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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P. W DEPARTMENT

G.O. No.	744.w	Press.
B.P. No.		Mis.
Dated	14.2.1878	197.

107/✓

Not to be folded or roughly handled

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GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

14th February 1878, No. 744 W.

Buildings and Roads.

Civil Works.

Read the following paper:—

No. 123. From Colonel P. O'CONNELL, R.E., Superintending Engineer, Chingleput, to the Chief Engineer, Public Works Department, dated Camp, Karnoody, 28th January 1878, No. 377.

REFERRING to your memorandum No. 4,146, dated 27th November 1877, I have the honor to report that I examined the drainage channel and embankment parallel to Cochrane's canal. The object of this work was to facilitate the drainage of the low land lying to the west of Cochrane's canal. It appears to have been overlooked, however, that if this project is carried out as designed, a sort of tank bund will be formed by the proposed embankment to the west of Cochrane's canal and two roads. One to the south from Washermanpettah to the Red Hills, and the other near the Sathankadu camp from Trivettur to Ponnery. It is true that the estimate provides for a culvert in the last mentioned road through which the water is to flow to the Red Hills surplus and on to the sea over the bar at Ennore, but the waterway of this culvert is about 140 square feet only. Allowing that the masonry of this culvert would stand a velocity of 15 feet per second, which however is doubtful, and that the contraction of the waterway was as two to three, the maximum rate of discharge which could take place without injury to the bridge would be 1,400 cubic feet per second, or 120.96 millions of cubic feet per diem. It appears that the level of the water surface during the flood 1874 was 19.5 feet; that the average level of the ground along the line of the drain is about 15 feet above the sill of the lock or 8.81 above mean sea level; that the distance between the two roads is about 2.56 miles and the average breadth of the water spread was nearly two miles, so that the water stood on about five square miles of land situated between the two roads above mentioned, and to the west of the canal with probably an average depth of $2\frac{1}{4}$ feet. This would make the volume of water ponded up to be 320.6,016 millions of cubic feet, to discharge which at the given rate of 120.96 millions per diem requires about 2.65 days. The area draining into this portion of the swamp is stated in Colonel Moberly's letter, No. 271, dated 23rd April 1877, to be about 15 square miles, or three times the area of this surface of the water, whose mean depth I estimated at $2\frac{1}{4}$ feet or 27 inches. Hence the depth of rain run off the surface of the basin to supply the volume of water supposed to be ponded up is $\frac{1}{3}$ rd of $27 = 9$ inches. This will suffice to show that the work as designed will not facilitate, but on the contrary will retard the drainage of the lands in question. On the 5th December I requested Mr. Watson to have a contour survey made showing the spread of the water during the flood of 1874. Owing to frequent changes in the establishment under his orders he has not been able as yet to send me this contour. He sent me on the 17th January a contour at the level of the crest of the bund, i.e., 15.81 above mean sea level, and promised to send that of the level of the surface of the flood of 1874, but it has not yet come to hand. He will shortly leave, and Lieutenant Wiffen has lately sent in an application for leave to Europe, so that we have by no means arrived as yet at that settled condition of establishment without which satisfactory data for simple projects even cannot be procured. I have therefore

been compelled in this letter to treat the matter somewhat generally, confining myself for the present to pointing out the insufficiency of the present project for one of the objects sought to be attained, viz., improved drainage.

No. 124. ORDER THEREON, 14th February 1878, No. 744 W.

It is observed on referring to the Chief Engineer's Memorandum, No. 1,100, dated 27th April 1877, that this Officer having doubts as to the sufficiency of the area provided for the discharge of the drainage in question, Colonel Moberly was directed to give approximately the data on which he had determined it; but to this he appears never to have attended. He will be now called upon to explain his remissness. Meanwhile the Superintending Engineer will submit such revised design as he deems necessary.

2. As it is desirable that no delay should be permitted in regard to the construction of the sluice, report of the probable excess occasioned by the requisite additions should be made as early as possible, and the progress of the work noted.

(True Extract.)

Colonel, R.E.,
Secretary to Government, P.W.D.

To the District Engineer, Chingleput.
" " " Bangalore.

Exd. S. T. Austin.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1878) Madras.
PUBLIC WORKS.

THE DISTRICT ENGINEER,
CHINGLEPUT,
&c., &c., &c.

Dated February 14th.

Issued

Recd.

Encl.

G. O., 11th February 1878; No. 741 W.

FEBRUARY.

Nos. 123-124.

Drainage Channel and Embankment parallel to Cochrane's Canal.—The Superintending Engineer, Chingleput, called upon for explanation in respect to certain particulars connected with the —.

No. 377

Chingleput Superintending Engineer's Office,
Camp, *Chingleput*,
Saint Thomas Mount, 28th *Jan*, 1878.

From

THE SUPERINTENDING ENGINEER,
Chingleput.

To

Colonel E. L. Ford C.E.
Chief Engineer P. M. D. *744/3*

Sir,

Referring to your Memorandum No. 446 of 27 November 1877, I have the honor to report that I examined the drainage channel & embankment parallel to Cochrane's Canal. The object of this work was to facilitate the drainage of the low land lying to the west of Cochrane's Canal. It appears to have been overlooked however that if this project is carried out as designed, a sort of tank bund will be formed by the proposed embankment to the west of Cochrane's Canal and two roads. One to the South from Washermanpattah to the Red Hills & the other near the Satham Kadam Camp from Trivettur to Ponnery. It is true that the estimate provides for a

culvert in the last mentioned road through which the water is to flow to the Red Hill surplus (and on to the sea over the bar at Cumore; but the waterway of this culvert is about 140 square feet only. Allowing that the masonry of this culvert would stand a velocity of 15 feet per second, which however is doubtful, & that the contraction of the waterway was as two to three the maximum rate of discharge which could take place without injury to the bridge would be 1400 cubic feet per second or 120.96 millions of cubic feet per diem. It appears that the level of the water surface during the flood 1874 was 19.5 feet - that the average level of the ground along the line of the drain is about 15 feet above the sill of the Lock or 8.81 above mean sea level - that the distance between the two roads is about 2.56 miles (and the average breadth of the water spread was nearly 2 miles, so that the water stood on about 5 square miles of land situated between the two roads above mentioned, & to the west

of the Canal with probably an average ^{14 1/2} depth of 2 1/4 feet - This would make the volume of water ponded up to be 320.6016 millions of cubic feet, to discharge which at the given rate of 120.96 millions per diem requires ^{about} 2.65 days - The area draining into this portion of the swamp is stated in Colonel Moberly's letter of 27th of 23rd April 1877 to be about 15 square miles or three times the area of this surface of the water whose mean depth I estimated at 2 1/4 feet or 27 inches - Hence the depth of rain run off the surface of the basin to supply the volume of water supposed to be ponded up is 1/3 of 27 inches - This will suffice to show that the work as designed will not facilitate but on the contrary will retard the drainage of the lands in question - On the 5th December I requested Mr. Watson to have a contour survey made showing the spread of the water during the flood of 1874 - Owing to frequent changes in the establishment under his orders he has not been able as yet to send me

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the crest of the bend i.e. 15.01 above
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procured - I have therefore been com-
pelled in this letter to treat the
matter somewhat generally confining
myself for the present to pointing out
the insufficiency of the present project
for one of the objects sought to be attained
viz, improved drainage:-

I have the honor to be
your most ^{snr} obedt servt

J. F. Smith Coll R.E.
Superintending Engineer
Chungking Szechwan

B. & R.
Alwaris

No 744 W Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

744
b

UNDER date the 14 Feb/78
Read the following:—

From the Sup^r Engineer
Chingleput D^c

Letter from the Sup^r Engr^s } (H.C. No. 377 of 28th Jan'y/78)
Chingleput

No. 377

Dated 28th } January 1878
Rec^d

C.S. No 4146 of 27. Nov 1877.
G.O. No 67411. of 31. Aug 1877
" " 1079 of 29 Mar "
" " 206 of 22 Jan "
" " 1270 of 5 May 1875.

Drainage channel
and embankment
parallel to Cochrane's
Canal — Reports after
examination on the —

11

It ^{is} will be observed
on referring to the Chief
Engineer's Memo: No. 1100
dated 27th April 1877 that the
~~Chief Engineer~~ ^{Officer} having doubt
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area provided for the discharge
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data on which he had
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Meanwhile the Superintending
Engineer will submit such
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As it is desirable
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construction of the sluice,
report of the probable exp
occasioned by the requisite
additions should be made
as early as possible, and
the progress of the work
noted.

W.H.
11-2-78
G.H.
6/2

D. E. Chingleput
D. C. Bangalore
D/1372 19-2-78

Recd. on 11/2/78 2/4-2-78

No 1253

G.O. of 1878; Madras.

PUBLIC WORKS.

To The P. D. Chingleput

Date

Issued

Recd.

Encl.

G. O. 14 July 1878, No. 764 W

NCS.

Drainage Channel and
Embankment parallel
to Cochran's Canal The
S. Chingleput called upon
for explanation in respect to
certain particulars connected
with the

but no reply