

No 7113
Public Works (1896) Department.

G.O., No. *6569*

DATED *10-8-96*

[Despatch Abstract.]

Inlet sluice: Estimate of Rs 18,300 for
Constructing an — near Emoro South
lock, Buckingham Canal, sanctioned
with remarks.

3. The design has been drawn up in accordance with verbal instructions given by the Chief Engineer for Irrigation to the Southern Sub-divisional officer and the plan for proposed outlet, so modified as to serve as an inlet and an outlet for the canal.

4. The structure will consist of 10 vents, each 6 feet span, worked by screw-shutter as per detailed drawings on plan.

5. The principal levels are as follow:—

M.S.L.	...	...	...	...	...	...	...	...	...	20-00
M.F.L.	...	...	...	...	...	...	...	...	...	28-45
H.S.T.	...	...	...	...	...	...	...	...	...	22-20
L.R.T.	...	...	...	...	...	...	...	...	...	17-50
Sill	...	...	...	...	...	...	...	...	...	19-00
Top of vent	...	...	...	...	...	...	...	...	...	22-50
Coping	...	...	...	...	...	...	...	...	...	31-25
Top of flood bank	...	...	...	...	...	...	...	...	...	32-45

The sill has been placed at 19-00 or 1 foot below M.S.L. (because water level should not fall below this level—*vide* paragraph 11 of this report), and has been fixed by the Chief Engineer for Irrigation; the top of the vent will be at 22-50, so that all water in the backwater higher than surface level in canal up to H.S.T. will enter the canal and flow down towards the Coom, a supply being afforded in this manner twice every day. To get the full benefit of the tides it will be necessary to build the scouring sluices proposed to be constructed at the Napier's bridge to dispose of water in excess of M.S.L. in order that a fresh supply might be admitted to bring the river up again to O.H.T.L.

6. *Bye-wash*.—As the Shadayancoom lock is only 20' wide, it will be necessary to have a bye-wash to pass the extra supply of water through the canal; for this purpose a channel will be excavated with a sole 30' side slopes 2 to 1 at level 19-00, or 1 foot below M.S.L. (*vide* sketch and longitudinal and cross section on plan No. 2).

7. *Groyne for Ennore bar*.—As the success of the whole scheme depends on the Ennore bar being kept open, as when the bar closes, which it does every year in July to August, no fresh sea-water can be supplied. A groyne to be erected on the south side of the bar to prevent it from silting up and closing, is provided for in the estimate. It is, however, not possible to say whether the groyne will keep the bar open, as a great deal depends on the prevailing direction of the winds.

8. *Sand bag dam with Inlet channel*.—As directed in Chief Engineer's No. 50 B.C., dated 13th May 1896, a sand bag dam, 50 feet wide, with inlet channel as a temporary measure has been provided for in the estimate.

9. *Outlet*.—As mentioned in paragraph 2 *supra*, this inlet is also to be utilized as an outlet in time of floods.

10. The estimate for an outlet was proposed, with reference to correspondence ending with Superintending Engineer's No. 407 B.C., dated 8th February 1896.

11. The Buckingham canal from the Ennore south lock to the junction canal lock, a total length of 16 miles, has a bed-level varying from only 2½ feet below M.S.L. in the junction canal to 3 feet below M.S.L. in the portion of canal north of the Coom. Traffic is consequently impossible along it when surface water-level is at or below M.S.L. By means of the two locks referred to, the surface water-level has hitherto been prevented from sinking as low as or lower than M.S.L., so that in working the proposed regulator at the Napier bridge navigation will be impeded if the water-level is lowered below M.S.L.

12. It is not certain that the proposed regulator at the Napier bridge will carry off quickly enough all the land drainage in these 16 miles, and to prevent the Ennore lock being submerged and consequent stoppage of traffic, this outlet can be used for letting off flood water in canal above H.S.T.

13. The outfall from the sluice is towards the Ennore backwater, and except when the Cortelliar river is in heavy flood which will now very rarely be the case, if the Ennore bar can be kept constantly open, the sluice will be very effective. When the water-level in canal rises to a higher level than 2-20 above M.S.L., the shutters will be raised and the water-level of the canal reach lowered to normal level of water in canal. The shutters being again closed when this has been done when heavy floods are prevalent in the Ennore backwater, the shutters must, of course, remain closed, and can only be raised for discharge of land floods from canal, when the water-level in rear of the sluice has fallen below water-level in canal.

14. The working of the shutters will be attended to by the Superintendent and lascars of the Ennore south lock which is not far from the outlet.

15. The rate for earthwork in the estimate has been slightly increased, as labour in the locality is scarce on account of railway and salt works in progress.

Paragraph 15 added as per No. 686, dated 20th June 1896, from the Executive Engineer, Buckingham canal division.

(Signed) J. LALOR, Captain,
Offg. Ex. Engr., Buckingham Canal.

12th June 1896.

No. 143 B.C.

Forwarded to the Chief Engineer for Irrigation with reference to his No. 11/50 B.C., dated 13th May 1896, for favour of sanction of Government being obtained to the estimate amounting to Rs. 18,100 for constructing a 10-vent inlet sluice near Ennore south lock, mile 9/3, North canal.

2. The Executive Engineer has been authorized to collect materials in anticipation of sanction to the estimate.

(Signed) W. L. C. BADDELEY, Major, R.E.,
Suptg. Engineer, II Circle.

24th June 1896.

No. 145 I.

Submitted to Government with a recommendation that the estimate forwarded by the Superintending Engineer, II Circle, and increased in this office from Rs. 18,100 to Rs. 18,300, be sanctioned as part of the whole scheme for the improvement of the Coom including the reconstruction of the Napier bridge, the details of which are still under consideration and the commencement of which is not an emergent necessity. As the inlet could act as an outlet to the drainage water ponded up in the canal at times, its cost might be met from the amount reserved for unforeseen works of the Buckingham canal, the estimate for the Napier bridge being sanctioned independently hereafter as a work under "Miscellaneous Public Improvements."

(Signed) R. R. E. DRAKE-BROCKMAN, Col., R.E.,
Chief Engineer for Irrigation.

20th July 1896.

ORDER—No. 656 I., dated 10th August 1896.

The following estimate is sanctioned from the amount available for unforeseen works of the Buckingham canal, which will then be reduced to Rs. 1,21,877:—

	Irrigation.
43.	Minor Works and Navigation.
	Minor works for which Capital and Revenue Accounts are kept.
	Buckingham Canal.
	Capital Account.
	I. Works.
2.	Main Canals and Branches.
7.	Escapes.
	Constructing an inlet sluice near Ennore South Lock.
Estimate	...
	RS. 18,300

2. This sanction is registered as No. 97 I. of 1896-97.

3. The attention of the Superintending Engineer, II Circle, is drawn to the remarks made by the Chief Engineer for Irrigation on the plan.

(True Extract.)

Under Secretary to Government,
Irrigation Branch.

To the Chief Engineer for Irrigation.
Superintending Engineer, II Circle, with seven enclosures.
" Examiner, Public Works Accounts.
" Local and Municipal Department.

Exd. T. K. Narayana Aiyangar.
Spare Copies

IRRIGATION.
ACCOUNT.

Govt. of {1896} Madras.

PUBLIC WORKS.

Dated August, 10th.

Recd.

Encl.

G.O. No. 656 I., 10th Aug. 1896.

AUGUST.

Inlet Sluice

Estimate of Rs. 18,300 for constructing
an — near Ennore south lock, Buckingham
canal, sanctioned, with remarks.

PUBLIC WORKS DEPARTMENT,
IRRIGATION BRANCH.

No: 656 I. of 10 August 96

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the

Read the following

A
In No. 656 I. of 10 Aug 96
I bindle
From Supg Engr. I. C. with
with

From Supg Engr. I. C. with
No 143 MC of 24. 6. 96
No 145 Id. 20. 7. 96

Submitted to
Govt with a recom-
mendation that the
estimate forwarded
by the Supg Engr. I.
C. & increased in
this office from Rs
18100 to Rs 18300, be
sanctioned as part
of the whole scheme
for the improvement
of the loom including
the reconstruction of
the Napier Bridge,
the details of which
are still under con-
sideration, & the
commencement of

which is not an
emergent necessity.
As the inlet could
act as an outlet to
the drainage water
pounded up in the
Canal at times,
its cost might be
met from the amount
reserved for unfore-
seen works of the
Buckingham Canal,
the estimate for the
Napier Bridge being
sanctioned independently
hereafter as a work
under "Miscellaneous
Public Improvements."

Order Merion
No: 656 J. 4710 August 1896.

The following
estimate is sanc-
tioned from the

Rs 140,177

A-24

24.7.96

WV

28/7/96

JG

29/7/96

amount available
for unforeseen works
of the Buckingham
Canal, which will
then be reduced to
Rs. 121,877

Irrigation

43. Minor works mainly
minor works for which
Capital & Res. Accts
are kept.

Buckingham Canal
Capital Account
I work.

2. Main Canals & Branches

7. Escapes

Constructing an inlet
since near Ennore
South lock.

Estimate Rs 18,300

2. This sanction
is registered as No
97 I of 1896-97.

3. The attention
of the Supd Engr, Madras
is drawn to the
remarks made by

the Chief Eng for inspection
on the plan.

P. W. CURRENT No. 7113

Honble Mr. [unclear]

Honble [unclear]

Dec: 7.8.96

Estimate for constructing
an inlet sluice near
Emore South Lock,
Buckingham Canal

Recd

20/7

96

41
20/7
96

Isue

Recd

3/8

96

7.8.96

10/8

To
The Chief Eng for
" Supg Eng to [unclear] with 7 miles.

" Sd [unclear]

Local + hand. Dept

Letter from the Offg. Executive Engineer,
Buckingham Canal Co., to the Superintending
Engineer, 2nd Circle, 7/12/96 June 1896 No. 599.

As directed in your No. 95 B.C. of
23rd May 1896 on Chief Engineer's Memo
No. 50 B.C. of 13th May 1896, with reference
to G. O. No. 415 of the same date, I have
the honor to forward herewith Plans
and estimates as per margin amounting
to Rs 18,100 for constructing a 10 feet
Inlet sluice near Emore South Lock
at mile 7/3 North Canal for the purpose
of letting in water from the Emore bar
so as to maintain a replenishment of
the Coom &c.

2. The Combined Bridge & Regulator
at the mouth of the River Coom
(Napiet Bridge), plans are being over-
hauled and provided with Stoneys
shutter, and I hope to be able to sub-
mit the complete estimate in a week's
time, the cost of the Bridge &c with
Stoneys Shutter will probably amount
to Rs 2,20,000.

3. A temporary sand bag dam 50'
wide has been constructed and an
inlet channel excavated at the most
favorable point on the Buckingham
Canal at mile 7/3 and water let into
the Canal at high tide since the 10th inst.

4. There will be no necessity to widen the Canal downward as it is of ample section already and has not been estimated for.

5. If the inlet is to be constructed immediately and the plan & estimate now submitted approved, I request immediate permission to proceed with the Collection of materials before the advent of the monsoon.

No 143 BC

24.6.96

Forwarded to the Chief

Engineer for Design: with reference to his No. 11/50 BC of 13.5.1896 for favour of sanction of Government being obtained to the estimate amounting to Rs 18,100 for constructing a 10 vent Inlet sluice near Ennore South Lock, mile $\frac{2}{3}$ North Canal.

2. The Executive Engineer has been authorized to collect materials in anticipation of sanction to the estimate.

W. S. Baddley

Major R. S.

Subj. Mgr. & 2nd Chief

Encls. 15 { 1. Site plan
1. L & C Section
1. Plan of Inlet Sluice
6. Est. Est.
3. A.C. Est.
1. Sl. abstract.
1. Camped do
1. Report

* Sent separately

Inlet of
10 Vents of 6'
Span.

Report to accompany the estimate for
Constructing a 10 Vent Inlet Sluice near Ennore
South Lock, mile $\frac{2}{3}$ North Canal.

Estimate Rs 18,100 ¹⁸³⁰⁰

This estimate has been prepared with reference to G.O. No. 415 J. dated 13th May 1896.
2. It was originally intended to build a 10 Vent Outlet Sluice (Vide report accompanying) for the purpose of discharging flood water from the Canal, the design now submitted will serve the double purpose of letting in water from the Ennore bar so as to maintain a recomp-ment of the Cosum & letting out all flood water above H.S.T. from the Canal.

3. The design has been drawn up in accordance with Verbal instructions given by the Chief Engineer for Irrigation to the Southern Sub-divisional Officer and the plan for proposed outlet, so modified as to serve as an Inlet & an Outlet for the Canal.

4. The structure will consist of 10 Vents each 6 feet span worked by Screw Shutter as per detailed drawings on plan.

5. The principal levels are as follow. -

M.S.L.	20.00
M.F.L.	28.45
H.S.T.	22.20
L.R.T.	17.50
Sill	19.00
Top of Vent	22.50

Coping ——— 31.25

Top of flood bank — 32.45

The Sill has been placed at 19.00 or 1 foot below M. S. L. (because water level should not fall below this level vide para 3 of this report) & has been fixed by the Chief Engineer for Irrigation the top of the Vent will be at 22.50. So that all water in the backwater higher than surface level in Canal up to H. S. T. will enter the Canal & flow down towards the Coom, a supply being afforded in this manner twice every day. To get the full benefit of the tides it will be necessary to build the Scouring Shutes proposed to be constructed at the Napier's Bridge to dispose of water in excess of M. S. L. in order that a fresh supply might be admitted to bring the river up again to O. H. T. L.

6. As the Shadayan Coom Lock is only 20' wide it will be necessary to have a Bypass to pass the extra supply of water through the Canal; for this purpose a Channel will be excavated with a Sole 30' Side Slopes 2 to 1 at level 19.00 or 1 foot below M. S. L. Vide Sketch & Longl. and Cross Section on Plan No. 2.

7. As the Success of the whole Scheme depends on the Ennore bar being kept open, as when the bar closes which it does every year in July to August no fresh sea water can be supplied. A groyne to be erected on the South side of

Bypass

Groyne
for Ennore
bar

the bar to prevent it from silting up & closing, is provided for in the Estimate. It is however not possible to say whether the Groyne will keep the bar open as a great deal depends on the prevailing direction of the winds

Sand bag
dam with
Inlet Channel

8. As directed in Chief Engineer's No 50 B C dated 13th May 1896 a sand bag dam 50 feet wide with inlet Channel as a temporary measure has been provided for in the Estimate

Outlet

9. As mentioned in para 2 Supra. this Inlet is also to be utilised as an Outlet in time of floods.

10. The estimate for an Outlet was proposed with reference to Correspondence ending with Superintending Engineer No 407 B C. dated 8th February 1896.

11. The Buckingham Canal from the Ennore South Lock to the Junction Canal Lock a total length of 16 miles has a bed level varying from only 2 1/4 feet below M. S. L. in the Junction Canal, to 3 feet below M. S. L. in the portion of Canal north of the Coom, Traffic is consequently impossible along it when surface water level is at or below M. S. L. By means of the two locks referred to, the surface water level has hitherto been prevented from sinking as low as

or lower than M.S.L. So that in working the proposed Regulator at the Napier Bridge navigation will be impeded if the water level is lowered below M.S.L. 12.

It is not certain that the proposed Regulator at the Napier Bridge will carry off quickly enough all the land drainage in these 16 miles, & to prevent the Emore Lock being submerged and consequent stoppage of traffic, this Outlet can be used for letting off flood water in Canal above H.S.T.

13. The Outfall from the Sluice is towards the Emore backwater, & except when the Cortelluar river is in heavy flood which will now very rarely be the case, if the Emore bar can be kept constantly open, the Sluice will be very effective. When the water level in Canal rises to a higher level than 2.20 above M.S.L. the Shuttles will be raised & the water level of the Canal reach lowered to normal level of water in Canal. The Shuttles being again closed when this has been done. When heavy floods are prevalent in the Emore backwater, the Shuttles must

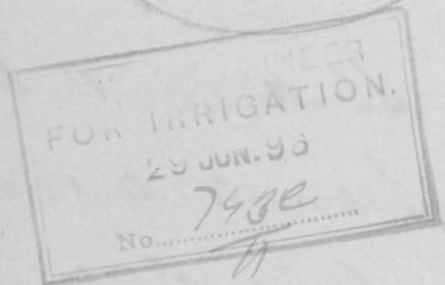
Of Course remain closed, and can only be raised for discharge of land floods from Canal, when the water level in rear of the Sluice has fallen below water level in Canal.

14. The working of the Shuttles will be attended to by the Superintendent and Lascars of the Emore South Lock which is not far from the Outlet.

15. The rate for earthwork in the Estimate has been slightly increased, as labour in the locality is scarce on account of Railway and Salt works in progress.

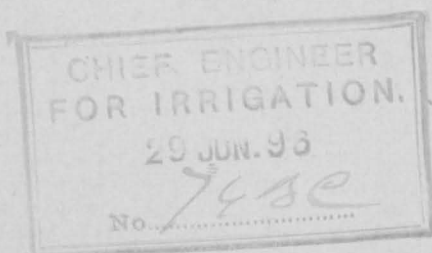
J. Calver Captain
Offr. Executive Engineer
Buckingham Canal.
12. 6. 96.

Para 15. added
as per N.P. 686 for
20.6.96
the Engineer B.C.W.



0256
7113/96

From



The Supg Engineer
Second Circle

To The Chief Engineer
For Irrigation

Co. 7.8.94. 19582
10.12.94. 9858
10.12.94. 31624
14.12.95. 10843
28.1.96. 9334
21.2.96. 1903
26.2.96. 11944
13.5.96. 4153

Dated 24 June 1896

Encls: 15

No. 143 BC

Q. 55.1

7113/56

Constructing a 10 vent
Inlet sluice near Ennore
South Lock $\frac{9}{3}$ mile
North Canal —

Forwards for sanction
an estimate of Rs 18100 for