

(1) Number of pages 12
 (2) Date of repair 24.7.86
 (3) Initials of the Referencer low

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Revenue DEPARTMENT

G.O. No.	3926	Press.
B.P. No.		Mis.
Dated	13 - 7 - 1877	197.

SA

Not to be folded or roughly handled

526

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

10th July 1877, No. 151 I.

Irrigation.

Read the following paper:—

No. 62 I.

No. 49. *Note by the Chief Engineer for Irrigation.*

IN G.O., Revenue Department, of the 22nd February 1877, No. 785-A, certain points in connection with the formation of river embankments on the Palar above the Vellore bridge were referred to the undersigned, and to enable an

No. 12 NA of 29th March 1877. opinion to be expressed, the District Engineer was asked to transmit the surveys, levels, and estimate, and at the same time to afford such information as might be necessary to show that neither the north nor the south embankment will be in danger of being turned by the river overflowing its banks higher up.

2. In G.O., Revenue Department, No. 1,273, of the 30th March 1877, the estimate of Rupees 2,841 for these embankments was sanctioned, subject to such modifications as might be suggested by the Chief Engineer for Irrigation.

3. The District Engineer has forwarded the plans and estimates, and in transmitting them has intimated that these embankments with the western termini shown are liable to be turned, and that estimates for extensions to remove this liability will need to be prepared and forwarded. Without such extensions the work now under execution is useless and will run great risk of being extensively damaged. The embankment work should have been commenced at ground above flood water and have been carried regularly thence down to the eastern termini at the bridge.

4. The estimate sanctioned in G.O., Revenue Department, No. 1,273, 30th March 1877, amounted to Rupees 2,841; but it is shown in the Range Officer's memorandum printed in Proceedings, Madras Government, Revenue Department, No. 785-A, that the total cost of the embankments as then designed would be about Rupees 4,250.

The present estimates are—

								RS.
South embankment	...	...	...	...	...	...	...	7,850
North do.	...	...	...	...	...	...	...	8,650
Total	...	...	...	...	...	...	...	16,500

Some masonry works which are not provided for in this estimate are stated to be required.

Regarding the probable cost of the extensions there is no information.

5. With regard to the embankments themselves it is to be noticed that the alignments are not good, being apparently not as nearly parallel with the axis of the river as they might be. The position chosen also is either wholly or partly in the bed

of the river, and the security of embankments so placed is necessarily very precarious. Their maintenance, if they can be maintained at all, will be costly unless a belt at least 10 yards wide of nanel grass can be established for the protection of the toe from scour.

The rates are very high, four-fifths of the embankments are to be of sand, and the rate is 4 Annas the 100 cubic feet or 1½ Annas nearly a cubic yard, which is about 50 per cent. more than the normal. The earth or clay facing is entered at 4½ Annas a cubic yard, and this high rate is said to be necessary because suitable soil has to be brought half a mile to avoid taking it from cultivated lands.

The length of the south embankment is 2,900 yards; so the cost will be Rupees 4,764 a mile. The north embankment is to be 3,023 yards in length, and its cost Rupees 5,036 a mile, which rates are very high.

6. The undersigned is of opinion that these embankments as designed will not be worth much as a protection, and that it is not desirable that they should be carried out in the manner intended. If it be necessary to place them in the bed of the river a different arrangement adding largely to their already great cost would it is considered be essential to security, and this arrangement has been shown on cross section No. 3 of south bank, plan 3, sheet 2. The cost at estimate rate would be about 2½ of a rupee per foot run, or say 1 rupee including the nanel planting.

A good foundation is essential to the stability of river embankments and, without such, failure must be anticipated. A mile of embankment founded on sand at river bed level will be very likely to fail somewhere, and the money it may have cost may be found to have been literally thrown into the river.

FORT ST. GEORGE,
19th June 1877.

(Signed) JOHN MULLINS, Lt.-Col., R.E.,
Chief Engineer for Irrigation.

No. 50.

ORDER THEREON, 10th July 1877, No. 151 I.

The remarks of the Chief Engineer for Irrigation show that the embankments of the Palar above the Vellore bridge need extension and modification to render them safe or of value. The District Engineer, North Arcot, will lose no time in remedying the defects of the embankments already thrown up as far as possible; in settling the direction and length of the extensions, and in revising and submitting for sanction estimates providing for all the work required. Special attention should be given to the establishment of nanel plantations as a protection to the embankments.

2. Until these embankments have been fully and properly completed, no other relief works in the neighbourhood should be taken up. Labor should be concentrated on the flood banks, which should be made secure and efficient in all respects.

(True Extract.)

(Signed) JOHN MULLINS, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the District Engineer, North Arcot, with 4 estimates and 6 plans.
" Revenue Department.
" Chief Engineer for Irrigation.
" Collector of North Arcot.

Exd. E. C. Shunker.
Spare Copies

3924
12

IRRIGATION.

Govt. of 1877 Madras.

PUBLIC WORKS.

To

The DISTRICT ENGINEER,
NORTH ARCOT
&c., &c., &c.

Dated July 10th.

Issued

Recd.

Encl.

G. O., 10th July 1877, No. 151 I.

JULY.

Nos. 49-50.

Palar Embankments at Vellore, North Arcot
District. — Issuing instructions for the exten-
sion and modification of the —

Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

From date the

Read the following:—

No. 62 I.

3926
3

Note by the Chief Engineer for Irrigation.

In G. O. Revenue Department of
the 22^d February 1877, No. 785 A, certain points
in connection with the formation of river
embankments on the Palar above the Vellore
bridge were referred to the undersigned and
to enable an opinion to be expressed, the
District Engineer was asked to transmit
No. 12 N A of the surveys, levels, and estimate, and at the
29th March 1877. same time to afford such information as
might be necessary to show that neither the
North nor the South embankment will be
in danger of being turned by the river over-
-flowing its banks higher up

2

In G. O. Revenue Department No. 1273
of

of the 30 March 1877, the estimate of Rupees 2041 for these embankments was sanctioned subject to such modifications as might be suggested by the Chief Engineer for irrigation.

3 The District Engineer has forwarded the plans and estimates and in transmitting them has intimated that these embankments with the Western termini shown are liable to be turned, and that estimates for extensions to remove this liability will need to be prepared and forwarded. Without such extensions the work now under execution is useless and will run great risk of being extensively damaged. The embankment work should have been commenced at ground above flood water and have been carried regularly thence down to the Eastern termini at the bridge.

4 The estimate sanctioned in G.O. Revenue

No 830-
June 1877

Revenue Department No 1273, 30 March 1877, amounted to Rupees 2041, but it is shown in the Range officer's memo: ³⁹⁷⁶ printed in Proceedings Madras Government Revenue Department No 785 A, that the total cost of the embankments as then designed would be about Rupees 4,250.

The present estimates are
South embankment Rupees - 7850
North — do ————— " — 8650
Total 16,500

Some masonry works which are not provided for in this estimate are stated to be required.

Regarding the probable cost of the extensions there is no information.

5 With regard to the embankments themselves it is to be noticed that the alignments are not good, being apparently not as nearly parallel with the axis of the river as.

as they might be. The position chosen also is either wholly or partly in the bed of the river and the security of embankments so placed is necessarily very precarious. Their maintenance, if they can be maintained at all, will be costly unless a belt at least 10 yards wide of Jamel grass can be established for the protection of the toe from scour.

The rates are very high - four fifths of the embankments are to be of sand and the rate is 4 annas the 100 Cub $7\frac{1}{2}$ or $1\frac{1}{2}$ Annas nearly a cubic yard, which is about 50 per cent more than the normal - The earth or clay facing is entered at $4\frac{1}{3}$ Annas a cubic yard and this high rate is said to be necessary because suitable soil has to be brought half a mile to avoid taking it from cultivated lands.

The length of the south embankment is 2900 yards, so the cost will be Rupees 4764 a mile. The north embankment is to be

3023 yards in length and its cost Rupees 5036 a mile, which rates are very high. $3\frac{1}{2}$ $\frac{1}{4}$

6 The undersigned is of opinion that these embankments as designed will not be worth much as a protection, and that it is not desirable that they should be carried out in the manner intended. If it be necessary to place them in the bed of the river a different arrangement adding largely to their already great cost would it is considered be essential to security, and this arrangement has been shown on cross section No. 3 of South bank Plan 3 Sheet 2. The cost at estimate rate would be about $\frac{23}{25}$ of a Rupee per foot run or say 1 Rupee including the nansel planting.

A good foundation is essential to the stability of river embankments and without such, failure must be anticipated. A mile of

of embankment founded on sand at river bed level will be very likely to fail some where and the money it may have cost may be found to have been literally thrown into the River.

(Signed) J. Mullerius Lieut. Col. R.E.
Fort St George } Chief Engineer for Irrigation.
19 June 1877 }

Order thereon 10th July 1877 No. 151

The remarks of the Chief Engineer for Irrigation show that the embankments of the Palan above the Bellone bridge need extension and modification to render them safe or of value. The District Engineer, North Arcot, will lose no time in remedying the defects of the embankments already thrown up; as far as possible; in settling the direction and length of the extensions, and in revising and submitting for sanction estimates

estimates providing for all the work required. Special attention should be given to the establishment of navel plantations as a protection to the embankments. 3 1/5

2 Until these embankments have been fully and properly completed, no other relief works in the neighbourhood should be taken up. Labour should be concentrated on the flood banks which should be made secure and efficient in all respects.

/True Abstract/

W. Mullerius Colonel R.E.
Joint Secretary to Govt. P.W.D.
Irrigation Branch

To
The Revenue Department

Rev. W. J. Sept

Feb. 54.00

Pro. P. W. Sept

Recd 10 }
Nov 11 } July 1877

in 1871

Miss. 1013 July 1877 N 3926

Papier order on
Note by the Chief
for Irrigation relative
to the formation of
river embankments
on the Palar above
the Yellow Bridge

Famine

Miss. N 3926

Corn and other Recd.

1877

11/7/77

J. H. F.

13 July 1877

11/7/77