M.R.O. 1—77,000—8-6-37.

(1) Number of pages_____

(2) Date of repair_____

(3) Initials of the Referencer_____

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 2504 Press Mis.
16-17
Dated 2-10- 1871.

Not to be folded or roughly handled

No. 16. Read the following letter from the Superintending Engineer, 4th Division, to the Secretary to Government, Public Works Department, dated Madras, 2nd September 1871, No. 2,364:—

AGREEABLY to G. O., 29th June 1871, No. 1,734, I have the honour to forward revised plans and estimates for the bridge over the Cortelliar on the Great Northern Road.

3 Plans.
1 Comparative Statement.
2 Estimates.
1 Mr. Grainger's Estimate.

2. I have now raised the piers 3 feet, so as to make the high water line at a safer place; but I did not do so when I submitted the estimate before, as Colonel Orr had considered it high enough, beside which the Red Hill supply anicut has since been built over the same river, and the Kasaveram anicut it is proposed to raise in conjunction with the Chembrumbaukum project, so I considered the original structure to give quite sufficient water-way.

3. The blue dotted line shows how high the flood was last year, which was the highest recorded one.

4. The comparative statement now accompanies the revised estimate, and gives full information on the cause of increase:—

1*st.*—To raising piers and abutments 3 feet.

2*nd.*—To introducing arches in the spandrel walls.

3*rd.*—To allowing about 5 per cent. for sundries in the revised estimate, which was omitted in the one amounting to Rupees 1,27,000.

4*th.*—To raising the cost of centrings.

	RS.
The original estimate was	1,00,790
The revised estimate, allowing for raising the piers as proposed, is	1,46,590
Leaving a net amount for sanction of	45,800
The estimate for iron girder spans is as follows:—	
Iron work	75,223
For carriage, out-fitting up, etc., which the Superindendent of the Workshop undertakes to do, is	14,558
	89,781
Extra amount required to raise the piers 1,017 feet to place the iron girders on	15,642
	1,05,423
Amount already expended on the present piers ...	68,077
	1,73,500

5. This shows that a brick-in-chunam bridge, as originally proposed, would cost 1,46,590 against Rupees 1,73,500 for the iron girder bridge, or an excess of 26,910; but I would still recommend the iron girder bridge as in every way more suitable, lighter on the foundation, more easily put up, less likely to have

accidents, and not dependant on the bad bricks generally used in Madras. In addition to this it would be a good turn for the workshops to make them more profitable. If the Government decide on the iron girder, then Rupees 1,05,423 will be required to finish the bridge; but otherwise, on the old plan, only Rupees 78,513.

5. I can find no reason for changing the 27 arches of 40 span to 23 arches of 50 feet span, except an order to the Range Officer by Colonel Boileau, the then Superintending Engineer, who was in communication with Mr. Moncrief, I should think by Colonel Orr's request, who recommended a change from arches to iron girder spans.

No. 17. ORDER THEREON, 2nd October 1871, No. 2,504.

CIVIL WORKS, No. 2.

THE bridge formerly sanctioned for construction over the Cortelliar on the Great Northern Road was a masonry structure 27 arches of 40 feet span, the design was altered to 23 spans of 50 feet apparently with the object of substituting iron girders for brick arches, but apprehensive that the increase in cost would be great, the Superintending Engineer in June 1871 submitted a revised estimate for the masonry structure amounting to Rupees 1,27,000 against the original sanction of Rupees 1,00,790. On being requested to re-consider the height of the piers, and to submit an estimate for an iron bridge, the Superintending Engineer has again revised his estimate, providing for items that had been omitted, and in some cases increasing the rates, the necessary explanation being given in the comparative statement.

2. It thus appears that the expenditure which has been incurred amounts to Rupees 68,077; that to complete the bridge as a masonry structure, the piers to be raised an additional 3 feet will require a further sum of Rupees 78,513, making a total of 1,46,590, and that for the iron bridge a further expenditure of Rupees 1,05,423 will be necessary, making a total of 1,73,500. His Excellency the Governor in Council perfers the iron girder bridge although the expense will be greater, and he resolves to refer the papers to the Local Fund Board for consideration in connection with any provision which it may be proposed to make for the completion of the work.

(True Extract.)

Captain, R.E.,
Under Secretary to Government.

To the Superintending Engineer, 4th Division.
,, Controller of Public Works Accounts.
,, Financial Department.
,, Local Fund Board of Circle.

Exd. S. T. Augustin.

No. 2364.

Madras 2nd September 1871.

From

Colonel C. V. Wilkieson R. E.
Superintending Engineer 4th Div.

To,

Colonel J. Carpendale R. E.
Secretary to Government P. W. D.
Fort Saint George.

Sir,

Agreeably to G. O. 29th June 1871 No. 1734 I have the honor to forward revised plans and estimates for the bridge over the Cortelliar on the Great Northern Road.

2 I have now raised the piers 3 feet so as to make the high water line at a safer place, but I did not do so when I submitted the estimate before, as Colonel Orr had considered it high enough, beside which, the Red Hill supply Anicut has since been built over the same river, and the Kasaveram Anicut it is proposed to raise in conjunction with the Chembrumbaukum project, so I considered the original structure to give quite sufficient water way.

3 The blue dotted line shows how high the flood was last year, which was the highest recorded one.

4 The comparative Statement now accompanies the revised estimate,

and

Enclosures
1 Plans
Comparative Statement Estimates
Wm Granger's Estimate.

and gives full information on the cause of increase.

1st. To raising Piers and abutments three feet.
2nd. To introducing arches in the Spandrel walls
3rd. To allowing about 5 per cent for Sundries in the revised estimate which was omitted in the one amounting to Rupees 1,27,000
4th. To raising the Cost of Centrings.

The original estimate was ——— Rs. 100790
The revised estimate allowing for raising the piers as proposed is } " 146590
leaving a net amount for sanction of " 45800

The Estimate for iron girder Spans is as follows.

Iron work ——— Rs	75223
For carriage out fitting up &c. which the Superintendent of the Workshop undertakes to do is	" 14558
Extra amount required to raise the piers 10 ft 7 feet to place the iron girders on	89781 / 15642
Amount already expended on the present piers	105423 / 68077
	173500

4 This shews that a brick in Chunam bridge as originally proposed would cost 146590 against Rupees 173500 for the iron girder bridge, or an excess of 26910; but I would still recommend the iron girder bridge as in every way more suitable, lighter on the foundation, more easily put up, less likely to have accidents and not dependant on the bad bricks generally used in Madras. In addition to this, it would be a good turn for the Workshops to make them more profitable. If the Government decide on the iron girder, then Rupees 105423 will be required to finish the bridge; but otherwise on the old plan, only Rupees 68,513.

5 I can find no reason for changing the 27 arches of 40 span to 23 arches of 50 feet span, except an order to the Range Officer by Colonel Pollock the then Superintending Engineer who was in communication with Mr. Moncrieff, I should think by Colonel Orr's request who recommended a change from arches to iron girder spans.

I have the honor to be
Sir
Your most obedient servt

Winscom Cobbe
Supg Engr 4th Dn.

Ordered 11-Feb 73

Ord

Memo

Lor orders.

Requests to return the plans and estimates &c. for the Bridge over the Carleton River, forwards with the late despatch [illegible] dated 2 ult.

Engineer No.-2364 dated 2 ult. forwarding

Asst Commissr Genl's No.-2504 dated 2nd October 1871 memorg.

Chief Engineer & Surveyor of 40'

Schwitzer: D.G. Engr Office

Schwitzer D.G. Engr Office forwarding 10 D. March 1873

To The Chief Secretary to the Govr. N.B.

Asst Commissr Genl & Chief Engineer

Schwitzer D.G. Engr Office

Memo of

Ord

I have the honor to enclose, but after the most careful examination I cannot recommend the erection of a Bridge at the present time

I have the honor to be Sir Your obedient Servant

Chief Engineer

Bridges

Rec'd 3rd June/71 pp. 499-500

No. W. 1871 Dept

Prov. Govt for Col. No. 1163.

Sir,

The Asst Engineer

& Surveyor

To

The Asst Sec. to Govt

P.W.D.

* Sent to the D. Engr Asst Engr Surveyor Clerk of Works

Dated 2nd Sept 71

Rec'd 4th Sept 71

Encl. * No. 2364

No. 2405. 2 Oct 71.

Forwards with remarks plans and estimates for the Bridge over the Restigouche on the Great Northern Road, and recommends the iron girder bridge as in every way more suitable than a Bridge with brick in cham-

No 16

Oct 5 Letter pp 251-252

P.W.D.

For orders.

9

Northern Trunk Road.

Bridge over Cortallair River.

The structure formerly sanctioned was a masonry bridge 27 Arches of 40' span - the design was altered to 23 spans of 50 ft. apparently with the object of substituting iron girders for brick arches, but apprehensive that the increase in cost would be great, the Superintending Engr. in June 1871 submitted a revised estimate for the

I would sanction the same expensive project as the one most likely to be durable & satisfactory, the cost does not frighten me.

If Govt. wish variations,

N?

J. D.

Better look them for Council.

Copy of letter dated 21st July 1871.

P.W.D.

Stephen Swinton Esqr. Bridge in progress Cortallair Trunk Road

masonry structure on amounting to Rupees 127.000 against the original sanction of Rs. 100.790- on being requested to reconsider the height of the Piers, and to submit an estimate for an iron bridge the Superintending Engineer has again revised his estimate, providing for items that had been omitted, and in some cases increasing the rates, the necessary explanation being given in the Comparative Statement

It thus appears that the expenditure which has been incurred amounts to Rs. 68,077; that to complete the bridge as a masonry structure the piers to be raised an additional 3 feet will require a further sum of Rs. 78,513, making a total of 146.590, and that for the iron bridge a further expenditure of Rs. 105.423 will be necessary making a total of 173.500-. I would much prefer the iron girder bridge.

14/11/24

13

No 2504.

The bridge formerly sanctioned for construction over the Castellair on the Great Northern Road was a masonry structure 27 arches of 40' span. The design was altered to 23 spans of 50 feet apparently with the object of substituting iron girders for brick arches, but apprehensive that the increase in cost would be great, the Superintending Engineer in June 1871 submitted

a revised estimate for the masonry structure amounting to Rs: 1,27,000 against the original sanction of Rs: 1,00,790- On being requested to reconsider the height of the Piers, and to submit an estimate for an iron bridge the Superintending Engineer has again revised his estimate, providing for items that had been omitted, and in some cases increasing the rates, the necessary explanation being given in the Comparative Statement.

It thus appears

that the expenditure which has been incurred amounts to Rs: 66,077; that to complete the bridge as a masonry structure - the piers to be raised an additional 3 feet will require a further sum of Rs: 78,573; making a total of 1,46,590, and that for the iron bridge a further expenditure of Rs: 1,05,423 will be necessary, making a total of 1,73,500. His Excellency the Governor in Council prefers the iron girder bridge although the expense will be greater, and he resolves to refer the papers to the Local Fund Board for consideration

in connection with any provision which it may be proposed to make for the completion of the work

J. 22nd Inst.

42

9 To Asst Engr. 4th Dist.
5th Controller Accts.
1st Financial Dept.
3rd Local Fund Board Office.

in connection with any

C- No. 4163-

Govt. of 1871 Madras.

PUBLIC WORKS.

To Superintending Engr
4th Division

Dated

Rcd. Encl. 7

G. O. 2 Oct 1871. No. 2504.

Nos. 1149

Bridge over the Cantellier
river on the Pool-Vedaranniam
road Chingleput-Dt- Preparing
& the Construction of an
Iron girder Bridge &
referring the papers to the
Local Fund Board for
consideration in connection
with any proposition which
it may be proposed to
make for the Completion
of the work-