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~~B.P.~~ No.~~Press~~
Mis.Dated 4.3.1874 196 .Not to be folded or roughly handled

No. 566. Read the following endor
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Proceedings of the Board of Re

ABSTRACT.—Red Hills Tank Bu
Collector reporting existence of a new
venting recurrence of such slips, subr

TRANSFERRED to the Depar
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nt of the Revenue Department, dated
1874:—

dated 12th January 1874, No. 40.

n Chingleput District.—Letter from
in — and proposing measures for pre
to Government.

Public Works for disposal.

D. F. CARMICHAEL,
Secretary to Government, R.D.

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

IRRIGATION, No. 36.

COMMUNICATED to the District Engi-
neer, Chingleput, and to the Chief Engi-
neer 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

* Dated 8th July 1870.

of leakage in former years, may be use-

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.

20 Spare Copies

No. 30
Com. to the Board
of Revenue

5.3.74

Revenue Depto

OFFICE OF THE SECRETARY

PUBLIC WORKS.

No 741

THE CHIEF ENGINEER, CHINGLEPUT

March 5

CHINGLEPUT, 5th March 1874, No 584

FEBRUARY

No. 583-587

No 30—5 March 74

NOTE: That the following orders of the Board of Revenue, dated 12th January 1874, No 584, are hereby published for the information of the Chief Engineer, Chingleput, and for the guidance of the officers of the Public Works Department, in the execution of the work assigned to them.

With order

PROCEEDINGS OF THE BOARD OF REVENUE.
Read the following letter from R. W. Chingleput District, to J. S. Revenue, dated Saidapet, 10

I HAVE the honour to inform you that during the past week, after the recent heavy rains, there was a new slip of the Hills Tank, and considerable and irreparable damage was done, which caused so much anxiety last year, and which continued over last Wednesday, 3rd inst. west or north-west, a breach might have occurred; but, as the bund must be considered to have been allowed to rise higher than the maximum level, a few remarks as to the measures to be taken in future, in my unprofessional opinion, 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. Harrington, which shows the nature of the new slip, and though not drawn on a regular scale, it in no way exaggerates matters, as they are 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 soon 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 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, however, 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

the bund was repaired, dated 12th January 1874. J. S. Revenue, Esq., Acting Collector of the Chingleput District, to J. S. Revenue, Esq., Secretary to the Board of Revenue, dated Saidapet, 10th March 1874, No. 584:—

the new slip was built up again last year, very 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 no 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 wall 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. Haston); and thirdly, and most important of all, plastering with chunam all the joints 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 its lowest, an extra quantity being kept back stored in the Sholaveram Tank and allowed to run off 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 I 1.—Sketch.

SUBMITTED for the information of Government.

(A true Copy and Extract.)

(Signed) J. GROSE,
Secretary.

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

Edw. G. A. Turton.

1874.
Board of Revenue,
MADRAS.

PROCEEDINGS, 12TH JANUARY 1874, No. 40.

Encl.

Received

JANUARY.

No. 40.

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.