

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	199	Press
B.P. No.		Mis. —
Dated	23 - 1 - 195	6875

Not to be folded or roughly handled

Read the following letters:—

No. 413. From R. SMITH, Esq., District Engineer, Nellore, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Nellore, 3rd November 1874, No. 71.

As the water in the Pennair has fallen sufficiently to admit of an opinion being formed regarding the actual damage done to the Nellore Anicut by the recent great flood, I have the honor to submit, for your information, the following particulars.

2. In my telegram and letter, No. 69, of the 29th ultimo, I reported that the northern flank of the anicut had been turned by the stream, and that the northern wing walls had collapsed. This portion of the anicut is in the same state as it was then, but I observed this morning that about 150 feet of the body wall is *partly* demolished; that portions of two retaining walls have been injured; and that several stones on the rear slope of the anicut have been carried away and piled up on the rubble apron. I do not, however, anticipate disastrous results from these failures, as the ordinary head of water in freshes will be considerably reduced by the large volume that will find its way, round the northern extremity of the anicut, to the reach of the river below the anicut.

3. For the last three days I have been trying to construct a rubble stone dam in the line of the old Cyclopean pitching, to prevent the river cutting a very deep channel round the anicut, but with little success, as there is still 11 feet of water in the river. Two groynes are under construction, and a third will be commenced to-morrow to preserve the bank of the river from further erosion in the line of the newly formed channel.

4. Since my last report* information has been received from the Northern Delta regarding the breaching of the Covoore large tank, and of five other

* No. 70 of 31st October 1874.
minor reservoirs. Two district roads (Woolavapaud and Isakapally) have been breached, but the cost of repairing them will almost be covered by the maintenance grants for those communications.

5. As several important irrigation works have been seriously damaged, a very liberal grant for Agricultural Repairs will be necessary to prevent great loss to Government and to a number of people in the valley of the Pennair. My greatest anxiety at the present moment is to get the channels open to save the cultivation.

No. 414. From the same Officer, dated Nellore, 12th November 1874, No. 77.

I HAVE the honor, in continuation of the letters marginally noted, to submit further particulars regarding the state of the works, and the damage done by the late flood, in the Pennair.

Extra No. 1 of 27th October 1874.

No. 69 of 29th October 1874.

" 70 of 31st "

" 71 of 3rd November 1874.

2. *Northern Delta of the Pennair.*—
The villages, tanks, and roads in the delta, between the Pennair and the Pydaru, have, as a rule, suffered severely; a considerable amount of private property has

2. The measures taken by Mr. Smith for meeting this great emergency appear to His Excellency the Governor in Council to have been judicious, and the promptitude with which he has organized arrangements for repairing damages, and for reducing as far as possible the losses which have been sustained by the people, is noticed with satisfaction.

3. The Government will be glad to learn the result of the efforts which were being made to close the channel, which had been cut by the river to the north of the anicut; as upon the success of this operation the supply to the Southern Delta for the rest of the season is dependent.

4. For a short time after the flood the necessity for executing a large amount of work on emergency will no doubt have led to its cost being high, but thereafter it is hoped that ordinary rates will be found sufficient, while it is thought that it will be desirable to utilize those, to whom work may be given to save them from distress or starvation, and who may not have been accustomed to labor as coolies, on such employment as may be better suited to their capabilities than ordinary earthworks would be. This matter can however be determined, as the circumstances may require, in consultation with the Collector. The District Engineer will submit a report on the cost of any works which may have been materially enhanced by the employment of other than able-bodied coolies, and such orders as may appear necessary will then be issued.

5. On the District Engineer's approximate estimate of the outlay required for carrying out the extension of the anicut across the new north channel of the river, and for other works shown by this flood to be necessary, orders have already been passed.

No. 178, dated 23rd January 1875.

6. The Chief Engineer for Irrigation will make such additional allotments, under Repairs, Agricultural, to the Nellore District as the exceptional circumstances of this flood may render necessary.

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government.

To the Chief Engineer for Irrigation.

" District Engineer, Nellore.

" Revenue Department.

" Controller of Public Works Accounts.

Ed. S. T. Austin.

3/4 Copies

No. 71
Nellore 3 November 1874

From:

R. Smith Esq.
District Engineer of Nellore

To:
Colonel W. Walker R.E.
Secretary to Government
Public Works Department
Fort Saint George

Sir,
As the water in the Penuer
has fallen sufficiently to
admit of an opinion being
formed regarding the actual
damage done to the Nellore
Anicut by the recent great
flood, I have the honor to
submit for your information
the following particulars:
2. In my telegram and letter
of the 29th ultimo, I reported that
the northern flank of the Anicut

No. 69.

been lost, a large extent of cultivation has been injured or destroyed, and some valuable land has been cut away by erosion on the left bank of the Pennair.

3. The accounts received since the date of my last report* show that 23 tanks breached on the north of the river during the flood in addition to

*3rd November 1874.

the number (8) already reported, and I fear the list is still incomplete.

4. I have ordered the Central Range Officer (Mr. Plummer) to superintend, in addition to his regular duties, the emergent repairs required in the Northern Delta, as the Range Officer (Mr. Fox) is fully occupied with the numerous works in progress on the south of the Pennair. The Acting Head Assistant Collector has been deputed by the Collector to attend to the wants of the Northern Delta, and I have directed Mr. Plummer to act in concert with him.

5. As the speedy repair of the irrigation works is of very great importance, and as my executive staff is far too small to admit of work being carried on in the usual way, I have arranged with the Collector for employing the village authorities as petty superintendents and paymasters. The work executed under the superintendence of these officers will be examined and measured by a responsible member of this department, and in the event of any marked discrepancy between the value of the work done and the sum claimed, the matter will be referred to the Collector for disposal. It will, however, be necessary to allow very liberal rates in many instances, as a large proportion of the laborers are poor, homeless people, for whom employment must be found to save them from starvation. The expenditure on the repair of the Great Northern and Dorenal Roads will also be excessive for the same reason, and I would therefore suggest, for the consideration of Government, the propriety of charging a moiety of the outlay to "Relief works."

6. The accompanying tracing shows approximately the area submerged in the Northern Delta of the Pennair by the flood of the 25th, 26th, and 27th of October last.

7. *Pennair Anicut.*—This structure has sustained no further damage. A large quantity of stone has been thrown in to protect the retaining wall, where the rear slope was damaged, and a narrow gap, that I discovered in the body of the anicut at its northern extremity, has been filled in and protected with Cyclopean rubble. A quantity of stone has also been thrown in, in front of a portion of the anicut, where I found a hole close to the body wall, 18 feet in depth. The groynes on both sides of this depression have been attended to, and the strong current that caused the scour has been diverted from the immediate vicinity of the face of the anicut.

8. The rear slope of the anicut has failed in the same place as the greatest damage was done by the flood of 1870. This clearly indicates—as the section of the anicut is now much more substantial than it was then—that more waterway is necessary to insure safety in great floods, and this I intend providing for in the estimate for the repair of the present damages.

9. The water in the river has fallen below the crest of the anicut, and there is consequently a scarcity of water in the channels. Great efforts are

however being made to construct the rubble dam between the bank of the river and the northern extremity of the anicut, but the stream is very rapid, and it is impossible to complete more than 2½ spanning yards daily.

10. *Southern Delta.*—The closing of the breaches in the river embankment west of Nellore is in active progress, and will be completed at an early date. An estimate will be submitted as soon as possible for raising and strengthening this embankment throughout, and for pitching it with rubble near Poottapalem and in the vicinity of Baburow's chuttrum.

11. The breaches in the Nellore tank embankment at Nellore and at Baburow's chuttrum have been partly closed, and will soon be out of danger.

12. The anicut channels have been partially cleared and repaired to admit of water passing down them for irrigation, but it will take some months to clear and repair them thoroughly.

13. The river embankment on the east of Nellore stood very well during the flood, but the water overtopped the sand ridges, where there is no artificial bank, in three places, and destroyed a number of houses in the villages of Narainreddipet, Nidimusali and Kudittapalem. The flood also carried away the embankment that was thrown a few years ago across the southern branch of the Pennair, near the village of Mudivertypalem, and there is now a considerable stream running down the old outlet to the sea.

14. The following tanks breached in the Southern Delta from the effects of the flood:—

Varigondah Kasirazu Tank.	Pynapuram Katevaroya Tank.
Kalivalapalem do.	Mudivertypalem do.
Madaraz Guduru do.	Kuditapalem do.
Pemburty Tank (two calingulahs damaged also).	Gangapatam Ana do.
Bramadavem Buddi Tank.	Do. large do.
Do. Tuti do.	Amalur do.
Narakailapilly do.	Indukurpet do.

15. The Kristnapatam channel head sluice, the Kanapartypad aqueduct, a small aqueduct over the Survapilly channel, and the Allipuram regulator were slightly injured by the flood, but no masonry work in the Southern Delta was destroyed, with the exception of a small culvert in the Kristnapatam branch channel, and an inexpensive half syphon on the Survapilly channel.

No. 415. ORDER THEREON, 23rd January 1875, No. 199.

IRRIGATION, No. 45.

The further particulars given by the District Engineer, Nellore, of the extent of the Pennair flood of the 25th—26th October last, show over what a large area of country the flood waters extended, and that on the north side of the river especially, which was not protected by embankments, the number of tanks breached was very great.

had been turned by the stream
and that the Northern Wing Wall
had collapsed. The portion of
the Aicut is in the same state
as it was then, but I observed
this morning, that about 150 feet
of the Body Wall is partly
diminished, that portions of two
retaining walls have been injured,
and that several stones, on
the rear slope of the Aicut, have
been carried away and piled up
on the rubble apron. I do not,
however, anticipate disastrous
results from these failures
as the ordinary head of water
in freshets will be considerably
reduced by the larger volume
that will find its way
round the northern extremity
of the Aicut, to the reach of

70 of
31st October
1874

the River below the Aicut. 2
3. For the last three days I have
been trying to construct a rubble
stone dam, in the line of the old
Cyclopean pitching, to prevent
the river cutting a very deep
channel round the Aicut,
but with little success as
there is still 11 feet of water
in the River. Two groins are
under construction and a third
will be commenced tomorrow
to preserve the bank of the river
from further erosion in the line
of the newly formed channel.
4. Since my last report
information has been received
from the Northern Delta
regarding the breaching of the
Cooor Large Tank and of

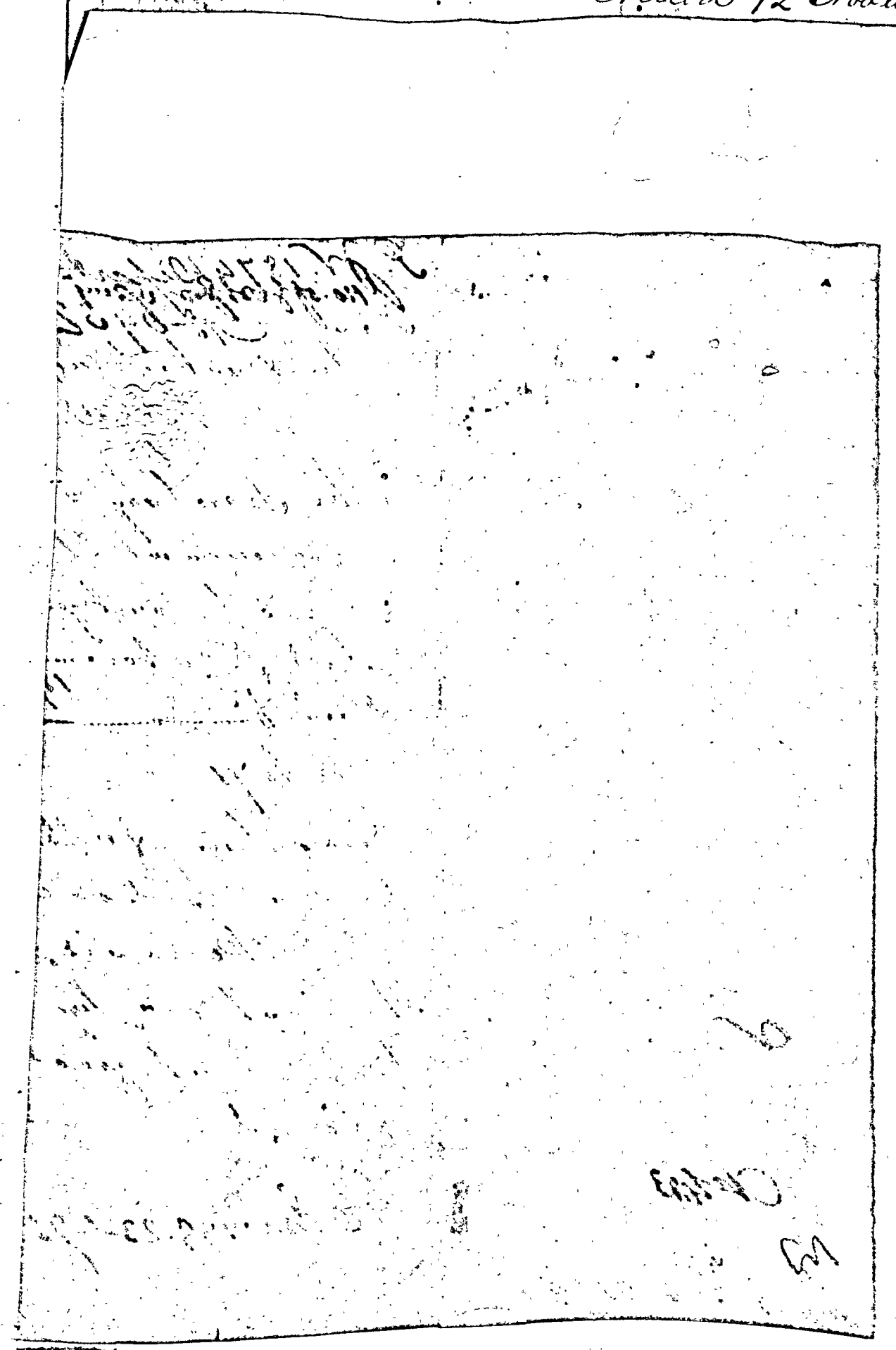
No. 77

District Engineer's Office
Kullac 12th November

five other minor reservoirs.
Two District roads (Woolava-
paia and Isakapally) have
been breached but the cost
of repairing them will almost
be covered by the maintenance
grants for those communications.

5. As several important
irrigation works have been
seriously damaged a very liberal
grant for irrigation
repairs will be necessary to
prevent great loss to Government
and to a number of people in
the valley of Pemaia. My greatest
anxiety at the present moment
is to get the channels open to
save the cultivation.

I have the honor to be
Sir
Your most Obedient servant
J. Smith
District Engineer



Seventeenth

P.O. 1874 Depart.
No. of 80377
From The District Engineer
for Belcher

The Secretary to
Government

Port St. George

Dated 3rd November 1874

Recd of

No 11

Reporting further
damages done
to the Pannair
Ancient by
the recent great
flood.

Oct 4/1873

C. 26. Dec 74

Recd to Belcher 6 Nov 74

U. No: 199.23-1-75

District Engineer

No. 77

District Engineer's Office,
Bellona 12th November 1874.

From B. Smith Esquire.

District Engineer of
Bellona.

To Colonel G. W. Walker, R.E.

Secretary to Government.

P. W. Department.

Port St. George.

Enclosure. Sir,

Extra No. 27th
October 1874.
No. 69 of 29th 69
70 of 31st 80
71 of 3rd November 1874.

I have the honor, in continuation
of the letters marginally noted, to
submit further particulars regarding
the state of the works, and the damage
done by the late flood, in the Pannair
i.e. The villages, Tanks, and Roads,
in the Delta, between the Pannair
and the Pydaris, have, as a rule,

Northern
Delta of
the Pannair

suffered severely, a considerable amount of private property has been lost, a large extent of cultivation has been injured or destroyed, and some valuable land has been cut away by erosion, on the left bank of the Pinar.

The accounts received since the date of my last report, show that 3 November 23 tanks breached, on the north of the River, during the flood, in addition to the number already reported, and I fear the list is still incomplete.

I have ordered the Central Range Officer (Mr. Plummer) to superintend,

in addition to his regular duties, the urgent repairs, required in the Northern Delta, as the Range Officer (Mr. Fox) is fully occupied with the numerous works in progress on the south of the Pinar. The ag. Secd Assistant collector has been deputed, by the collector, to attend to the wants of the Northern Delta, and I have directed Mr. Plummer to act in concert with him.

As the speedy repair of the Irrigation works is of very great importance, and as my executive staff is far too small to admit of work being carried on, in the usual way, I

have arranged with the Collector, for
employing the village authorities
as Petty Superintendents, and
Paymasters. The work executed,
under the superintendence of these
Officers, will be examined, and
measured, by a responsible member
of this Department, and in the event
of any marked discrepancy between
the value of the work done and the
sum claimed, the matter will be
referred to the Collector for disposal.
It will, however, be necessary to
allow very liberal rates, in many
instances, as a large proportion of the
labourers are poor-houseless people,

for

for whose employment must have been
to save them from starvation. The
expenditure on the repair of the
Great Northern and Corival Roads,
will also be excessive for the same
reason, and I would, therefore,

suggest for the consideration of
Government, the propriety of charging
a moiety of the outlay to Relief
Works.

The Collector has
been considered in the
matters for relieving
those who are in such
distress.

6. The accompanying tracing shows
approximately the area submerged
in the Northern Delta of the Punariv.
by the flood of the 23rd 26th and
27th of October, last.

This

7. Quinn's Ancient This structure has sustained no further damage. A large quantity of stone has been thrown in to protect the retaining wall, where the rear slope was damaged, and a narrow gap, that I discovered in the Body of the Ancient at its Northern extremity, has been filled in, and protected with Cyclopean rubble. A quantity of stone has also been thrown in, in front of a portion of the Ancient, where I found a hole, close to the Body wall, 18 feet in depth. The grounds on both sides of this depression, have been attended to

8. to raise the strong current, that caused the lower has been diverted from the immediate vicinity of the faces of the Ancient. The rear slope of the Ancient has failed in the same place as the greatest damage was done by the Flood of 1870. This clearly indicates that the section of the Ancient is now much more substantial than it was then - that more waterway is necessary to insure safety in great floods, and this I intend providing for in the estimate for the repair of the present damages.

9. The water in the river has

The Ancient
 has been
 a narrow
 part of the river
 etc. has proved
 very expensive
 instead of, as was
 probably supposed,
 very economical

fallen below the crest of the ancient
and there is consequently, as
scarcity of water in the channels.
Great efforts are, however, being
made to construct the rubble
dam, between the bank of the
river and the northern extremity
of the ancient, but the stream
is very rapid, and it is impossible
to complete more than 22 running
yards daily.

I am not quite
satisfied that the
D.C. has set to
work in the
the proper manner
but have advised
him to subject to
some one can tell
exactly what was
feasible without
losing the actual
circumstances

Southern
Delta.

The closing of the breaches in the
River Embankment west of Kallare,
is in active progress, and will be
completed at an early date. An
estimate will be submitted as

19
soon as possible for raising and
strengthening this embankment
throughout, and for pitching it with
rubble near Pottapalem, and in the
vicinity of Babur's Chattram.
11. The Breaches in the Kallare
Tank embankment at Kallare, and
at Babur's Chattram, have been
partly closed, and will soon be out
of danger.
12. The ancient channels have been
partially cleared, and repaired, to
admit of water passing down them for
irrigation, but it will take some
months to clear and repair them
thoroughly.

13. The River embankment on the East of Villore, stood very well, during the flood, but the water overtopped the sand ridges, where there is no artificial bank, in three places and destroyed a number of houses in the villages of Naraineddipet, Indimusal and Kudittapalem. The flood also carried away the embankment that was thrown, a few years ago, across the Southern branch of the Punnai, near the village of Mudivertypalem, and there is now a considerable stream running down the old outlet to the sea.

14. The following Tanks breached,

in the Southern Delta, from the effects of the flood.

Varigondah Kasiragu Tank.

Kalivalapalem Tank.

Madaray Guduru do

Pemburty Tank (Two bealungulaks damaged also)

Bramadavem Buddi Tank.

do do do

Narak Tapilly do

Pynapuram Kataroya do

Mudivertypalem do

Kudittapale do

Gangapatam ana do

do large do

Analur do
Kudikurpet do

15. The Kristnapatam Channel Head
Sluice, the Kanaparty pad aqueduct,
a small aqueduct over the Survapilly
channel, and the Ellipuram Regulator
were slightly injured by the flood,
but no masonry work, in the
Southern Delta, was destroyed with
the exception of a small Culvert
in the Kristnapatam Branch
channel, and an unresponsive
half siphon on the Survapilly
channel.

I have the honor to be,

Sir,

Your Obedient Servant
Wm. H. Smith
District Engineer.

P. N. 1874 Sept.
Proff for Camp

From No. 7167

The District Engineer
of Madras.

To The Secretary to
Government
P.W. Department,
Fort St George.

Dated 12th November 1874

Received 16th —

No. 77.

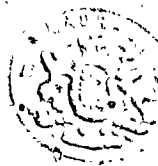
Enclosure 1.

Reporting further
particulars regarding
the recent flood
in the Pennair.

S.B. No. 139. 23-1-75.

No 414

e. 267 174-



St. Department
Proceedings of the Madras Govt.
Read the following

From The District Engineer
Vellore (H. E. No. 71 of 23 Nov 74)

Do Do (77th 12th 20th)
199

M. J. 28/12

The further particulars
given by the District Engi-
neer, Vellore, of the extent of
the Pennair flood of the
25th 26th October last, show
over what a large area
of country the flood waters
extended, and that on the
North side of the river espe-
cially, which was not pro-
tected by embankments,
the number of tanks breach-
ed was very great.

2 The measures taken
by Mr. R. Smith for meeting
this

this great emergency appear
to His Excellency the Govern-
or in Council to have been
judicious, and the prompti-
tude with which he has
organized arrangements for
repairing damages, and for
reducing as far as possible
the losses which have been
sustained by the people, is
noticed with satisfaction.

3. The Government will
be glad to learn the result
of the efforts which were
being made to close the
channel, which had been
cut by the river to the
north of the Anicut, as upon
the success of this operation
the supply to the Southern
Delta for the rest of the
season is dependent.

4. For a short time
after ^{the} flood, the necessity
for executing a large amount
of

13
of work on emergency will
no doubt have led to its
cost being high, but there-
after it is hoped that
ordinary rates will be
found sufficient, while it
is thought that it will be
desirable to utilize those
to whom work may be
given to save them from
distress or starvation, and
who may not have been
accustomed to labour as
coolies, ^{on} such employment
as may be better suited
to their capabilities than
ordinary earth works
would be. This
matter can however be
determined, as the circum-
stances may require, in
consultation with the
Collector. The District
Engineer will submit a
report

report on the cost of any
works which may have
been materially enhanced
by the employment of
other than able bodied
coolies, and such orders as
may appear necessary will
then be issued.

5. On the District Engi-
neers approximate esti-
mate of the outlay required
for carrying out the extension
of the Aricut across the new
North Channel of the
river, and for other works
shown by this flood to
be necessary, orders have
already been passed.

6. The Chief Engineer for
Irrigation will make
such additional allot-
ments, under Repairs,
Agricultural, to the Bellare
District, as the exceptional
circumstances

No. 198 dated 23rd Jan'y/74

circumstances of this flood
may render necessary.

by 19/11/74

G.M.

To
The Chief Engineer for Irrigation ✓
District Engineer Bellare ✓
Revenue Dept. ✓
Controller of P.W. accounts. ✓
Receipt till 25/1/75.

7167, 6932

Govt. of Madras.

PUBLIC WORKS.

The Chief Engineer.
for Bangalore

Dated

Recd.

Encl. /

G. O. 22 Jan 1875. No. 199

Nos. 612-415.

Floods in the Vennair

Passing orders on
papers submitted by the
Engineer in Charge for
giving further particulars
concerning the damages
by the floods of
last year -