

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following letter from G. T. WALCH, Esq., Executive Engineer, South Arcot Division, to the Superintending Engineer, V Circle, dated Cuddalore, 31st December 1884, No. 663 :—

With reference to your No. 3544, of 13th instant, on proceedings of the Madras Government No. 3027,* of 9th December 1884, I have the honor to report as follows.

2. The Gadilam bridge had twenty segmental *arches* of 30-feet span ; height of *piers and abutments* to springing of arches, 6 feet 6 inches ; rise of *arches*, 7 feet 6 inches, *floor* in form of an invert with 2 feet versed sine and extending 6 feet beyond cutwaters up and down stream ; *piers* 5 feet thick ; *foundations* of piers and abutments 8 feet in depth below springing of invert floor ; *retaining walls* of floor to same depth as foundation.

3. The bed of the river at the site is tidal loam below the surface, which is of pure sand of varying depth.

4. The bridge was built 1843 to 1847. In October 1864, when there was a very high flood, ten arches fell or were so shaken that they had to be removed; these were rebuilt in 1865-66.

5. On the 7th of this November six arches fell or were shattered.

6. The immediate cause of this destruction was, as with most of similar mishaps to bridges of the kind, insufficiently broad protection on the upstream side, where, in high floods, dangerous eddies are of course set up near the piers.

7. One of these eddies evidently undermined the upstream ends of the third and fourth pier† which, sinking, carried with them the arches which sprang from them and another pier and arch followed, whilst two more were shattered.

8. Mr. Norfor, the Local Fund Engineer, who saw the bridge just before it fell tells me that water did not rise to the crown of the arches ; and I believe that, with efficient protection on the upstream side, the bridge would not have then gone.

9. Judging from *that* flood, with regard to which this report has been called for I would have recommended the restoration of the bridge between its then existing abutments, substituting iron girders of 60-feet span for the ruined arches, and the provisions of a sufficiently broad upstream floor or "apron" along the whole length of the bridge, and also certain training works to bring the river more directly to the bridge and lessen the now considerable "set," and therefore disturbance, on the western side.

10. But on 18th instant (December) there came a much higher flood, which turned the bridge on its western flank, destroyed the abutment there, and completely wrecked the remainder of the bridge except the seven most eastern arches.

11. For that flood the waterway between the former abutments would not be enough even if girders were substituted for arches; the railway bridge, about two miles higher up the river, has one thousand running feet of clear waterway through which the river flowed upwards of 14 feet deep, whilst besides this an enormous volume of water left the river just above that bridge and flowed down to Tirupapuliur and so back to the Gadilam below the ruined road bridge.

12. If the discharge down the Gadilam could be confined to the drainage of its own basin, then the ruined bridge might be reconstructed of its old total length; but if the Gadilam is to receive, as it certainly did in former days and has now again received, a great access of water from the Ponniar, then, judging from the railway bridge, which in the recent flood was certainly not too large, any new bridge at Cuddalore should have at least one thousand *running* feet and fourteen thousand *square* feet of waterway as against six hundred running feet and seven thousand six hundred square feet of the old structure. Girders of at least 60-feet span on deep and well protected foundations are alone suitable for the site.

No. 3802.

Endorsement on the above.

Forwarded to the Chief Engineer, Public Works Department, with reference to paragraph 1 of G.O., No. 3027 W., dated 9th December 1884.

10th January 1885.

(Signed) H. L. PRENDERGAST, Colonel, R.E.,
Superintending Engineer, V Circle.

ORDER—dated 29th January 1885, No. 237 W., Public Works.

Communicated to the Revenue Department, with advertence to G.O., in that department, No. 1297, dated 24th November 1884.

2. The cost of a new bridge of the dimensions recommended by the Executive Engineer is roughly estimated at two lakhs of rupees, and the Government, in the Public Works Department, are unable to accept that large expenditure as a charge against the State.

3. The Government will probably be prepared to assist in the matter, but it is considered that the first action must be taken by the Municipality and the Local Fund Board.

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Revenue Department.

„ Financial
„ Superintending Engineer, V Circle.
„ Chief Engineer for Irrigation.

Exd. A F. Aaron.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of 1885 Madras

PUBLIC WORKS.

Dated January, 29th.

Recd.

Encl.

G.O., 29th Jan. 1885, No. 237 W.

JANUARY.

Gadilam Bridge

Orders on report of the Executive Engineer on the subject of the restoration of the —.

23RD MAY 1885, No. 118 M., FINANCIAL.

GOVERNMENT OF MADRAS.

FINANCIAL DEPARTMENT.

READ—the following paper:—

Proceedings of the Board of Revenue, dated 16th April 1885, Mis. No. 3506.

Read—the following letter from H. P. GORDON, Esq., Collector of South Arcot, to the Secretary to the Board of Revenue, dated Cuddalore, 9th April 1885, No. 137:—

With reference to the Board's Proceedings, dated 20th February last, Mis. No. 1620, communicating G.O., No. 237 W., dated 29th January last, passing orders on the subject of the restoration of the Gaddilam Bridge, I have the honor to enclose copies of the resolutions of the Cuddalore Municipality and of the Local Fund Board on the subject.

2. It is to be observed that the Municipal Council is quite unable to devote a sum of Rs. 10,000 per annum to the repair of the bridge, unless they could raise that amount by successive loans.

3. There does not appear to me to be any prospect of the District Board being able to render assistance for some years to come. In the present year their resources are utterly crippled.

ENCLOSURES.

Extract from the Proceedings of the Municipal Commissioners of Cuddalore passed at a special meeting held on the 9th March 1885.

Read President's foot-note, dated 24th February 1885, No. B, to G.O., 29th January 1885, No. 237 W., forwarding orders of Government on the report of the Executive Engineer on the subject of the restoration of the Gaddilam Bridge, and observing that the whole question at issue appears to resolve itself mainly into a financial one.

2. The Commissioners adopt the opinion of Mr. Walch that the approximate cost of constructing new girder bridges across the Gaddilam river and the Uppanar channel will amount, on a rough estimate, to about Rs. 1,60,000; that the time necessary for carrying out these works will probably extend to three years. They consider that the cost of the works may be fairly apportioned between them, the Local Fund Board, and the Government as below:—

	RS.
The Municipality	10,000 a year.
The Local Fund Board, South Arcot	20,000 „
Government (from provincial funds)	23,333 „

or in three years, Rs. 1,60,000.

Resolved that the President be requested to obtain the sanction of the Local Fund Board and Government for their contributing the shares apportioned to them.

(Signed) S. DAVANAYAGA MUDELLIAR,
Vice-President.

Proceedings of the Local Fund Board, South Arcot Circle, passed at a meeting held on Saturday the 28th day of March 1885.

Read foot-note, dated 21st instant, from the President, Municipalities, on a letter, No. 119, dated 20th idem, from the Vice-President, Cuddalore Municipality, requesting that the resolution of the Municipal Commissioners regarding the proposal to construct a girder bridge of the dimensions mentioned in G.O., No. 237 W., dated 29th January 1885, across the Gaddilam may be laid before the Local Fund Board at their next meeting and their views communicated.

Read also resolution, No. 23, dated 28th ultimo.

Resolved that the state of the Board's finances does not allow of their rendering any assistance to the Municipality in the year 1885-86. Should funds become available in the subsequent year, they would be prepared to make a grant equal in amount to that contributed by the Municipality.

(Signed) H. P. GORDON,
President.

Resolution—dated 16th April 1885, Mis. No. 3506.

Submitted for the information of Government.

(True Extract.)

(Signed) E. GIBSON,
Secretary.

To the Secretary to Government, Revenue department,
with letter and enclosures in original to be returned.

Copy to the Collector of South Arcot.

Mis. No. 2012.

Transferred to the Public Department.

OOTACAMUND,
21st April 1885.

(Signed) W. WILSON,
Ag. Secy. to Government.

ORDER—dated 23rd May 1885, No. 118 M., Financial.

Recorded. The disastrous floods in South Arcot resulted in such deplorable damage to all the communications there that it is not probable the Local Fund Board or Municipal Council will be able to allot any money at present for the rebuilding of the Gaddilam Bridge. The immediate repair of the most important roads must form a first charge upon all local funds. The Government are now, in connection with a report received from Messrs. Parry and Co., calling upon the Collector for a comprehensive report upon the restorative measures immediately necessary in the district.

(True Extract.)

Mannick
For Chief Secretary.

To the Revenue department.

- " Public Works Department.
- " President, District Board, South Arcot
- " Chairman, Municipal Commission, Cuddalore (through the Collector of South Arcot).

Exd. J. W. Fischer.

Govt. of (1885) Madras.
FINANCIAL.

Issued

Recd. 5/6/85

Encl.

G.O., 23rd May 1885, No. 118 M.

Vide (822/149) file
No. 1757 W of 27 July 1885
MAY.

Gaddilam Bridge.

Letter from the Collector of South Arcot reporting, with reference to G.O., dated 17th February 1885, Mis. No. 336, the inability of the Cuddalore Municipality and the District Board to contribute towards the restoration of the —, recorded with remarks.

29-1-85
1069J. 21-11-84
1107J. 8-12-84
No. 3027W. 9-12-84
33P. 12-1-85
110J. 5-2-85
No. 82C. 14-1-85

No. 1757 W of 27 July 1885

Communicated to
the S.E. Circle
for information

S.E.C

CB.
24.7.85

27.7.85

S.E. Circle ✓
for Ins. 29/7
14/8