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(3) Initials of the Referencer

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 957.	Press <u>Mis.</u>
80-81.	
Dated 6-4-	1870.

Not to be folded or roughly handled

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*Proceedings of the Madras Government, Public Works Department,
6th April 1870.*

No. 80. Read the following letter from Colonel J. CARPENDALE, R. E., Acting Consulting Engineer for the Madras Irrigation and Canal Company, to the Secretary to Government, Public Works Department, dated Madras, 11th March 1870, No. 146 :—

I HAVE the honour to submit the correspondence as per margin together with drawing of a revised design for the Self-acting Sluice or Calingulah No. 4-A., which was sanctioned in Order of Government, No. 1,801, 2nd June 1869, at an estimated expenditure of Rupees 19,060, with the view of preventing a recurrence of the damage in the second mile of the Main Canal from floods.

Four plans.	
Two letters in original from Agent.	
One copy of letter to Government.	
From Agent, No. 23, 20th January 1870.	
To " " 301, 26th " "	
From " " 87, 25th February " "	
Old drawings.	
Revised plan.	

2. The alterations proposed to be made in the design were suggested partly from the circumstance that rock does not exist in one place where it was shown in the plan formerly submitted, and in another it is eight feet lower than it was believed to be. But at the same time it is expected that by the adoption of the revised design, a saving of Rupees 3,261 will be effected.

3. The alterations which it is proposed to make are—

1st.—Placing the body-wall of the weir midway between the piers instead of at the outside.

2ndly.—Taking the wing-walls to a less depth but at the same time a safe

one.

3rd.—Changing the position of the lower wall to a site where it can be founded on rock, and curtailing its dimensions.

4th.—Altering the mode of construction of the water-cushion of the weir, in consequence of which the surplus water is given a fall of 10 feet 3 inches instead of 5 feet. This last modification is the only one I did not approve of; but, as the Chief Engineer, (*vide* his No. 212, 10th February 1870,) is very decided in the opinion that it is far preferable to give the surplus water the greater fall at its first exit from the canal where there is a water-cushion to break it, there to increase the height of the lower weir very considerably, I solicit the sanction of Government to the work being executed according to the revised design.

From the Chief Engineer, to the Agent and Manager of the Madras Irrigation and Canal Company, dated Kurnool, 12th January 1870, No. 54.
Calingulah No. 4-A, Hindry Division.

With reference to G. O., No. 1,801, of 2nd June 1869, sanctioning the above at a cost of Rupees 19,060 under the name of self-acting "sluices proposed to be constructed in the second mile of the Company's canal," I have the honour to submit a revised drawing for this work for the approval of the Consulting Engineer. A glance at the two drawings and Mr. Knorpp's memorandum (copy enclosed) will show the alterations recommended, the only one deserving notice being the change in the lower wall from a site on earth to a site on solid rock, (Mr. Knorpp's paragraph 3). With these modifications Mr. Knorpp estimates that he can complete the work for Rupees 10,799 or with a saving of Rupees 8,261 on the original estimate, and I beg to recommend the adoption of the accompanying design.

*Proceedings of the Madras Government, Public Works Department,
6th April 1870.*

Memorandum to accompany the Plan of Calingulah No. 4-A.

THE following alterations in the design of the calingulah have been made:—

1. The body-wall has been placed between the piers instead of at the outside, whereby the quantity of masonry has been considerably reduced.
2. The foundations of the wing-walls on canal side have been taken down less deep as the soil appears to be firm enough at the present depths.
3. Instead of the long wall, proposed for forming the water-cushion as shown in plan, a shorter and stronger wall (120 feet long) with wing-walls six feet higher than the top of the wall has been placed nearer to the river on good rock because no good foundations could be obtained for the rejected wall. In order to discharge the 2,00,000 cubic yards the water will not rise over this wall above 3 feet 9 inches.

KURNOOL,
9th December 1869.

(Signed) C. B. KNORPP,
Executive Engineer.

(True Copy.)

(Signed) J. H. COX,
Assistant to Chief Engineer.

No. 23.

COPY forwarded to the Consulting Engineer for approval with one revised plan of Calingulah No. 4-A.
MADRAS,
20th January 1870.

(Signed) C. A. BADHAM,
Acting Agent and Manager.

From Colonel J. CARPENDALE, R. E., Acting Consulting Engineer, to the Agent and Manager of the Madras Irrigation and Canal Company, dated Madras, 26th January 1870, No. 301.

I HAVE the honour to acknowledge your No. 23 of 20th instant forwarding a revised design for the Self-acting Sluice or Calingulah 4-A. in the 1st Section, Main Canal.

2. The work was sanctioned at a cost of Rupees 19,060 in Government Order, No. 1,801, 2nd June 1869, and the Chief Engineer states that, by adopting the revised design, the Executive Engineer expects to effect a saving of Rupees 8,261 in the above amount.

3. The alterations proposed are stated by the Executive Engineer to be—
1st.—Placing the body-wall midway between the piers instead of at the outside, in the propriety of which I quite concur.

2ndly.—Taking the wing-wall to a less depth. This saving does not appear on a comparison of the alternative designs, and any saving of this nature is undesirable and could only be permitted on the personal opinion of the Chief Engineer.

3rdly.—The removal of the lower wall to a site much closer to the weir in order to obtain a good foundation on rock, which is the only change the Chief Engineer notices. There can be no doubt of this proposal, for the reasons stated, being judicious; but I must observe that the original design shows this wall as founded "on rock at edge of weir," though there is no plan showing its exact position, or how close to the edge of the weir it was intended to be placed.

4. There is a further important alteration in the design which neither the Executive Engineer nor the Chief Engineer notice, namely, that the surplus water in passing over the weir is given a fall of 10' 3" instead of 5' as was proposed. I can see nothing in favour of this modification, and regret that, as I cannot concur in the opinion, I am unable to recommend Government to sanction this part of the modification, and I would recommend that the old cross section of the work be adhered to in this particular, for which purpose and the recommendation of the Chief Engineer the revised design is now returned.

*Proceedings of the Madras Government, Public Works Department,
6th April 1870.*

From the Chief Engineer, to the Agent and Manager of the Madras Irrigation and Canal Company, dated Camp at Ayaloor, 10th February 1870, No. 212.

No. 4-A. Calingulah, 1st Section.

YOUR No. 73 of 1st instant enclosing Consulting Engineer's No. 301 of 26th ultimo.

In regard to the alterations enumerated by Colonel Carpendale—

1. Placing body-wall between the piers I will carry out as approved by him.
2. The foundations shall be carried to a safe depth, and then accurately shown on the drawings. When I visited the place on the 27th ultimo there were still three feet to go down, and the excavation had reached large boulders such as compose the river-bank not far off. The Engineer is instructed not to found, except on solid rock, without my approval.

3. I much regret that the sections of the site upon which the first design was based were so incorrect. It was only after long pressing and the repeated returning of evidently insufficient sections that Mr. H. C. Cotton furnished those. There was no time for further delay, and I had no option but to accept them as explained by him *viva voce* to me. They showed rock where it does not exist, and contained all the information I could get from Mr. Cotton; of course, I had seen that solid rock lay close along the site proposed.

4. Since the rock is not only differently situated to what is shown on the sanctioned plan but is also full 8 feet lower, I showed the crest of the lower weir (whose office it is to form a level overfall on the rock and to protect the foundations of the upper weir) 2 feet 9 inches above bed-level of canal, instead of 6 feet 9 inches to which it was shown raised by a lower weir only some 20 inches high on rock, in the sanctioned plan. This still leaves the lower weir between 5 feet (the lowest) and 11 feet (the highest) high upon the rock as it exists; but this I left in order to retain a water-cushion of 5 feet depth safely under the main calingulah. This will, in my opinion, be a safer arrangement than increasing the height of the lower weir, wings, and banks, so much as to have its body-wall 15 feet high, over which the fall would take place on to rock unprotected except during river-floods. It seems to me the arrangement that most agrees with the sanctioned plan, since it makes the crest of the lower weir come half way between that highest part of the solid rock on which it stands and the crest of the upper weir, and retains a water-cushion. With this view I hope the Consulting Engineer will concur.

No. 87.

COPY forwarded to the Consulting Engineer with reference to his No. 301 of 26th January 1870.

MADRAS,
25th February 1870.

(Signed) C. A. BADHAM,
Acting Agent and Manager.

No. 81.

ORDER THEREON, 6th April 1870, No. 957.

IRRIGATION, No. 8.

UNDER the explanations furnished in these papers the Government approve of the revised design on which it is proposed to construct the self-acting sluice sanctioned at an estimated outlay of Rupees 19,060 to prevent damages from land-floods in the second mile of the Company's Main Canal. It is observed that the Company's officers expect to be able to effect a saving of Rupees 8,260 by the adoption of the modified design.

(True Extract.)

Colonel, R. E.,

Secretary to Government.

To the Consulting Engineer for the Madras Irrigation and Canal Company.
" Agent and Manager for do. do.
Exd. A. S. Rodgers.

Consulting Engineer's Office
N^o 146. Irrigation and Canal Co.
Madras 11th March 1870.

From

Colonel J. Carpendale R.E.
H. Consulting Engineer I.W.C.

To

Colonel C. A. Orr R.E.
Secretary to Government P.W.D.

Sir

From. Sent N^o 23. 20th Jan'y 70.
To. Sent N^o 301. 26th Jan'y 70.
From. Sent N^o 87. 25th Feb'y 70.
Old Drawings.
Revised Plan.

I have the honor to submit the
correspondence as per margin together
with drawing of a revised design for
the Self Acting Sluice or Calingulah
N^o 1, A which was sanctioned in order of
Government N^o 1801. 2nd June 1869 as an
estimated expenditure of Rupees 19,000 with
the view of preventing a recurrence of the
damage in the second mile of the main
Canal from floods.

2 The alterations proposed to be made
in the design were suggested partly from
the circumstance that rock does not exist
in one place where it was shown in the
plan formerly submitted, and in another
it is eight feet lower than it was believed
to

to be, but at the same time it is expected that by the adoption of the revised design a saving of Rupees 8261 will be effected.

3 The alterations which it is proposed to make are:-

1st Placing the body wall of the weir midway between the piers instead of at the outside.

2nd Taking the wing walls to a less depth but at the same time a safe one.

3 Changing the position of the lower wall to a site where it can be founded on rock and curtailing its dimensions.

4th Altering the mode of construction of the ^{water cushion of the} weir in consequence of which the surplus water is given a fall of 10 feet 3 inches instead of 5 feet. This last modification is the only one I did not approve of, but as the Chief Engineer (Vide his Lt. 212.10th February 1870) is very decided in the opinion that it is far preferable to give the surplus water the greater fall at its point exit from the

Canal

Canal where there is a water cushion to break it, there to increase the height of the lower weir very considerably. I solicit the sanction of Government to the work being executed according to the revised design.

I have the honor to be,

Yours most obedient servant,
Colonel R.E.
D. J. Consulting Eng^r for S. C. Co.

The revised design on which it is proposed to construct the self acting sluice sanctioned at an estimated outlay of Rs. 19060 to prevent damages from land floods in the second mile of the Company's Grain Canal. It is observed that the Company's

P. W. Department.
957
Proceedings of the Madras Government.

From The J. Consulting Eng^s &
J. & C. Company

2/2/1964

287

12th: 6/1830 Sept
13th: 6/1830 Sept
14th: 6/1830 Sept
15th: 6/1830 Sept
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31st: 6/1830 Sept

Nov 27th 1846

Secretary to Court
C. J. D.

Oct 11 } March 1870
Oct 12 }

Ms A 9.2.14-6² April 1700.

Technique for discrete

a renewed desire for the
Self-Seeking Slave as
described in the text and

was ~~and~~ in

The Clerk of the Court

No. 18072 June 29. 1891

position on rock and curtaining its dimensions.

4th Altering the mode of construction of the ^{water} ~~weir~~ ^{Cushion of the} in consequence of which the surplus water is given a fall of 10 feet 3 inches instead of 5 feet. This last modification is the only one I did not approve of, but as the Chief Engineer (Vide his L. 212-10th February 1870) is very decided in the opinion that it is far preferable to give the surplus water the greater fall at its point exit from the first Canal

C. 2125 March 1870 Q. 29 E

Dec: 7/4/70.

Cue 1006.

Govt. of 1870 Madras.

PUBLIC WORKS.

To The Consulting Engr.
for the Madras Irrigation
and Canal Company

Dated

Recd.

Encl.

G O Sd/nd 1870, No. 787

Nos. 80-87

Self acting sluice ¹⁸⁷⁰ the revised design
on which it is proposed to construct
the self acting sluice dam at an esti-
mated outlay of Rs 19,000 to prevent in-
-ruges from land floods in the second
hole of the Company's main Canal, &c.
Signed with remarks.