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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	508 (2)	Press	<i>Original</i>
~~B.P. No.~~		~~Mis.~~	
Dated	27 - 2 - 1874	-195-	

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
27th February 1874.*

No. 566. Read the following endorsement of the Revenue Department, dated 22nd January 1874 :—

Proceedings of the Board of Revenue, dated 12th January 1874, No. 40.

ABSTRACT.—*Red Hills Tank Bund*—in Chingleput District.—Letter from Collector reporting existence of a new slip in — and proposing measures for preventing recurrence of such slips, submitted to Government.

TRANSFERRED to the Department Public Works for disposal.

(Signed) D. F. CARMICHAEL,
Secretary to Government, R.D.

No. 567. ORDER THEREON, 27th February 1874, No. 508.

IRRIGATION, No. 36.

COMMUNICATED to the District Engineer, Chingleput, and to the Chief Engineer for Irrigation. The remarks of

Mr. Barlow on the probable causes of the instability of parts of the bund of the Red Hills Tank will receive attention. Measures for draining the bund where found liable to infiltration have already been taken, and the propriety of draining away the standing water in rear of the bund in the same way as has been done at the Cholaveram Tank should be considered. The circumstances are different, because much of the sub-soil at the Red Hills is laterite, while that at the Cholaveram Tank slips is water-tight clay.

2. The precise way in which water found its way into the bund at the slip of 1873, that is whether through the puddle facing or below its foundation, should, if practicable, be ascertained, and it should be seen whether the additional puddle trench below the toe of the revetment was inserted at this part or not. The longitudinal section,* showing position of leakage in former years, may be use-

* Dated 8th July 1870.
fully studied in connection with this subject.

3. The plastering or pointing of the revetment in the manner recommended by Mr. Barlow is frequently useful to prevent the soil at the back from being washed out; it could however not be relied on to prevent water reaching the earth-work, and the function of the puddle facing is to prevent infiltration, and if properly done it would be much more effectual than pointing for this purpose.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Chief Engineer for Irrigation.
.. District Engineer, Chingleput.
.. Revenue Department.

Exd. E. C. Shunker.
Spare Copies

No. 40.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 12th January 1874.

Read the following letter from R. W. BARLOW, Esq., Acting Collector of the Chingleput District, to J. GROSE, Esq., Secretary to the Board of Revenue, dated Saidapet, 10th December 1873, No. 584 :—

I HAVE the honour to inform you that, during the past week, after the recent heavy rains, there was a new slip of a bad description in the bund of the Red Hills Tank, and considerable and irregular subsidence of the same, at the place which caused so much anxiety last year, and I am of opinion that, had the rain continued over last Wednesday, 3rd instant, or had high winds sprung up from the west or north-west, a breach might have resulted. All danger is now, I think, over; but as the bund must be considered to have been on its trial, the water having been allowed to rise higher than at any time previous, and nearly up to the maximum level, a few remarks as to the cause of these slips and the measures to be taken in future, in my unprofessional opinion, to prevent their recurrence, may not be out of place or uninteresting.

2. I visited the bund twice recently, and most carefully noted the state of things, both when the new slip was at its worst, and subsequently. I enclose a rough sketch made on Thursday last, at my request, by Mr. Harington, which shows the nature of the new slip, and though not drawn on a regular scale, it in no way exaggerates matters, as they were then. The slip is entirely in the new work, the old bund being now distinctly visible. The causes of the slip were, in my opinion, two, defective workmanship having nothing whatever to do with it. (1.) Water percolating through the old bund, this can be distinctly seen now that it is exposed to view, the result probably of the decay of the roots of Palmyra trees with which it was thickly studded at this spot, and which were left in, and can now be taken out in handfuls; and,

(2.) The swampy nature of the soil under the bund here, which is low and marshy, with water standing a foot or two deep, so that the percolations cannot drain readily off, and the back of the bund so gets saturated. I would observe too that there is a story among the villagers that there was a breach at this very place in the old bund many years ago, and that a sluice called Ekelraju Madugu, formerly existed here, which was filled in long since. These statements, if true, will partly explain the percolation in the old bund being greater here than elsewhere.

3. As regards last year's slip, here again there is deep standing water and marshy ground under the bund, and the subsidence results, I think, from the same cause, though no slip has resulted, owing to the backing put last year; but the uncertainty of the soil below is shown in a different way, i. e., by the bulging in and out of the revetment stones, and by undulations in the crest of the bund itself. I may remark that at the new place, where a regular slip did occur, the crest of the bund remains even, and the face of the revetment unaltered.

4. At paragraph 9 of my letter, No. 509, dated the 5th December last, I gave it as my opinion that the nature of the soil at the base of the bund, and not defects in the actual workmanship, had been the cause of danger, and subsequent events show, I think, conclusively this to have been the correct view; for, when

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the new slip was built up again last year, every bit of material, whether gravel, stone, or earth, was of the best description, and the whole put in under the eye of the Range Officer; yet there has been further subsidence.

5. The remedies I would propose for consideration are, (1) draining the swamp where the water stands between Mr. Teed's house and where the bund abuts the road; (2) building a backing similar to that erected last year with sub-soil drains of laterite, the whole way along between these two points (this is already being done at the new slip by Mr. Harington); and thirdly, and most important of all, plastering with chunam all the interstices between the revetment stones which are below or near the high water level, so as to avoid leakage through to the earthwork. This could easily be done, I imagine, just before the south-west monsoon, when the supply of water is at the lowest, an extra quantity being kept back stored in the Sholavaram Tank and only let into the Red Hills, just in sufficient quantities to ensure a supply to the Madras Water Works.

6. I am aware that much of what I have said may be open to correction by the Public Works Department, but having known the tank both before and after the commencement of the project, as well as during the recent mishaps, I think it best to record my views for such consideration as they may deserve.

ENCLOSURE No. 1.—Sketch.

SUBMITTED for the information of Government.
*• (A true Copy and Extract.)

J. G. A. Turton
Secretary.

To the Secretary to Government, Revenue Department, with a sketch.
Copy to the Acting Collector of the Chingleput District.

Exd. G. A. Turton.

Transferred to be S.P.W. for disposal.

22nd Jan 1874

L. G. A. Turton
to Secy Govt

Red Hills Tank Bund—in Chingleput District.—Letter from Collector reporting existence of a new slip in — and proposing measures for preventing recurrence of such slips, submitted to Government.

JANUARY 1874.
No. 40.

Received
23 January 1874.

PROCEEDINGS, 12TH JANUARY 1874, NO. 40.
Copy to Secy Govt
Encl. 1

REVENUE 1874. Minute
BOARD OF REVENUE,
MADRAS.

12/1/74
12/1/74

508 Mr. J. G. A. Turton

Proc. of the Madras Govt.

Read the following:

o. of the Board of Revenue { H.E. No. 40 of 12 Jan/74 }
Thru' Rev. Dept: - 3

Communicated

to the District Engineer
Chingleput and to the
Chief Engineer for Irrigation.
The remarks of Mr.
Barlow on the probable
causes of the instability
of parts of the bund of
the Red Hill tank will
receive attention. Measures
for draining the
bund, where found liable
to

12/1/74

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been taken, and the propriety
of draining away the
standing water in rear
of the bund in the same
way as has been done at

the Cholaneram Tank should
be considered. The circum-
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much of the subsoil at the
Red Hills is laterite, while
that at the Cholaneram
Tank Slip is water tight
clay.

2. The precise way
in which water found its
way into the bund at the
Slip of 1873 that is whether
through the puddle facing
or below its foundation, —
should

* dated 8 July 1870

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tional puddle trench
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ment was inserted at
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3. The plastering
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mm

by 5/2/74

To The Chief Eng for Dur
W. Eng. Chingput B. B. B.
Revol Dept. ✓

Wesps with S-C 4/3/72.

Aug 1st/74 Q. 13. 25/4/74

Oct 31
Govt. of 1874 Madras.
PUBLIC WORKS.

The Chief Eng^r for
Irrigation

Dated

Recd.

Encl.

G. O. 27 Feb^y No. 508.

✓
No. 5664567

Red Hills Tank Band.

Papering orders on Govt. for
for the submission of
from the collector reporting
existence of a new slip
in the tank band &
proposing measures for
preventing recurrence
of such slips.