

(1) Number of pages 11-50/10

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras.

Public Works DEPARTMENT.

G.O. No. <u>678</u>	Press Mis.
<u>172-73</u>	
Dated <u>7-3</u>	18 <u>7/</u>

Not to be folded or roughly handled

*Proceedings of the Madras Government Public Works Department,
7th March 1871.*

Read the following papers:—

No. 172. From the Superintending Engineer, 4th Division, to the Chief Engineer for Irrigation and Joint Secretary to Government, dated Camp at Byappagaroopully, 13th February 1871, No. 4,594.

WITH reference to Government Order, No. 2,774, of 18th November 1870, on the subject of the damages done to the

1 Estimate.
9 Plans.
1 Letter.

Water Works from the floods in the Cortelliar, I have the honour to forward a detailed estimate, Rupees 16,534, with

plans and an explanatory letter, from Captain A. DeC. Scott, for the approval of Government, and request that, if possible, an allotment of half this amount may be made, as I have now only a very small amount available for repairs.

From Captain A. DeC. SCOTT, R. E., Executive Engineer, Madras Water Works, to the Superintending Engineer, 4th Division, dated Red Hills, 8th February 1871, No. 42.

I HAVE the honour to forward herewith a detailed estimate and plans of the repairs to these works, rendered necessary by the flood which

1 Detailed Estimate.
9 Plans.

occurred in October of the past year, and referred to in G. O., No. 2,774, of the 18th November 1870, on the report of the Chief Engineer for Irrigation, dated 31st October 1870, No. 214.

2. The following is an abstract of the work included in the estimate showing the estimated cost of the several items:—

	RS.	A.	P.
(1.) Rebuilding the under-sluices to the anicut across the Cortelliar river	1,115	0	0
(2.) Rebuilding the wing walls of the head-sluice to the upper supply channel, and raising the body and wing walls of sluice and anicut	5,291	11	6
(3.) Repairing the breach in the river bank above the head-sluice, removing sand from the bed of the channel in front of the sluice, and reforming the ground on both sides	3,260	4	6
(4.) Clearing the supply channel of silt for a distance of 2½ miles from the sluice, and trimming the banks where under cut by the river; repairing five breaches in the lower side of the channel	4,805	0	0
(5.) Building a retaining wall along a portion of the embankment of the Cholaveram reservoir, and reforming the earthwork where a slip had occurred	1,275	0	0

3. With reference to the items above enumerated, the following observations are made:—
The piers to the under-sluices have now been designed of increased dimension compared with those recently carried away. Their length being 10½ feet in lieu of 7½ feet, width 3 feet instead of 2½ feet; the width of the vents has been reduced from 4 feet 6 inches to 4 feet to give the cross stones a greater hold in the masonry.

It is proposed to extend the wing walls of the sluice on the upside, as shown in the Plan No. 2 accompanying the estimate, in order to strengthen the connection of the work with the river bank, and torevet the bank with rough-stone. The action of the river has been to scour out the earth near the old wing wall to a considerable depth, and the addition appears to me to be necessary to guard against the danger of another breach. The channel for about 2½ miles from the head-sluice is considerably silted up, and the banks have been much cut by the flood water. The removal of the silt and the cutting back of over-hanging portions of the banks have been provided for in the estimate. The filling up of five breaches in the lower side is also included. An inspection

*Approved by the Secretary to the Government
Sub-Engineer H. J. H.*

*Proceedings of the Madras Government, Public Works Department,
March 1871.*

of the cross sections of the channel shown on Plan No. 3-A. will show that it has already been subjected to much erosion and alteration of form. In many places the actual width measured on the line of full supply is 70 feet instead of 48 feet, as originally formed. It is proposed to confine the clearance of the silt to the 30 feet width originally excavated, and to form the sides in the manner shown on the cross sections in red.

The repairs to the Cholaveram embankment have been carried out in accordance with the directions given by Major Mullins, except that the earth outside the retaining wall, and which had moved to that position, has not been disturbed, but has been formed into the section shown in the plan to act as a support to the wall. It was found that any attempt made to remove it was followed by a perceptible shifting of the wall outwards, and therefore it was obviously necessary to leave it alone.

No. 48.

Note by the Chief Engineer for Irrigation.

THE estimate, amounting to Rupees 16,531, submitted by the Superintending Engineer, 4th Division, for the repair of the damage caused to the Madras Water Works by the Cortelliar floods of October last, includes some work, namely, the raising of the head-sluice and wings, revetments, etc., which would more properly be charged to the additional new works estimate, and Captain Scott had better reduce the repair estimate, and increase that for new work accordingly.

2. The flood level, full supply level, etc., should be marked on the head-sluice plan, which will be returned to the Superintending Engineer for this purpose.

FORT SAINT GEORGE,
20th February 1871.

(Signed) J. MULLINS, Major, R.E.,
Chief Engineer for Irrigation.

No. 173.

ORDER THEREON, 7th March 1871, No. 678.

IRRIGATION, No. 10.

THE estimate of Rupees 16,534 for the repair of the damages sustained by the Madras Water Works in October

1870 is sanctioned, subject to a deduction for the additional or new work which does not appertain to the restoration of the injuries sustained, but to modifications of the head-works found necessary owing to an erroneous calculation of flood levels when the former designs were prepared.

2. The Superintending Engineer should report the amount of the deduction to be made, and he should include a like sum for the additional works for which an estimate was, in G. O., No. 2,774, of the 18th November last, directed to be made.

(True Extract.)

(Signed) J. MULLINS, Major, R.E.,
Joint-Secretary to Government.

To the Superintending Engineer, 4th Division.
" Controller of Public Works Accounts.
" Chief Engineer for Irrigation.
Exd. E. C. Shanker.

MEMORANDUM.

REQUESTED for reference the under-mentioned papers

*Plans estimates &c furnished
within this office No. 48.
printed in the G.O. No. 678
of 7-7-1871*

OFFICE OF THE CHIEF
ENGR. FOR IRRIGATION,
P. W. Department,
1871

To The Registrar of the

Head Clerk.

W. H. Hamilton
P. M. Deep

MEMORANDUM.

Urgent

Requested for reference the under-mentioned papers

*one plan of plans sent by G. D. Strong
H. Stone letter No. 4594-71
H. M. Co. No. 6700-7 March 71*

OFFICE OF THE CHIEF
ENGR. FOR IRRIGATION,
P. W. Department,

9.12 1872

+ sheet No. 2

J. N. Hamilton

Head Clerk.

The Registrar of the

P. H. Sect.

Irrigation.

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No 1594 Superintending Engineers Office
Camp Byappa Rao Pully
13th February 1871.

From

Colonel C. V. Willison M.E.
Superintending Engineer H.E.

To Major J. Mullins M.E.
Chief Engineer for Irrigation
and Joint Secretary to Govt.

Enclosures
1 Estimate
9 plans
1 Letter

Sir
With reference to Government
Order No 2774 of 18th November 1870
on the subject of the damages done to
the Water Works from the floods in
the Cortalar, I have the honor to forward
a detailed estimate Rs 16,534
with plans and an explanatory
letter from Captain A. McF. Scott for
the approval of Government and
request that if possible an allot-
ment of half this amount, ^{may be made} as I have
now only a very small amount avail-
able for repairs.

I have the honor to be
Your most Obedient servant
Willison Col M.E.
Superintendent H.E.

Madras Water Works Office
Red Hills 8th February 1871.
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Captain A. J. Scott R.E.
Executive Engineer
Madras Water Works

The Superintending Engineer
H. ^{1st}/₄ Division.

Sir,

I have the honor to forward here -
- with a detailed ^{and Plans} Estimate of the repairs to these works
1. Detailed Estimate rendered necessary by the flood, which occurred in
4. Plans. October of the past year and referred to in G. O.

October of the past year and referred to in G. O.
No. 2774 of the 18th of November 1870, on the report of the
Chief Engineer for Irrigation dated 31st of October 1871.

The following is an Abstract of the work included in the Estimate showing the estimated cost of the several items.

- Cost of the several items—
1. Rebuilding the under sluices to the Annicut ^{Feb. ad. 1890}
across the Cortelliar River _____ 1115—
 2. Rebuilding the wing walls of the Head
Sluice to the upper Supply Channel—
and raising the body and wing walls
of sluice and Annicut _____ 5291-11-6
 3. Repairing the breach in the river bank
above the Head sluice, removing sand
from the head of the Channel and in front
of the sluice and reforming the ground on
both sides _____ 3260-4-6

Clearing 9667-00

From
The Deputy Registrar
of Dominion

No. 100-100-100-100-
for Division and
Distribution to 100%

Dated 1871 Jan 14/71
No. 100-100-100-100-

This is a detailed
statement with plan and
an explanatory letter
from Capt. J. G. Scott
and me regarding the an-
notation of land, the
amount of \$16,534
on the main part of
the area of the Division
with notes.

N. 9667-0-0
4. Clearing the supply Channel of
silt for a distance of $2\frac{1}{2}$ miles from
the sluice and trimming the banks
where under cut by the river -
repairing five breaches in the
lower side of the channel. Rs 4,805-

5. Building a retaining wall along a
portion of the embankment of the
Cholavaram Reservoir and reforming
the earthwork where a slip had occurred. 1,275-

3. With reference to the items above
enumerated the following observations are made.

The piers to the undersluices have now been de-
signed of increased dimension compared with those
recently carried away. Their length being $10\frac{1}{2}$ feet
in lieu of $7\frac{1}{2}$ feet width 3 feet instead of $2\frac{1}{2}$
the width of the vents has been reduced from 4 feet
6 inches to 4 feet 6 inches to give the cross stones a greater
hold in the masonry.

It is proposed to extend the wing walls of the sluice
on the upside as shown in the Plan No. 2 accompanying
the estimate in order to strengthen the connection of the
work with the river bank and to revet the bank with
rough stone. The action of the river has been to scour out
the earth near the old wing wall to a considerable
depth and the addition appears to me to be

necessary to guard against the danger of another breach.
The channel for about $2\frac{1}{2}$ miles from the head sluice
is considerably silted up and the banks have been much
cut by the flood water. The removal of the silt and the
cutting

cutting back of overhanging portions of the banks
have been provided for in the estimate. The filling
up of five breaches in the lower side is also included.
An inspection of the cross sections of the channel shown on
Plan No. 3. A. will show that it has already been sub-
jected to much erosion and alteration of form. In
many places the actual width measured on the line
of full supply is 70 feet instead of 40 feet as
originally formed. It is proposed to confine the
clearance of the silt to the 30 feet width originally
excavated and to form the sides in the manner
shown on the Cross sections in recd.

The repairs to the Cholavaram Embankment have
been carried out in accordance with the directions given
by Major Mullins except that the earth outside
the retaining wall and which had moved to that
position, has not been disturbed, but has been formed
into the section shown in the plan to act as a support to
the wall. It was found that any attempt made to
remove it was followed by a perceptible shifting of
the wall outwards and therefore it was obviously
necessary to leave it alone.

I have the honor to be

Sir
Your most Obedt Servant
A. G. Scott.
Captain R.E.

Executive Engineer & B. N. Datta.

W. B. S. S.

N^o 48

Vote by the Chief Engineer for Irrigation

12

The estimate, amounting to Rupees 16534, submitted by the Superintending Engineer 1st Division for the repair of the damage caused to the Madras Water Works by the Contingent floods of October last, includes some work, viz the raising of the head sluice and wings, heretofore &c, which would more properly be charged to the additional new works estimate, and Captain Scott had better reduce the repair estimate, & increase that for new work accordingly.

2. The flood level, full supply level &c should be marked on the head sluice plan which will be returned to the Superintending Engineer for this purpose.

Fort St. George 20th February 71
W. L. Williams
Chief Engineer for Irrigation
The Secretary to Government
C. W. D.

Recd from

Mr. Secretary

to Mr. Scott

to Mr. Scott

to Mr. Scott

to Mr. Scott

to Mr. Scott

to Mr. Scott

P. W. Dept
 No. 678
 Proceedings of the Madras Government
 Under date the 7th February 1871
 Read the following
 on the Chief Engr. for Irrigation L. E. 1878 of 20 February 1871

The estimate of Rs. 16,534 for the repair of the damages sustained by the Madras Water Works in October 1870 is sanctioned, subject to a deduction for the additional or new work, which does not as pertain to the restoration of the injuries sustained, but to modifications of the head works found necessary owing to an erroneous calculation of flood levels when

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To
 The Secretary to
 Government
 The Chief Engr. for Irrigation

Dated 20 Feb 1871
 Recd 21 Feb 1871
 Rs. 16,534
 Note on the estimate of
 Rs. 16,534 for the
 repair of the damages sus-
 tained by the Madras
 Water Works in October
 1870
 No. 678 of 20 Feb 1871

... ..

6257477 on 20 Feb 1871

the former designs
were prepared:

PUBLIC WORKS.

To the Superintendent Eng^r
4th Division

Fraser

12.11.

2. *id.*

Exd. 12

G. O. 7 March 1868.

No. 172-178

Madras Water Works. The Gate
No. 12 Rs 16.53 4 for the repair
to the drainages sustained by the
Madras Water Works in Oct 70,
finished with remarks.

2. The Superintendant
should report the name
of the deduction to be
made and he should
include a like sum
for the additional work
for which an estimate
was in Off. O. No. 277
of the 18 Nov last
directed to be made.
[Signature]
Superintendent