

Local & Munl. (1896) Department.

MISCELLANEOUS.

G.O., No. 2171 L

DATED 16-11-96.

INDEXED.

[Despatch Abstract.]

Bridge
Communicating to the
Trichinopoly District Braid
go. Pto. D. sanctioning estimate
of Rs 11,500 for constructing an
iron girder — across the Kathaway
in the 16th mile of Road No 11.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

[L. & M.
1,000-27-1000.]

Local & Munl. (189) Department.

CURRENT No. 3084 L

misc:
Order No 2171 Lunsdyl 16-11-96

Communicated to the
District Board Trichinopoly.

From The P. W. D.

P.R.
14/11/96

[Signature]

No. 2953 W

Dated 19/10

Received 10/11.

Registered

Enclosures 8

Spare copies 6

SUBJECT.

Construction of an iron
girder bridge across the
Kuthumay in the Trichinopoly
Do
The P. W. D., Dist Bd, Trichinopoly,
with eight enclosures. on cc

+ Per Master Post

Dated 18/11/96

[Signature]

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

BUILDINGS AND ROADS. CIVIL WORKS.

Government {1896} of Madras. PUBLIC WORKS.

3084

Recd.

Enclosures

Regd.

1896.

Spare copies

G.O., No. 2953 W., 19th October 1896.

OCTOBER.

Bridge

Estimate of Rs. 11,500 for constructing an iron girder — of two spans of 30 feet each across the kathway at the 16th mile, road No. 11, in the Trichinopoly district, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following papers:—

From Major O. V. BODDY, R.E., Superintending Engineer, VI Circle, to the Chief Engineer, Public Works Department, dated Trichinopoly, 10th September 1894, No. 926 T.C.

I have the honour to forward herewith, for the sanction of Government, an estimate, amounting Rs. 9,100, for constructing an iron girder bridge of 45 feet span across the kathway in the 16th mile of road No. 11 in the Trichinopoly district.

2. The bridge is intended to take the place of the old bridge which consisted of two arches of 18 feet span each, and which was destroyed by the floods of 1884.

3. The necessity for this bridge has been fully established.

4. The foundations allowed by the Local Fund Engineer of concrete and brick work, have been altered to concrete throughout.

5. No details of the iron work accompany the estimate, but as it is proposed to obtain this item of the estimate from those experienced manufacturers, Messrs. Burn and Co. of Calcutta, and as it is also of consequence that early sanction to the estimate be accorded to allow of advantage of the proper season being taken to get in the foundations, I have not delayed the submission of the estimate on that account.

6. The clear roadway is to be 13 feet which is sufficient.

Memorandum to the Superintending Engineer, VI Circle, dated 18th October 1894, No. 3174 C.

With reference to the plans and estimates for an iron girder bridge across the kathway in the Trichinopoly district, received with letter from the Superintending Engineer, VI Circle, No. 926 T.C., dated 10th September 1894, the undersigned has the honour to observe that, with respect to the waterway, there is a total absence of hydraulic details, and that without cross sections and a longitudinal section of the river showing H.F.L., it is not possible to judge what discharge may be required.

2. It does not seem desirable to have one block of concrete on top of another with footings. In fact, it is doubtful whether it would be possible to put it in that way without considerable difficulty. The masonry might be commenced on 3 feet of concrete as first intended; and this 3 feet might be carried right across the span as a floor, the top of it being 5 feet lower than the floor shown in the plan. This will allow 5 feet for scouring without ill effect. The wings do not seem to have been designed to fit the slope of the bank, which, moreover, is not shown. They are clumsy in design and weak, being at bottom one foot less than necessary for safety.

3. The plans and estimates are returned for revision and further information.

(Signed) J. PENNYCUICK, Colonel, R.E.,
Chief Engineer.

From W. HUGHES, Esq., Superintending Engineer, VI Circle, to the Chief Engineer, Public Works Department, dated Trichinopoly, 24th June 1895, No. 460 T.C.

In reference to your memo., No. 3174 C., dated 18th October 1894, I have the honour to submit, for sanction of Government, an estimate, amounting to Rs. 9,300, together with a revised plan prepared by the Local Fund Engineer, for constructing a girder bridge of 45 feet span across the kathway in the 16th mile of road No. XI in the Trichinopoly district.

2. The Local Fund Engineer has revised the design in accordance with the instructions conveyed in the memorandum under reference, submitting the necessary level sections, together with hydraulic details, as ordered.

3. Though the drainage basin is nominally 216 square miles, the discharge in very heavy floods would really be equivalent to that from about 60 square miles, as the Marudiar Nattu voikal is but a small channel and the bulk of the drainage would sweep across it. The railway bridge of three 15-feet arches a little above the road has been found quite large enough, and I think it quite safe to make the road bridge also of 15-feet span.

Memorandum to the Superintending Engineer, VI Circle, dated 7th August 1895, No. 2456 C.

It may be calculated that, under the more favourable circumstances stated—that is, supposing we have only 60 square miles of drainage area to consider—it would not be safe to construct a bridge of less than 60 feet waterway, although there may be a depth of 20 feet available for discharge. If the railway bridge stands well, it is probably due to the fact that the area of country drained is less than 60 square miles. Before a waterway of only 45 feet can be accepted, it should be reported whether the railway bridge has withstood the highest recorded flood, or, if there is any doubt as to the flood noted being the maximum, the highest observed by riparian inhabitants.

2. Standing Orders 8 C.C. of 1876 have not received proper attention. The soil is stated on the plan to be silt and clay, and the sub-soil to be morum; but, as the depths are not mentioned, this information is valueless. It is proposed to build different parts of the abutments at different levels. If the soil is rock this can be done with impunity: otherwise it would be better to start from one level.

3. The nature of the soil at + 36 not being known, since the depth of the morum is not stated, it is not clear whether or not the concrete has been let into a bed of rock. If such is the case, the necessity for a concrete floor is not apparent. And if it rests on clay the absence of retaining walls to keep it together should be explained; as should also the reason for dispensing with an apron. It would be well to enter the level at which morum begins, and also at which it ends, i.e., if it ends above + 36.

4. The estimate, giving details of the iron work, which the Superintending Engineer, as stated in his letter No. 926 of 10th September 1894, proposed to obtain from Messrs. Burn & Co. of Calcutta has not been received, and as it is expected that the girder will cost Rs. 5,000 out of the Rs. 9,300 provided for the entire bridge, it is important that those details should be obtained for scrutiny.

5. The space between H.F.L. and lowest point of girders should be sufficient to admit of the free passage during floods of trees or other floating bodies that may be brought down.

(Signed) J. PENNYCUICK, Colonel, R.E.,
Chief Engineer.

From W. HUGHES, Esq., Superintending Engineer, VI Circle, to the Chief Engineer, Public Works Department, dated Trichinopoly, 4th November 1895, No. 1198 T.C.

In reply to your reminder No. 2456 C./2, dated 30th October 1895, I have the honour to state that a new plan for the iron girder bridge across the kathwary on road No. 11, in the Trichinopoly district, has been made in accordance with your instructions, but the estimate is incomplete, pending enquiry which is being made as to rates for iron work. The estimate will be very shortly submitted.

From W. HUGHES, Esq., Superintending Engineer, VI Circle, to the Chief Engineer, Public Works Department, dated Trichinopoly, 7th February 1896, No. 204 T.C.

In reference to your memo., No. 2456 C., dated 7th August 1895, I have the honour to submit, for sanction of Government, a fresh plan and an estimate, amounting to Rs. 11,500, for constructing a girder bridge across the kathwary in the 16th mile of road No. XI, Trichinopoly district.

2. The bridge now proposed will be two 30-feet spans with iron work according to standard design No. 13, dated January 1888. The rates for iron work are based on an estimate furnished by the General Superintendent, Public Works Stores.

From the Superintending Engineer, VI Circle, dated 29th July 1896, No. 1206 T.C.
 " " " VI " " 23rd Sept. " " 1547 "

Note by the Chief Engineer, Public Works Department.

A bridge of two spans, each 30 feet, may be accepted and the estimate may be passed subject to the following modifications as regards the design of the work:—

(1) As suggested in this office memo., No. 3174 C., dated 18th October 1894, the masonry might be commenced on 3 feet of concrete, and this 3 feet thickness carried right across the spans as a floor. The deviation is shown on a tracing attached to the design.

(2) A saving can be effected by eliminating the cut-waters on the down-stream side where they serve no useful purpose.

(Signed) D. McNEIL CAMPBELL, Colonel, R.E.,
 Chief Engineer.

3rd October 1896.

ORDER—No. 2953 W., dated 19th October 1896.

The estimate, amounting to Rs. 11,500, for constructing an iron girder bridge of two spans of 30 feet each across the kathwary at the 16th mile, road No. 11, in the Trichinopoly district, is sanctioned.

2. Attention is drawn to the Chief Engineer's note recorded above.
3. This sanction has been registered as local No. 10 W. of 1896-97.

(True Extract.)

C. P. B. S. C.
 Under Secretary to Government.

To the Superintending Engineer, VI Circle.
 " Local and Municipal Department, with eight enclosures.

Exd. T. K. Narayana Aiyangar.

When given for copying — 16/11
 When copied — 189.
 When examined —
 When signed — 17/11

READ AGAIN G.O., No.
 189 ,

DATED

CURRENT No.

ENCLOSURES TO C. No.

ORDER OF GOVERNMENT A A A A A A A

LETTER OF GOVERNMENT.

STATEMENT WITH DITO.

PAPERS NOT FILED UP, BEING MEANT FOR DESPATCH
 IN ORIGINAL.

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