows approximately:—

Main girders	TONS.
Ironwork for roadway	6
Handrailing and bracings	6
	1
Total ...	13

It will be well if the main girders could go out complete in one piece. They would weigh under 3 tons each. I should say there would be no difficulty.

4. The cost of nine spans of such girders delivered in England would be about £1,250.

5. The cost of ironwork in nine spans built according to the type drawings I estimate at about £2,000 delivered in England. Besides this there would be, according to those designs, 2,450 cubic feet of timber for planking and curbs which would cost, I suppose, Rs. 9,800 and which would not be required with my design.

Copy of telegram despatched on the 22nd April 1889 to the Director-General of Stores through the Right Honorable the Secretary of State for India.

"Your letter 29th March last. Proposed design for plate girder riveted bridge at Talavasal approved."

From A. A. JOPP, Esq., Director-General of Stores, to the Secretary to the Government of Madras, Public Works Department, dated India office, Whitehall, S.W., 3rd May 1889, No. S. 6310.

With reference to my letter No. 3817, dated 29th March 1889, and the telegram from His Excellency the Governor of Madras of 22nd April 1889, I forward herewith a drawing of the proposed Talavasal bridge to assist the Engineer in charge in the erection of the piers and abutments.

ORDER—dated 29th May 1889, No. 1429 W., Public Works.

Communicated to the Superintending Engineers, IV and V Circles, for information and guidance.

(True Extract.)

(Signed)

R. R. E. DRAKE-BROCKMAN, Lt.-Col., R.E.,
Ag. Joint Secy. to Govt., P.W.D.

To the Superintending Engineer, IV Circle, with plan.
" " " V Circle.

Exd. J. Henricus.
Spare Copies

7429

2

GENERAL.
ACCOUNT.

Govt. of {1889} Madras.

PUBLIC WORKS.

Dated May, 29th.

Recd.

Encs.

G.O., 29th May 1889, No. 1429 W.

MAY.

Talavasal Bridge

Letter from the Director-General of Stores, India office, forwarding report by Sir A. Rendel on the subject of the iron-work required for the —, and requesting that the decision as to the type design may be communicated by telegraph, communicated to the Superintending Engineers, IV and V Circles.

DUPLICATE

3rd May 89

1429

Sir,

With reference to my letter No 3817, dated 29th March 1889, and the telegram from His Excellency the Governor of Madras, of 22nd April 1889, I forward herewith a drawing of the proposed Talavasal bridge, to assist the Engineer in charge in the erection of the piers and abutments.

I have the honor to be,

Sir,

Your obedient servant,

The Secretary to the

Director General of Stores.

Government of Madras,

Public Works Department,

Madras.

3



3814

29th March 9

Sir.

1429

With reference to your letter No. 500 W. of 19th February 1889, transmitting an indent for ironwork required for the Jalavasal bridge in the Salem District. I have the honor to forward herewith, a copy of a report on the subject by the Consulting Engineer to this office.

You will observe that Sir A. Rendel suggests that a plate girder riveted bridge, as originally contemplated for this work, would be preferable to the type design for a pinned bridge demanded in the indent, and he appends to his report a sketch of the pattern of bridge recommended, the cost of which, for the 9 spans required, is estimated at about £1250 delivered in England, whereas the cost of the pinned bridge demanded in the indent would be about £2000, to which must be added the cost of the timber for planking and curbs to be provided in India.

In these circumstances designs will be

Secretary to the
Government of Madras.

Public Works Dept:

Madras

lt

TD

1429

N. 4887/8



ASNI

2

be prepared for a plate girder riveted bridge as shown in Sir A Rendel's drawing, and also for a pinned bridge in accordance with the type design; and I shall await your decision as to type to be supplied, which might be communicated by telegraph.

I have the honor to be,

Sir,

1/18/05

Your obedient servant,

A. A. JOPP.

Director General of Stores

5. 5.

PWC No 3788

1726.4.89

Copy Report by Consulting Engineer
dated 16th March 1889.

1179

3

There is a considerable resemblance between this case and that of the Gaddilam Bridge on which I reported under date of 16th November 1888. The Engineer on the spot prepared in this case a design for rivetted girders for which he was afterwards told by head quarters to substitute a type design apparently simply because it was the type and his own design has been condemned and is not even sent home with the papers.

I consider, however, that the course originally intended viz. to have a plate or lattice rivetted girder bridge was undoubtedly the right one. The type design with a wooden Roadway is 30 per cent heavier than a plate girder bridge would be with an Iron Roadway and the work it involves is of a much more costly character, so that I think the cost of a plate girder bridge with Iron Roadway equal in strength to the type design with a wooden would be less than half the cost of the latter.

The saving of weight above estimated assumes that the main girders would be put under the roadway so as to save the weight of cross girders and trimmers. The levels of the piers and roadway, respectively, shown on the drawings sent home admit of this and if need be the level of the Roadway might be raised a little. I should then cover the main girders transversely with corrugated iron plates which form (when ballasted) a much better and more durable roadway for traffic and

probably

6 —

probably a cheaper one than planking and at the same time contribute to the structural strength of the bridge. I should place the main girders 10 feet apart and let the corrugated plates overhang on each side by 2 ft. 6 inches or 3 ft. thus giving a roadway width of 16 ft. clear (which is that of the type) or 15 ft. if desired. This class of roadway has been asked for in preference to planking and asphalt in two recent communications from different parts of India and might have been in this case, if the loads provided for in the type drawings did not seem to forbid it. The bridge I am recommending is of the same pattern as the smaller bridges on the Yungoo-Mandalay Railway, but of course lighter. I append a sketch. The weight of material in one span is as follows approximately:-

Main girders	6 Tons
Ironwork for Roadway	6
Handrailing and bracing	1
Total Tons	13

It will be well if the main girders could go out complete in one piece. They would weigh under 3 tons each. I should say there would be no difficulty.

The cost of 9 spans of such girders delivered in England would be about £1250.

The cost of ironwork in 9 spans built according to the type drawings I estimate at about £2000 delivered in England. Besides this there would be according to those designs 2450 cubic ft. of timber for planking and curbs which would cost I suppose, Rs. 9800 and which would not be required with my design.

1/4 2/4

5-

1/4 2/4

Copy of telegram despatched
on the 22^d April 1889 to the
Director Genl of Mines
through the Lt Secy the
Secretary of State for India.

Your letter 29th March
last. Proposed design
for plate girder rivetted
bridge at Talavasal
approved.

Press
27.5.89

It is requested that in any further communication on this subject the undermentioned letters and number may be quoted, and the reply addressed to

The Director General of Stores,
India Office,
Whitehall,
S.W.

S 6310

India Office,

Whitehall, S.W.,

3rd May 1889.

Sir,

With reference to my letter
No 3817, dated 29th March 1889, and the
telegram from His Excellency the Governor
of Madras of 22nd April 1889, I forward
herewith a drawing of the proposed
Talavasal bridge, to assist the Engineer
in charge in the erection of the piers
and abutments.

I have the honor to be,

Sir,

Your obedient servant,

M. J. P.

Director General of Stores.

The Secretary to the
Government of Madras,
Public Works Department,
Madras.

499-2-89-2-89 499-2-89

4887

R 29.5.89

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the

Read the following

Letter from the Director General of Stores, H. E. No 3817 of 29th March 1889.

Telegram to the Secretary of State. " " " 22nd April 1889.

Letter from the Director General of Stores " " " 6310 " 3rd May 1889.

to 7

Communicated to the
Suptg. Engineers IV and V
Circles for information and
guidance.

Presd
27.5.89

14013
29.5.89

D 1/6/89

To the Suptg. Engineer IV Circle

With plans

... Suptg. Engineer V Circle

LD

LS

Gobt. of (1889) Madras.
PUBLIC WORKS.

Dated

Recd.

Encl.

G.O. 29 May 1889 No 14294

Talarasah Bridge

Letter from the S. Eng.
of Stanes, India Office,
forwarding report by
Sir A. Rendel, on
the subject of the iron
work required for the
— and requesting
that the decision as
to the type of design
may be communicated
by telegraph, comm.
to the S. Eng. to do
wishes.

(11)

29/5

60/18