

(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.	1631	Press
B.P. No.		Mis.
Dated	10 - 6 -	195 -
		2875

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
10th June 1875.*

No. 217. Read the following letter from R. E. NORFOR, Esq., Executive Engineer, in charge of District Engineer's Office, South Arcot, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Camp at Porto Novo, 9th May 1875, No. 37 :—

I HAVE the honor to acknowledge the receipt of Proceedings of Government, No. 1,108, of the 19th April 1875, in which His Excellency the Governor in Council severely censures me with others

3 Sheets of Section.
1 Sheet of Calculations.

for great carelessness and neglect of duty in the management of the construction of the Vyllore Tank in this district, and, agreeing with the Chief Engineer for Irrigation that the individual responsibility of officers in executive charge of such works should be enforced, has directed the recovery from such officers the value of certain quantity of earthwork paid for, but supposed to be unrepresented by work done.

2. The quantities given by the late District Engineer, Mr. Sage, in his letter No. 253, of the 1st March 1875, have apparently been accepted as correct.

3. I was at Cuddalore, taking charge of the district from Mr. Sage, when he wrote the report above quoted, and, in discussing with him the subject of the Vyllore Tank estimate, I then expressed my disbelief in the correctness of his figures; but in consequence of the precarious state of his health at the time, I was forbidden by the Doctor to enter into arguments likely to excite him, and therefore did not press the matter, and left him to write what he liked.

4. As I informed Mr. Sage I now again repeat that it is not my intention to maintain that there has been no over-payment made in this instance; if I could show that there was none, it would be speaking volumes for the honesty of the Overseers with whom we have to deal, who, I am persuaded, do not hesitate to take advantage of a Range Officer's inability, from press of work, to scrutinize every individual work as closely as they *ought to be*.

5. Looking back for the last six or seven years in the present No. 3 Range, unlike the two other ranges in the district, there has always been a larger number of projects in hand.

Pelandorai Anicut Project,
Mahmathoor do. do.,
Keenanoor Anicut Construction,
Katumyloor do. do.,
Mutloor Bridge Construction, and
Vylloor Tank Construction,

the last being the least in importance. The ordinary work of the range is also *very heavy*, with a large number of works scattered over an extensive area of 1,637 square miles.

6. It is in attempting to deal single-handed with so large a number of works, not concentrated but scattered all over the country, that failures are to be attributed, and such failures are only too often put down to incompetency and carelessness, rather than to the necessity that such a system involves for trusting your Overseers more than, I regret to say, they are to be trusted.

Proceedings of the Madras Government, Public Works Department,
10th June 1875.

7. With the existing establishment a Range Officer, though he could make himself thoroughly acquainted with the requirements of his range in regard to works requiring repairs, &c., cannot as satisfactorily supervise expenditure on works carried out in it, so long as there are so many of them, and widely scattered.

8. The Railway or any other Company would never dream of working on the Public Works system; each one of the works above-named would be in charge of a separate and responsible officer. A Railway Engineer, for instance, has a limited charge,* and he could, if he liked, and doubtless does, go over his work and see it daily; if a Range Officer could see all his work, even say once a week, there would be some justice in enforcing individual responsibility.

9. When this very same work—the Vyllore Tank—was going on I had charge, from October 1870 to April 1871, of both the Virdachellum and Cuddalore Ranges, and in the same interval relieved Colonel Roberts of the Superintending Engineer's Office, and held charge of it till Colonel Boileau relieved me, so that I had really not an opportunity of visiting the Vyllore Tank, and had to trust to the correctness of, and pay upon, the Overseer's certificates, which were always accompanied by pit-measurements.

10. I do not mean to say that there should be no responsibility attached to the Range Officer, but that if I am to pay for every cubic yard of earthwork, gravel, clay, sand, &c., that is not represented by work done, I should like it to be within the bounds of possibility to measure up in detail every work myself, and this is what simply cannot be done now; and if circumstances, such as above related, are not to find any consideration with the authorities who dispose of such questions, why, a Range Officer stands a very good chance of finding himself in the Bankruptcy Court.

11. Mr. Sage in his sheet A. shows that only 34,743 cubic yards of earthwork has been done against 54,454 paid for; or, in round numbers, 20,000 cubic yards, which had no existence, were passed.

12. I have the honor now to submit a sheet* of cross sections drawn to natural scale of 10 feet to an inch; these cross sections have been replotted from the sheet† of longitudinal and cross sections put into the hands of the Chief Engineer for Irrigation when he inspected the work in March 1874, only replotted to natural scale, and on it is shown the bund as it existed on the date of Colonel Mullins' inspection. Attached to this is a sheet of detail quantities taken out of work done, also my calculations in verification of these quantities.

13. By this it will be seen that the amount represented by work done is 44,646 cubic yards against 54,454 cubic yards, leaving 9,806 cubic yards to be accounted for; deduct from this 5 per cent. for wear and tear in the last five years, leaves 9,316 cubic yards unrepresented by work instead of 18,500 cubic yards.

14. In these calculations no allowance has been made for bank carried away by floods during progress of work. In November 1871, during the cyclone, the several odays falling into this tank, and shown in the original survey, came down in full force, and the oday nearest the old tank carried away the bank before it, and caused a considerable breach, owing to the work being perfectly new and unconsolidated. This was

Proceedings of the Madras Government, Public Works Department,
10th June 1875.

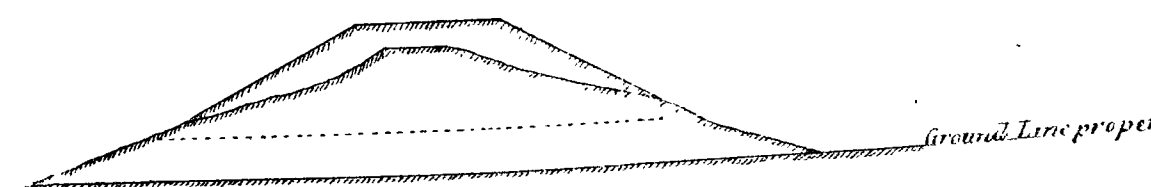
refilled from the original estimate, and forms part of the work paid for. I am unable to give the quantity of earth taken up for this, but judging from the quantity required to close the present breach, I should say about 3,000 cubic yards were expended in closing this breach, and making good other damages sustained; the bund at this breach has since stood. In cyclone of May 1872,

* When the tanks in this neighbourhood generally suffered considerable damage. during the heavy rainfall,* I am informed that this tank was breached again, but this

time in exactly the same place it has now breached; this was closed again, imperfectly closed, as I believe the top of bund had not been taken to F. T. L.; however, imperfectly closed as it was, the earthwork, I am told, was all paid for out of original estimate, and may be roughly estimated at another 3,000 cubic yards, leaving about, in round numbers, 3,300 cubic yards unrepresented by work done, which at 1 anna 2 pies per cubic yard is Rupees 240.

15. Under the circumstances above related, I have the honor to request the Government will be pleased to reconsider the orders passed in their No. 1,108, of the 19th April 1875.

P.S.—The difference between Mr. Sage's figures and mine is easily explained. In taking out new areas Mr. Sage utilized only so much of the existing bund as was necessary to form a correct section of the bund as it is to be, and his base lines in most sections do not represent the ground line proper, which, of course, makes a vast difference; his object being more to ascertain how much more new work was wanted than how much had been done; in fact, he admitted the possibility of his old areas being only approximate when I pointed them out to him.



No. 218.

ORDER THEREON, 10th June 1875, No. 1,631.

IRRIGATION, No. 21.

THE HONORABLE the Governor in Council sees no reason to modify the orders passed on the Vyllore Tank Project in G. O., No. 1,108, of the 19th April 1875. The fact that for the formation of the bund a certain quantity of earthwork was provided, and that where, as is clearly shown by the longitudinal and cross sections, the bank was very far from complete the work was passed as finished, and more than the full quantity was paid for, is conclusive evidence that this work was not examined. To this has to be added the other fact that the supplemental estimate provides for 23,195 cubic yards additional

Proceedings of the Madras Government, Public Works Department,
10th June 1875.

to close the breach, and complete the work before paid for, but never done. It is quite unnecessary to ensure perfect accuracy in the estimate of over-payments. Were Mr. Nerfor's calculations deemed deserving of acceptance, there would remain to be explained the way in which the great difference in quantities had been disposed of. The Government have required the refund of a part only of the loss sustained, owing to the great carelessness of Mr. Nerfor and others, and these officers might with justice have been required to bear the entire loss.

2. Mr. Nerfor's plea that press of work was the cause of the imperfect examination of the work done in connection with this project is not admissible. With proper arrangements a full and complete examination would have occupied but an extremely short time, and it must be noticed that it is such neglect of duty as has occurred in this case which places temptation in the way of subordinates and demoralizes the subordinate agency of the department generally. On this account it is a primary duty of the Government to visit with due severity any clear and serious neglect on the part of responsible officers to thoroughly examine work done, and His Excellency in Council is convinced that the present is a case which admits of no excuse.

(True Extract.)

Major, R.E.,

Offg. Joint Secretary to Government.

No 34

District Engineers Office, Arcot
Camp Porto Novo 9 May 75

From

The District Engineer
South Arcot

To

The Secretary to Government
D. P. W.

Sir

Enclosures

3 sheets of section
1 sheet of plan
- latitudes

I have the honor to acknowledge the receipt of Proceedings of Govt. No 1108 of the 19th April 1875, in which His Excellency the Governor in Council severely censures me, with others, for great carelessness and neglect of duty in the management of the construction of the Dyke Tank in this District, and agreeing with the Chief Engr. for irrigation that the individual responsibility of officers in Executive charge of such works should be enforced, has directed the recovery from such officers the value of certain quantity of earthwork paid for, but supposed to be unrepresented by work done.

2. The quantities given by the late Dist. Engineer Mr. Sage in his letter No 253 of the 1st March 1875, ^{have} apparently been accepted as correct.

3 I was at Cuddalore taking charge of the District from Mr. Sage when he wrote the report above quoted, and in discussing with him the subject of the Vylloor tank estimate, I then expressed my disbelief in the correctness of his figures; but in consequence of the precarious state of his health at the time, I was forbidden by the Doctor to enter into arguments likely to excite him, and therefore did not press the matter, and left him to write what he liked.

4. As I informed Mr. Sage I now again repeat that it is not my intention to maintain that there has been no over-payment made in this instance; if I could show that there was more, it would be speaking volumes for the honesty of the overseers with whom we have to deal, who

advantage of a Range Officer's inability, from press of work, to scrutinize every individual work as closely as they ought to be.

5. Looking back for the last 6 or 7 years, in the present No 3 Range, unlike the 2 other Ranges in the District, there has always been a larger number of projects in hand.

Pelandorai Ancient Project.

Mahmathoor Ancient Project,

Keenamboor Ancient Construction,

Katunyloor Ancient Construction,

Milloor Bridge Construction,

and Vylloor tank Construction, the last being the least in importance. The ordinary work of the Range is also very heavy, with a large number of works scattered over an extensive area of 1637 sq. miles.

6. It is in attempting to deal single handed with so large a number of works, not concentrated but scattered all over the country that failures are to be attributed, and such failures are only too often put down)

down to incompetency and carelessness rather than to the necessity that such a system involve for trusting your Overseers more than I regret to say they are to be trusted.

7. With the existing establishment a Range Officer though he could make himself thoroughly acquainted with the requirements of his Range in regard to works requiring repairs &c., cannot as satisfactorily supervise expenditure on works carried out in it, so long as there are so many of them, and widely scattered.

8. The Railway or any other Company would never dream of working on the Public Works system, each one of the works above named would be in charge of a separate and responsible officer. A railway Engineer for instance has a limited charge and he could if he liked, and doubtless does go over his work and see it daily - if a Range Officer could see all his work

Seldom over
20 $\frac{1}{2}$ miles - 6 $\frac{2}{3}$ ft

even say once a week, there would be some justice in enforcing individual responsibility. 9. When this very same work, the Vylor Tank was going on, I had charge from October 1870, to April 1871 of both the - Vidalellum and Buddalore Ranges, and in the same interval relieved Coll. Roberts of the Superintending Engrs Office, and held charge of it till Coll. Briceau relieved me. so that I had really not an opportunity of visiting the Vylor Tank and had to trust to the correctness of, and pay upon, the Overseer Certificates which were always accompanied by pit measurements 5/ -

10. I do not mean to say that there should be no responsibility attached to the Range Officer, but that if I am to pay for every cubic yard of earthwork, gravel, clay sand &c. that is not represented by work done, I should like it to be within the bounds of possibility to measure up in detail every work myself, and this is what simply cannot

cannot be done now, and if circumstances such as above related are not to find any consideration with the authorities who dispose of such questions, why a. Orange Officer stands a very good chance of finding himself in the Bankruptcy Court.

11. Mr. Sage in his sheet A shews that only 34743 Cub yds of earthwork has been done against 54454 paid for, or in round number 20000 Cub yds which had no existence were passed.

12. I have the honor now to submit a sheet of cross sections drawn to natural scale + marked Y of 10 ft. to an inch, these cross sections have been replotted from the sheet of Longitudinal + marked X and cross sections put into the hands of the Chief Engr. for Irrigation when he inspected the work in March 1874 only replotted to natural scale, and on it is shown the Bound as it existed on the date of Colonel Mullin's inspection. Attached to this is a sheet of detail quantities taken out of work

work done, also my calculations in verification of these quantities.

13. By this it will be seen that the amount represented by work done is ⁶⁴⁴⁶44648 against 54454 Cub yds leaving 9806 Cub yds to be accounted for, deduct from this 5 per cent for wear and tear in the last 5 years - leaves 9316 Cub yds unrepresented by work instead of 18500 Cub yds.

14. In these calculations no allowance has been made for Bank carried away by floods during progress of work. In Nov^r 1871 during the Cyclone the several Odays falling into this tank, and shown in the Original survey, came down in full force, and the Oday nearest the old tank carried away the bank before it, and caused a considerable breach, owing to the work being perfectly new and unconsolidated. This was refilled from the original estimate, and forms part of the work paid for, I am unable to give the quantity of earth taken up for this, but
judging

judging from the quantity required to close
the present breach I should say about 3,000

lbs were expended in closing this breach.

And making good other damages sustained,
The Bund at this beach

~~which~~ has since stood - In cyclone of May/72,

during the heavy rainfall, I am in

formed that the tank was breached again,

but this time in exactly the same place it

has now breached, this was closed again,

imperfectly closed & I believe the top of bund

had not been taken to F.T.L., however

imperfectly closed as it was, the earthenwork

I am told was all paid for out of original

estimate, and may be roughly estimated at

another 3000 lbs. leaving about, in round

number, 3300 lbs. unrepresented by work

done, which at 1 anna 2 pie per lb. is Rs. 240

15. Under these circumstances above re-

lated I have the honor to request the

Government will be pleased to reconsider

the order passed in their No 1108

* when the tank
in this neighbourhood
- had generally
suffered considerable
damage

of the 19th April 1875

I have the honor to be
Sir

your most obedient servant

Edwards

Ex Engineer in charge of the
D. E. Office & such

My
The difference between Mr Sage's figures
and mine is easily explained. In taking
out new areas Mr Sage utilized only so
much of the existing bund as was ne-
cessary to form a correct section of
the Bund as it is the and his true
lines in most sections do not repre-
sent the ground line proper, which
of course makes a vast difference. His
object being more to ascertain how
much more new work was wanted,
than how much had been done, he
fact had admitted the possibility of
his old areas being only approximate
when I pointed them out to him.

R. E. V.

Explanatory Diagram



Nylon Tank Detail calculations of areas and contents of existing bund

No. of sections	Area	Mean	Length	Contents
0	170.00			
		164.37	185	30408.45
1	158.75			
		155.00	82	12710.00
10	151.25			
		calculated here		
16	152.50			
		161.25	200	32250.00
2	170.01			
		206.38	300	61914.00
3	242.75			
		251.27	300	75381.00
4	259.80			
		211.52	300	63456.00
5	163.25			
		196.87	300	59061.00
6	230.50			
		265.75	300	79725.00
7	301.00			
		284.25	300	84375.00
8	261.50			
		Carried Over		499280.45

1819 Mill House way - 511

G. W. 1895 Sept 1st

From No: 3147

The Dist. Eng. J. A. A. A.

Do the Secretary to the D. P. W.

Dated 9th Dec 11 May 1895

Suburban Estate for

reconstruction with a view of improvement in the subject of expenditure in the construction of the Nylon tank

1895 Dec 1st 1895

Dec 27-5-75 Dec 9-1895

1895 Dec 1st 1895

[Faint handwritten notes and signatures at the bottom of the page]

8	261.50	Brought forward	499280.45
8a	261.50	200	52300.00
9	116.64	100	18907.00
10	273.25	368	71737.92
11	288.52	300	84264.00
12	334.75	300	93489.00
13	273.00	300	91161.00
14	246.00	300	77850.00
15	288.72	300	80208.00
16	242.75	400	106292.00

Total 6 ft. 1175489.37
 or Cub yds 43537

Add for filling in the Oday
 shown in the survey 100' x 100' x 3'
 = 30000 ÷ 27 = 1111

Work paid for 1111
44648
 Overpaid 54454
 Allow 5 per cent for wear & tear 9806
490
9316

Porto Novo
 9 May 1875
 J. H. Smith
 Ex Engineer

sections	Calculations of areas
100	$\frac{1.50}{2} \times 10 + \frac{1.50+8}{2} \times 10 + \frac{8.00+8.50}{2} \times 5 + \frac{8.50+2.50}{2} \times 10 + \frac{2.50}{2} \times 15 = 170.00$
1	$\frac{1.75}{2} \times 10 + \frac{1.75+7.50}{2} \times 10 + \frac{7.50+8}{2} \times 5 + \frac{8+2}{2} \times 10 + \frac{2}{2} \times 15 = 158.75$
1a	$\frac{2.00}{2} \times 10 + \frac{2+6.50}{2} \times 10 + 6.50 \times 5 + \frac{6.50+2.70}{2} \times 10 + \frac{2.70}{2} \times 15 = 151.25$ <i>calculated</i>
1b	$\frac{2}{2} \times 10 + \frac{2+6.50}{2} \times 10 + 6.50 \times 5 + \frac{6.50+2.50}{2} \times 10 + \frac{2.50}{2} \times 18 = 152.50$
2	$\frac{1.83}{2} \times 18 + \frac{1.83+8}{2} \times 8 + \frac{8+8.83}{2} \times 4 + \frac{8.83+1.25}{2} \times 14 + \frac{1.25}{2} \times 16 = 170.01$
3	$\frac{3}{2} \times 20 + \frac{3+9}{2} \times 10 + \frac{2+9.50}{2} \times 5 + \frac{9.50+2}{2} \times 14 + \frac{2}{2} \times 26 = 242.75$
4	$\frac{2}{2} \times 28 + \frac{2+9}{2} \times 15 + \frac{2+8.83}{2} \times 6 + \frac{8.83+2}{2} \times 14 + \frac{2}{2} \times 20 = 259.80$
5	$\frac{3}{2} \times 10 + \frac{3+6.50}{2} \times 10 + 6.50 \times 6 + \frac{6.50}{2} \times 19 = 163.25$
6	$\frac{4}{2} \times 11 + \frac{4+9}{2} \times 12 + 9 \times 5 + \frac{9}{2} \times 19 = 230.50$
7	$\frac{5.50}{2} \times 11 + \frac{5.50+10}{2} \times 13 + 10 \times 6 + \frac{10}{2} \times 22 = 301.00$
8	$\frac{5}{2} \times 13 + \frac{5+9}{2} \times 11 + \frac{2+10}{2} \times 6 + \frac{10}{2} \times 19 = 261.50$
8a	same section as above, may be taken to top of sluice before the breach 200' long
9	$\frac{5.83}{2} \times 10 + \frac{5.83+7}{2} \times 6 + \frac{7}{2} \times 14 = 116.64$
10	$\frac{5.50}{2} \times 17 + \frac{5.50+9}{2} \times 12 + 9 \times 8 + \frac{9}{2} \times 15 = 273.25$
11	$\frac{1.50}{2} \times 15 + \frac{1.50+8.85}{2} \times 21 + 8.85 \times 8 + \frac{8.85+1.50}{2} \times 16 + \frac{1.50}{2} \times 20 = 288.52$
12	$\frac{1.50}{2} \times 20 + \frac{1.50+9.50}{2} \times 28 + \frac{9.50+10}{2} \times 7 + \frac{18.60+1.50}{2} \times 15 + \frac{1.50}{2} \times 15 = 334.75$
13	$\frac{1}{2} \times 25 + \frac{1+8}{2} \times 28 + \frac{8+8.50}{2} \times 6 + \frac{8.50}{2} \times 20 = 273.00$
14	$\frac{1}{2} \times 20 + \frac{1+8}{2} \times 24 + 8 \times 6 + \frac{8}{2} \times 20 = 246.00$
15	$\frac{2.84}{2} \times 48 + \frac{2.84+7.50}{2} \times 18 + 7.50 \times 7 + \frac{7.50}{2} \times 20 = 288.72$
16	$\frac{1.25}{2} \times 25 + \frac{1.25+6.50}{2} \times 20 + 6.50 \times 6 + \frac{6.50}{2} \times 10 = 242.75$

P. M. D.

Proceedings of the Madras Court.
Read the following:-

From the D. S. Supt., South Arcot (H. E. No 37 dated 9 May 75)

G. O. no: 1131 of 10th June 1875. The Honorable the
Governor in Council sees
no reason to modify the
orders passed on the Vyllore
Tank Project in G. O. No 108
of the 19th April 1875. The
fact that for the formation
of the bund a certain quantity
of earth work was provided
and that where, as is clearly
shown by the longitudinal
and cross sections, the bank
was very far from complete
the work was passed as finished,
and more than the full
quantity was paid for,
is conclusive evidence that
this work was not examined.
To this has to be added the
other fact that the supplemental
estimate

MR
1/6

MR

LB

South Arcot

Mr. 3142/75

90-10th June 75

in B. 926 2/11

estimate provides for 23.195 Cubic yards additional, to close the breach and complete the work before paid for but never done. It is quite unnecessary to ensure perfect accuracy in the estimate of overpayments. Were Mr. Norfor's calculations deemed deserving of acceptance there would remain to be explained the way in which the great difference in quantities had been disposed of. The Government have required the refund of a part only of the loss sustained owing to the great carelessness of Mr. Norfor and others, and these officers might with justice have been required

to bear the entire loss.

Mr. Norfor's plea that press of work was the cause of the imperfect examination of the work done in connection with this project is not admissible. With proper arrangements a full and complete examination would have occupied but an extremely short time, and it must be noticed that it is such neglect of duty as has occurred in this case which places temptation in the way of subordinates and demoralizes the subordinate Agency of the Department generally. On this account alone it is a primary duty of the Government to visit with due ^{severity} punishment any clear and serious neglect on the part of responsible

Officers to thoroughly ex-
amine work done, and
His Excellency in Council
is convinced that the
present is a case ~~which~~
~~calls for the enforcement~~
~~of such punishment~~
~~as is justified~~
which admits
of no excuse.

D. B. Smith Amt ✓
Chas. L. W. ✓
A. M. W. ✓

S. C. Disps. 22. 6. 75

The 6th of July
1875 was a
very busy day with the
court.

D. B. Smith
X 217-215

9/6/75

3/4 7

Govt. of Madras.

PUBLIC WORKS.

25

Handwritten:
The following
is a list of
the work

Dated

Issued

Recd.

Encl.

G.O. No. 10 June 1875

No. 217-218

Vaylore Tank Project,
South Arcot.— Declining
to modify the orders
passed in the —
in G.O. No. 1108 of the
19th April 1875, and giving
reasons why such a
course must be adopted.