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(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	626 (9)	Press
B.P. No.		Mis. —
Dated	10-3-	CR 76 —195—

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
10th March 1874.*

No. 212. Read the following endorsement of the Chief Engineer for Irrigation, dated Madras, 10th February 1874, No. 141 :—

From Captain J. PENNYCUICK, R.E., District Engineer, North Arcot, to Lieutenant-Colonel J. MULLINS, Chief Engineer for Irrigation, dated Vellore, 30th January 1874, No. 3,247.

WITH reference to paragraph 2 of Order of Government, No. 123, of 19th instant, I have the honour to report that I inspected the Cauverypauk tank on the 18th November and 20th December when it was full up to the crest of the escape, and again yesterday when the water had fallen to about three feet below that level.

2. At the principal slip there is not the least sign of leakage or of movement of the bund; at the second slip there is a trifling quantity of water passing out by the drains; and at the third there is a somewhat larger quantity thus passing out and a little leakage through the bund itself, but no sign of slipping or movement of any kind.

3. The work done may be considered to have thoroughly answered its purpose; I do not, however, think that the stone drains are of much use, as they do not appear to check the leakage through the bund to any great extent, and believe that the absence of any further movement at the smaller slips is due more to the careful reformation of the bund than to the insertion of drains.

4. In the portion of the bund which has not been touched, there is a good deal of leakage at different points. The worst place is at the bungalow where the foot of the bund is a perfect swamp, and next to that is the rocky ground to the south of the southern calingulah; at many other places there is leakage of greater or less amount, and quite half of the bund to the north of the bungalow is thus affected; south of the bungalow there are only one or two points at which a trifling amount occurs.

5. I learn that this has always been the case when the tank is full; there are no signs of weakness in the bund itself, and I do not consider that it is in any danger.

6. The leakage might, I have no doubt, be completely stopped by a course similar to that which has been followed at the principal slip; but the cost of this work would, in my opinion, be out of all proportion to the evil to be remedied, and, as remarked above, I have no great faith in the efficiency of drains inside the bund.

7. Unless, therefore, you should come to a different conclusion after inspecting the tank, which I hope you will be able to do shortly, I propose to confine operations for this year to the works referred to in paragraph 35 of my letter, No. 2,242, of 11th October 1873, namely, the completion of the repairs to the revetment, turving the slopes where necessary, gravelling the top of the bund, and altering the heads of the sluices.

SUBMITTED for the information of Government.

I have inspected the part of the Cauverypauk tank which has been restored, and I have much pleasure in bringing to notice the careful way in which the work has been executed.

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10th March 1874.*

2. The stone drains referred to in the 3rd paragraph of the District Engineer's letter are not primarily intended to check leakage, but to render it harmless by preventing the base of the bund from becoming saturated. They appear to have answered this purpose; the amount of leakage through these drains is nowhere considerable, and I am disposed to think that the drains may have lessened the leaks by allowing the soil to consolidate.

3. Near the bungalow there is, as mentioned by Captain Pennycuik, a considerable length of bund which has not moved or slipped, but which is not in a satisfactory state owing to leakage. If the water level goes down sufficiently, a puddle facing should be put in behind the revetment along this part, the revetment being stripped and reconstructed with a good gravel backing. Should any part of the rear slope continue wet thereafter a longitudinal drain should be put in down to a little below road level at or a little below the point where the steep rear slope changes to a flat slope, and cross drains should be inserted at 50 feet intervals. The cause of the leakage is tolerably apparent, as the soil contains a good deal of decomposed rock.

4. Further to the north there is much leakage at a part of the bund where there is but little depth of water, even when the tank is full, against the bund proper. Here the water finds its way through a great thickness of soil forming the foreshore and sub-bund. The character of the soil explains the leakage, it being nearly all decomposed rock and sand. A simple and probably effectual expedient will be to put down a puddle trench to about the level of the fields in rear, in front of, and as near as may be convenient to, the toe of the revetment, the top of the puddle should be connected by a layer of clay with the revetment, and the excavated soil should be laid over the clay.

5. The parts of the bund where leakage prevails should be shown on the longitudinal section by one or more horizontal lines, the number used denoting the extent of leakage; after the work indicated has been carried out, the results may then be accurately ascertained and recorded, and such variations of procedure introduced as may seem to be advisable.

6. No opportunity has occurred of re-building the detached portions of the front wings of the Lion sluice; no further movement has occurred, and though it will be well to repair them as soon as possible, the security of the sluice is not affected by the condition of these wing returns.

(Signed) J. MULLINS, Lieut.-Colonel, R.E.,
Chief Engineer for Irrigation.

No. 213. ORDER THEREON, 10th March 1874, No. 626.

IRRIGATION, No. 20.

THE Government are glad to learn that the work recently executed at the Cauverypauk tank has been so carefully and successfully carried out, and has stood the test of the monsoon. The District Engineer will proceed to carry out the work, noticed by the Chief Engineer for

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10th March 1874.*

Irrigation as still required, so soon as the level of the water in the tank will allow of this being done.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the District Engineer, North Arcot.
„ Chief Engineer for Irrigation.

Exd. E. C. Shunker.
Spare Copies

Govt. of 1874

PUBLIC WORK

1.

THE DISTRICT ENGINEER

&c.,

Dated March 10th.

Recd.

G. O., 10th March 1874.

MARCH

Nos. 212-21

Cauvery Tank -
Engineer, North Arcot, report
out the work noticed by the
for Irrigation as still require
very tank so soon as the
water in the tank will allow
done

N. 141
Submitted for the information
of Government.

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executed.

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3. Near the Bengalan there is, as mentioned by Captain Pennington, a considerable length of bund which has not moved or slipped, but which is not in a satisfactory state owing to leakage. If the water level goes down sufficiently, a puddle facing should be put in behind the revetment along this part, the revetment being stripped and reconstructed with a good gravel backing. Should any part of the rear slope continue wet thereafter a longitudinal drain should be put in down to a little below road level, or a little below the point where the steep rear slope changes to a flat slope, and cross drains should be inserted at intervals.

The cause of the leakage is tolerably apparent, as the soil contains a good deal of decomposed rock.

4. Further to the North there is much leakage at a part of the bund where there is but little depth of water, even when the tank is full, against the bund proper. Here the water finds its way through a great thickness of soil forming the freshets and subbund. The character of the soil explains the leakage, it being nearly all decomposed rock and sand. A simple and probably effective expedient will be to put down a puddle trench to about the level of the fields in rear, in front of, & as near as may be convenient to, the toe of the revetment, the top of the puddle should be connected by a layer of clay with the revetment & the excavated soil should

should be laid over the clay.

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6. No opportunity has occurred of rebuilding the detached portions of the front wings of the Lion-bridge. no further movement has occurred, and though it will be well to repair them as soon as possible, the security of the sluice is not

not affected by the condition of these wing returns.

Fort St George. Wm. Mullins Esq. M. A.
10 February 1874. Chief Supt. for Irrigation

To The Secretary to Govt
P. M. S.

J. W. 1874 Department
Prig for March
No 870.

From
The Chief Supt.
for Irrigation
To The Secretary
of the I.R.D.

No 141.

Dated 10th
Recd 13th Feb 1874.

Encl

Submits with re-
marks report of
the D.E. & A. Sect
on the present con-
dition of the Cauvery
bank tanks

No 212.

No. 626. 10/3/74

C. 16. July 74

626. Mr A.
Proc of the Madras Govt.
Near the following
in the Chief Supt for Irrigation (H.E. No 141 of 10 Feb 74)

The Government
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trict Engineer will
proceed to carry
out

No 212

out the work, no-
ticed by the Chief
Engineer for Iriga-
ton as still re-
quired, so soon
as the level of
the water in the
trench will allow
of this being
done.

It is hereby
ordered that
the work be
done as soon
as possible.

Witness my hand
and seal this
1st day of
June 1874.

212-213.

The D. E. North Brothers
Chief Engrs for Iriga-
ton

Despatched 13/3/74.

7-11-11 BII

870

Govt. of Madras.

PUBLIC WORKS.

^{2o} The Dist. Engineer.
North Arcot.

Dated

Recd.

Encl. 1

G. O., 11th March 1874, No. 126-

Nos. 212 & 213.

Canvey Tank Tank

The District Engineer
North Arcot requested
to carry out the work
noticed by the Chief Eng^r
for Irrigation as still re-
quired to the Canvey Tank
Tank so soon as the
level of the water in the tank
will allow of it being done