

Public Works (1897) Department.

G.O., No. 2695 W

DATED 11 October 1897

W. B. Lomax

[Despatch Abstract.]

Bridge across the Kadimulla river
in the South Canara D.C.

The revised estimate, amounting to Rs 44,350
for constructing an iron pin trussed
girder —, sanctioned.

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T. B. W.

21/10

BACK PAPERS.

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

FURTHER PAPERS.

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

BUILDINGS AND ROADS.
CIVIL WORKS.

Government {1899} of Madras. PUBLIC WORKS.

Recd. } *Enclosures*
Regd. } 1899. *Spare copies*

G.O., No. 2695 W., 11th October 1899.

OCTOBER.

Bridge across the Kadimballa river in the South Canara District

The revised estimate, amounting to Rs. 44,350, for constructing an iron pin trussed girder —, sanctioned.

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

Buildings and Roads,
Civil Works.

READ—the following papers:—

From A. H. GARRETT, Esq., Superintending Engineer, IV Circle, Coimbatore, to the Chief Engineer, Public Works Department, dated Camp, Tiruppattūr, 22nd August 1899, No. 464 W.

I have the honour to forward, for the sanction of Government, an estimate, amounting to Rs. 44,350, for constructing an iron pin trussed girder bridge over the Kadimballa river in the South Canara district.

2. The original estimate for this work came to Rs. 29,250 and was sanctioned in G.O., No. 86 W., dated 15th January 1895, whilst a revised estimate for Rs. 34,550 was sanctioned in G.O., No. 1427, dated 14th June 1895.

3. The estimate now submitted shows an excess over the first revised estimate of about Rs. 9,800, which is mainly attributable to the higher rates now allowed and to the fact of several items having previously been under-estimated or altogether omitted, notably supervision, contingencies, cradle, scaffolding and stone pitching.

4. The report accompanying the estimate affords all the necessary explanation for the excess, and the alteration in the design of the abutments was certainly very necessary.

5. The President, District Board, is anxious that this work which has been delayed for so many years may be completed during the present official year, and requests that the estimate may be sanctioned as soon as possible.

Note by the Chief Engineer, Public Works Department.

The revised estimate for an iron pin trussed girder bridge across the Kadimballa river received from the Superintending Engineer, IV Circle, with his No. 464 W., dated 22nd August 1899, is recommended for sanction with the remark that the abutments, if not already built, should have the following section. The base should be 10' 6" and the top width should be 5' 0". The front face should batter at 1 in 6.5 and there should be 2 offsets in rear of 9 inches each. In laying out the work care should be taken to keep the span at top of abutments the same as originally designed.

(Signed) W. B. DEWINTON,
Chief Engineer.

11th September 1899.

ORDER—No. 2695 W., dated 11th October 1899.

The revised estimate, amounting to Rs. 44,350, for constructing an iron pin trussed girder bridge across the Kadimballa river in the South Canara district, is sanctioned in supersession of the estimate of Rs. 34,550 sanctioned in G.O., No. 1427 W., dated 14th June 1895.

2. The attention of the District Board Engineer is drawn to the Chief Engineer's remarks in his note read above.

3. This sanction has been registered as Local No. 14 W. of 1899-1900.

(True Extract.)

Under Secretary to Government.

To the Superintending Engineer, IV Circle.
" Local and Municipal Department, with 14 enclosures.

Exd. P. Seetharam.

P. W. DEPARTMENT.

READ the following:—

From the Supg. Engineer, IV Circle, No. 464 W. dy 22nd August 1899.

Note by the Chief Engineer P.W.D. dy 11.9.99

Circulated to

His Excellency the Governor

ORDER.

No. 2695 W. 11.10.99

The revised estimate amounting to Rs. 44,350, for constructing an iron pin trussed girder bridge across the Kadimballa river in the South Canara District, is sanctioned in supersession of the estimate of Rs. 34,550 sanctioned in G.O. No. 1427 W. dated

14th June 1895

2.3. This sanction has been registered as Local No. 14 W. of 1899-1900

2. The attention of the District Board Engineer is drawn to the Chief Engineer's remarks in his note read above.

L. H. H.

Issue 11.9.99

To the S.E. IV Circle

Local + Municipal Dept with 14 enclos.

The estimate is dealt with in

P. W. 4. 1,000-18-7-99

in the accompanying technical
note and the Chief Engineer will read above

W. 11-9-91

W.

W. 11-9-91

The revised estimate for
an iron pin jointed girder
bridge across the Kadambakur
River received from the
Superintending Engineer
IV Circle with No 464
W

d/22-8-99 is recommended
for sanction with the
remark that the abutments,
if not already built, should
have the following section

The base should be 10'-6"
and the top width should
be 5'-0". The front face
should batter at 1 in 6.5
and there should be 2
offsets in rear of 9 inches
each. In laying out the
work care should be taken
to keep the span at top of
abutments the same as
originally designed

W. 11-9-91

W. 11-9-91

W. 11-9-91

Current No. 6983

Letter No. 464 W.

Dated 22-8-29

From the S.E. IV Circle

NOTE BY TECHNICAL SECTION.

Name of work Iron pin bridge

order bridge across the Kadiwari -
balla River - South Kanara Dist.

Revised Est: Rs 44350

The original Estimate for this work amounted to Rs 29250 and was sanctioned in G.O. N.86 H. of 18th Jan. 1925. It was disposed of in Technical Note with Current 8947 7-14 (Flag D). The design for the Iron Trans-bridge was then approved.

Again a revised Estimate for Rs 34550 was sanctioned in G.O. 1427 7-14-6-95. The necessity for this is explained in Technical Note of Current 3882 7-95 (Flag E) the excess then being due chiefly to a change in rates - diversion and for exchange, causing a rise in the iron market.

The Estimate now submitted for Rs 44350 shows an excess of Rs 9800 over the first revised Estimate - chiefly due to the omission of several important items as well as the provision of higher rates as enumerated further on.

The report sent with the Estimate for info per detail

W. The principal causes of excess are.

- (a) Increased rate for masonry
- (b) Increased provision for scaffolding
- (c) Cradle for hauling girders
- (d) Tools and Plant
- (e) Sundries Sheds Medicines etc of Tools and Petty Supervision

In the regard to (a) The rate of Rs 45 is a very high one - and the data are very unsatisfactory. This is based for every 100 cub ft of masonry 33 cub ft of sand and 16 1/2 cub feet of lime are allowed. More than double the usual quantity. The cost of finding comes to Rs 12. which is not very high considering the amount of material nominally used. Apart from the labour for mixing mortar 14 coolies are allowed to help 4 masons. The data are absolutely worthless.

(b) And (c) the method of erection of this heavy girder does not appear to have been properly considered

detail in explaining the necessity for these increases.

The design for the abutments has been materially altered for the better. The original section was weak. The report, calculations and sketches A & B. accompanying fully explain the necessity for the revised section. The revised section is shown in the lines of pressure according to Rankine and Schaffler are marked on sketch B in pencil by this office - the resultants in both cases, which show for brickwork structures, fall well within the base. For example, a bottom width of $10\frac{1}{2}$ ft (base of height for rubble masonry) would be preferable. The long curved wing walls have been abandoned and short sloped wings adopted instead. This arrangement is suitable & economical.

The estimate is accompanied with a Comparative statement and the increases described by sketches as follows.

(a) Increase in value	Rs. 3166
(b) Variations in design	- 3326
(c) New provision formerly necessary	+ 2738
(d) Insufficient provision	+ 5841
(e) Errors & omissions	+ 2000
(f) Savings	- 627
Total excess	Rs. 9800

in the first instance. And the proposals of the D.B. Engineer who goes into the question thoroughly in the report may be accepted.

(d) and (e) no provision for these have been made. They should have been foreseen by the Engineer when he prepared the estimate.

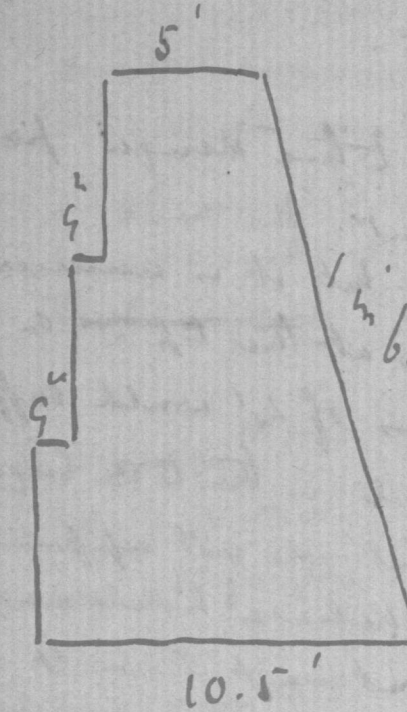
(f) A lump sum provision for erection superintendence and unforeseen works made in the original estimate. Rs. 1170 is made in the original estimate. This is obviously inadequate.

In the report & the design for the abutment. The base is now correct. But it is unnecessarily thick at the top. A top thickness of 4' would suffice. The arguments of the D.B. Engineer on this point do not appear sound. I believe however that the abutment is built and that alteration is not necessary.

The data for rubble are all wrong. It there are special difficulties in carrying out work in an inaccessible unhealthy place, & if we cut the

D.B. Engineer down, he certainly is almost certain to collect again. In the rate can be left.

The abutment if not already built should be designed in following



the wing walls the same where they leave it.

(a) The excess under this head is due chiefly to the increase in the rate provided for masonry - from Rs. 30 to Rs. 5. Revised rates are now fixed - and provide for fair carriage - better work etc. - The increase appears to be essential and the subject is fully dealt with in the report.

(b) These savings are effected by the change in the design of the wing - omission of - cut stone piers and ornamentation, which in a simple locality will be useless & idle work.

(c) Under this head the following new provision has been made.

	Rs.
Bedding	84
Concrete leveling & filling in front	364
Pitching banks with latrines	119
Reinforcement of masonry	587
Trunk housing	141
Cradle for handling piers	
Separate Estimate attached	1036
Tools & plant necessary	1500
Sandwich, sheet masonry & p.c.	2010
Total Rs.	5841

(d) Here the excess is due to the former insufficient provision.

	Original Est.	Present Est.	Diff.
Scalloped wing - Schedule Estimate attached	1160	3200	2040
Erecting & handling iron work	1170	1500	330
Painting & varnishing	200	350	150
Conveyance charges of iron work	450	668	218
Total Rs.			2738

In the report it is made clear that the previous provision was inadequate.

LS470

No.	Date.
1427W	14-6-95
1428W	15-6-95

Quimbatone 22nd August 1899
Camp ~~Atank~~ Tirupattur

To
The Chief Engineer
P.W. Department.

- 1. Detailed Estimate.
- 1 Abstract - do -
- 1 Report with 3 enclosures
- 1 Comparative Statement.
- 1 Plan.
- 2 Diagrams A & B with directions.
- 1 File of the same revised -
note, report & ~~etc.~~
- 1 Small Plan
- 1 8th 13th Resolution.

Sir,

I have the honour to forward
 for the sanction of Government an esti-
 -mate amounting to Rs ^{44,350} ~~44,570~~ for
 Constructing an Iron Pin Trussed
 girder bridge over the Kadambilla
 river in the South Canara District.
 2. The original estimate for this
 work came to Rs 29250 and was
 sanctioned in G.O. no: 8610 dated
 15th January 1895, whilst a revised
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 in G.O. no: 1427 dated 14th June 1895.
 3. The estimate now submitted
 shows an excess over the first revised
 estimate of about Rs ⁹⁸⁰⁰ ~~10000~~, which
 is

is mainly attributable to the higher rates now allowed and to the fact of several items having previously been underestimated or altogether omitted, notably Supervision, Contingencies, Cradle, Scaffolding and Stone pitching.

4. The report accompanying the estimate affords all the necessary explanation for the excess, and the alteration in the design of the abutments was certainly very necessary.

5. The President District Board is anxious that this work which has been delayed for so many years may be completed during the present official year and requests that the estimate may be sanctioned as soon as possible.

I have the honour to be,

Yours,

Wm. M. D. S. T.

Ans. M. D. S. T.

Supt. Engr. W. C. C. C.