

(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. 46147.	2326	Press Mis.
Dated	4-10-	1872.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
4th October 1872*

No. 46. Read the following letter from the Officiating Superintending Engineer, 3rd Division, to the Secretary to Government, Public Works Department, dated Bellary, 13th September 1872, No. 1,360 :—

I HAVE the honour, with reference to paragraph 2 of G. O., No. 2,037, dated 27th August 1872, to request that the balance, Rupees 4,400, from savings effected from the grant for "House-rent to Military and Medical Subordinates" may be made available for expenditure on "Military Repairs" for works in the Cantonment of Bellary.

2. The grant under this head in the Budget is Rupees 25,000, made up as under —

	Rs.
Minor repairs to Military Buildings	17,340
House-rent	3,000
Cantonment Roads	4,660
Total ..	25,000

3. In sanctioning estimates this Office has always confined itself to the limit amount for "repairs," as the other two sums are appropriated for the special purposes for which they are allowed. In fact the amount for Cantonment Roads is handed over to the Municipality, under whose charge all the roads in the station are placed.

4. I attach to this letter a statement showing the distribution of the *net* allotment for repairs, which has been prepared after obtaining the Executive Engineer's opinion as to reducing the estimates by those items which may be allowed, either to stand over or be omitted altogether, as not absolutely necessary. This was done with the view of placing the expenditure level with the grant, but I regret to say that I fail to attain the desired result, as some of the works are of so important a nature that the repairs must be looked to at once to save, perhaps, an enormous outlay on them hereafter.

5. The two most important works entered in the statement are the "Alipoor Tank Project" and "Repair of the roofs of the family quarters of Her Majesty's 48th Regiment."

The former work is a new construction, having been commenced in 1867-68, and reported completed so as to receive a supply of water in 1870-71, at a cost of Rupees 69,300 *plus* Rupees 9,802, since added on to meet the cost of Sapper labour not paid for at the time. Thus the total amount is Rupees 79,102.

6. In paragraph 6 of the Administration Report for 1871-72 for this division, it is noted that Mr. Fraser, C. E., Executive Engineer, recommended certain improvements, etc., as being absolutely necessary to complete the work. This was found to be chiefly rebuilding of the stone revetment, which was in several places showing signs of slipping. It was of the utmost importance to look to this speedily so as to secure a supply of water during the present monsoons. Colonel Moberly permitted work being proceeded with on the worst portions (pending receipt of the estimate) from the grant for "Repairs Military." This estimate, you will observe, amounts to Rupees 7,745, a sum which, I am sure, was never intended to be met from the *net* grant of Rupees 17,340 for repairs, as the allotment for buildings alone has been shown to be manifestly insufficient, necessitating, as it does, the keeping over of repair estimates from year to year.

7. I yesterday inspected the Alipoor tank again, and, in consultation with Mr. Fraser, considered some revision in the estimate desirable, but in the hope of

*Proceedings of the Madras Government, Public Works Department,
4th October 1872.*

securing a supply of water during the later rains I have permitted work being proceeded with; I therefore trust that the amount set down for this item may be allowed to stand, as I do not think the difference between this estimate and that to be submitted will be great. I must, however, here record my opinion that a large expenditure will be necessary to put this work in a safe and efficient condition. The tank revetment was partly constructed by Sappers, partly by contract. The former rests on gravelly soil, and may, I think, be left untouched; the latter rests on black cotton soil, the "backing" appears to be nothing but decomposed rock in a loose state, the revetment is everywhere bulging out or slipping, and, in short, I consider all this portion of the revetment must be rebuilt and properly backed. The revetment now being re-constructed is in this latter portion, and includes the most dangerous part of the whole, i.e., that across the original nullah, where of course the depth of water in the tank is greatest.

8. It must be understood that the present estimate only provides for the repairs most emergently required; I fear that before the water supply can be placed on a sure and satisfactory footing a very considerable further expenditure will be required to—

1st—Reconstruct the remaining portion of the revetment built on contract.

2nd.—Strengthen the embankment of the supply channel from the chuttram nullah, involving a good deal of additional revetment.

3rd.—Alter the direction of the commencement of the supply channel from Alipoor tank, which now passes through low ground, beyond which is a length obstructed by rocks, which causes the water to stand back and constantly breach the embankment.

4th—Strengthen in places the embankment of the supply channel from Fischer's tank, and re-apportion the slope which in one part is far too small and in another unnecessarily great.

These are the principal points requiring attention, and to carry them out, as before said, considerable expenditure will be required. Mr. Fraser is now engaged in the preparation of the estimate, which it is hoped will be shortly submitted.

9. I may here mention that the work now being carried out is of a first class character. The foundation of the revetment has been carried down to the gravel; no stones of less than a certain length have been admitted; the stones have been laid with their greatest dimension in the embankment, the beds being at right angles to the batter, and an excellent backing has been provided consisting of good gravel laid in 3-inch layers, each well tamped with water.

10. Within the last few days we have had very heavy rain, which has caused sundry breaches in the supply channels which are now being repaired. I am however happy to be able to report that, in spite of this, the Fort ditch is fuller than it has been for many years, and that the large tank is also brimful; considering that we have yet to receive the north-east monsoon, I think all fear regarding the water-supply until the next south-west monsoon may be said to be past.

11. It is of the utmost importance that the repairs to the European Infantry family quarters should be pushed on as fast as possible. Owing to the inferior description of tiles to be obtained in Bellary, these buildings used to leak very much, and were a constant source of complaint. The tiles were removed, and those selected as well-seasoned are being relaid with other seasoned tiles obtained

*Proceedings of the Madras Government, Public Works Department,
4th October 1872.*

from dismantled buildings and in the market. The work is satisfactorily progressing on the reduced estimate of Rupees 4,194.

12. The "Alipoor Tank Project" is purely a Military work, and as such repairs, whether minor or extensive, must be met from the grant for repairs, I trust that some provision may be made in next year's Budget by increasing the grant for "Military Repairs" for this, and for carrying out work on those estimates kept over or which have not been prepared for want of funds.

Statement showing the re-distribution of allotments on Repair Military Works under progress in the Bellary and Hospett Ranges during 1872-73.

Name of Work.	Amount of Estimate	Amount expended during 1871-72	Amount allotted in 1872-73	Amount recommended to stand over	Amount actually required during 1872-73
1	2	3	4	5	6
<i>Bellary Range.</i>	RS.	RS	RS.	RS	RS.
Works already completed as per Register of allotments ..		...	1,044	...	1,044
Brigade Major's Office ..	1,050	300	750	...	750
4th and 16th Native Infantry Barracks repairs	2,480	1,239	1,241	...	1,241
2nd Light Cavalry Barrack repairs	1,270	300	971	317	653
European Infantry Hospital	4,908	500	4,408	3,908	500
Plunge-bath, European Infantry	68	..	68	...	68
Artisan and Plunge-bath wells	320	...	320	...	320
Artillery Barrack Family Quarters	533	...	533	...	533
Lock Hospital repairs ..	773	...	773	...	773
Garrison Prison ..	143	..	143	...	143
Repairing the Racket Court ..	90	...	90	..	90
Do Pankab, European Infantry Barracks ..	160	...	160	..	160
Armourer's Shop, etc., in the Arsenal	331	..	331	...	331
Barrack Serjeant's Quarters ..	43	...	43	..	43
Store Serjeant's Quarters, Arsenal	337	..	337	...	337
Abore Tank ..	7,745	...	...	..	7,745
Repairing Family Quarters, European Infantry ..	5,094	...	...	900	4,194
Do the floors, etc., of the 2nd Light Cavalry, 4th and 16th Regiments Native Infantry Place of Arms ..	5,955	..	...	5,955	...
Fitting in ridge ventilators in Garrison Church ..	29	..	...	...	29
Roof of No 5 Barracks ..	37	..	...	...	37
Do Barracks and Family Quarters, Royal Artillery ..	922	..	...	...	922
White-washing Family Quarters, Royal Artillery ..	466	..	...	...	466
<i>Hospett Range.</i>					
Works in progress in Hospett Range	1,220	300	920	920	920
Amount actually required for estimates sanctioned and pending sanction on emergent works ..	...	...	...	...	21,299
Budget allotment for Military repairs ..	...	...	...	...	17,340
Difference required ..	...	...	...	...	3,960

NOTE—Amount of estimates kept over or reduced (as per this Statement) for want of funds
Rupees 11,080.
BELLARY,
13th September 1872.

(Signed) J. VERTUE, Major, R E,
Offg. Superintending Engineer, 3rd Division.

No 47. ORDER THEREON, 4th October 1872, No. 2,326.

ACCOUNT, No. 3.

In his letter printed with G. O. No. 578 of 2nd March 1872, Lieutenant-Colonel A. Moberly reported that

the works for bringing water into the Bellary Cantonment had been so far successful that a supply had been let into the existing reservoirs sufficient to remove all apprehensions of a scarcity of water for the current year. But that a supplemental estimate would have to be submitted for rectification of defective levels, and completion of certain tank work; the amount of which was not however likely to be so large that it could not be met from the ordinary allotment under "Repairs Military."

2. Major Vertue now reports submission by the Executive Engineer of an Estimate of Rupees 7,745 for emergent repairs consisting chiefly of rebuilding stone revetments of the Alipoor tank, progress with which he has been obliged to sanction, but of which he is unable to meet the cost from the Military Repair allotment. He states further that a very considerable expenditure will be required before the water-supply can be placed on a sure and satisfactory footing; much expenditure being contemplated as necessary under the following heads, namely.—

1st.—Re-constructing the whole of the tank revetments built on contract, not already emergently rebuilt.

2nd.—Strengthening the embankments of the supply channel throughout.

3rd.—Altering the alignment of the supply channel between Alipoor tank and the supply channel of Fischer's tank.

4th. Strengthening the embankments of the supply channel from Fischer's tank and rectifying its levels.

3. His Excellency the Governor in Council is unwilling that the ordinary allotment for repairs of Military buildings at Bellary, the amount of which was fixed independently of the water-supply works, should be reduced by more than one-third to meet their requirements; but the savings under the head alluded to in paragraph 1 of the Superintending Engineer's letter have already been allotted to other Military works. Pending provision of funds Major Vertue will carry out such work as is really emergent, and will hasten the submission of the estimate for satisfactory completion of the supply project. In forwarding it he will report in detail the causes of increased expenditure, and the individuals responsible for bad work or incorrect levels.

(True Extract.)

Colonel, R.E.,

Secretary to Government.

To the Officiating Superintending Engineer, 3rd Division.

.. Controller of Public Works Accounts

.. Military Department.

Exd. S. T. Austin.

The Lt. Sup. requests
to return of the
submission of the
estimate of Rs 7745
for emergent repairs
to the Alipoor tank
Revetments &
alluded to in Major
Vertue's letter of 13th Sept
of 1872. He may
be informed when
Govt. may expect
to receive the estimate
for completion
of the entire
water supply project
in a satisfactory

The 5
 former estimates
 it is proposed
 will be embodied
 in the latter, and
 the whole amount
 to be supplemented
 by the Government
 Rs. 4/15/65000
 (Rs. 73,102), and
 accompanied by
 a comparative
 statement showing
 excess at each
 point of the work
 [Signature]

Enclosures. /

No. 1360. Superintending Engineer's Office,
 3rd Division.
 Bellary 13th September 1872.

From,
 The Superintending Engineer
 3rd Division.

To, The Secretary to Government
 Public Works Department
 Fort St. George

Sir,

I have the honor, with reference
 to para 2 of G.O. No. 2037 dated 27th Aug.
 1872, to request that the balance Rs. 1,000.
 from Savings effected from the grant
 for "House rent to Military and Medical
 Subordinates" may be made available
 for expenditure on "Military Repairs"
 for works in the Cantonment of Bellary.

2. The grant under this head in the
 Budget is Rupees 25,000/- made up as under:
 Minor repairs to Military Buildings Rs. 17,340.
 House rent ————— 3,000.
 Cantonment roads ————— 4,660.
 Total Rupees ————— 25,000.

3. In sanctioning Estimates this Office
 has always confined itself to the limit
 amount for "repairs" as the other two

Summs are appropriated for the special purposes for which they are allowed. In fact, the amount for Cantonment Roads is handed over to the Municipality, under whose charge all the roads in the Station are placed.

4. I attach to this letter a statement showing the distribution of the net allotment for Repairs, which has been prepared, after obtaining the Executive Engineer's opinion as to reducing the estimate by those items which may be allowed, either to stand over, or be omitted altogether, as not absolutely necessary. This was done with the view of placing the expenditure level with the grant, but I regret to say that I fail to attain the desired result, as some of the works are of so important a nature that the repairs must be looked to at once to save perhaps an enormous outlay on them hereafter.

5. The two most important works entered in the statement are, the "Alepor Tank project, and Repairs of the Roofs of the Family Quarters of Her Majesty's 40th Regiment."

The former work is a new construction

having been commenced in 1867/68 and reported completed, so as to receive a supply of water in 1870/71 at a cost of Rs. 69,300 the plus Rs. 9,802; since addition to meet the cost of sapper labor not paid for at the time. Thus the total amount is Rs. 79,102.

6. In para 6 of the Administration Report for 1871/72, for this Division it is noted that Mr. Isaac C. Executive Engineer, recommended certain improvements via as being absolutely necessary to complete the work. This was found to be the Chiefly Rebuilding of the Stone Pavement, which was in several places showing signs of slipping. It was of the utmost importance to look to this speedily so as to secure a supply of water during the present monsoon. Colonel Mollerly permitted work being proceeded with on the worst portions (pending receipt of the estimate) from the grant for Repairs, Building. This estimate you will observe amounts to Rs. 7745, a sum which I am sure was never intended to be met from the net grant of Rs. 17,340/- for Repairs, as the allotment for buildings alone has been shown to be manifestly insufficient, necessitating, as it does, the keeping over of Repairs Estimate.

from Year to Year.

1. I yesterday inspected the Aleppo Tank again, and in consultation with Mr. Isaac, considered some repairs in the Estimate desirable, but in the hope of securing a supply of water during the late rains, I have permitted some of the having proceeded with it. I therefore, trust that the Council will set down for this item may be allowed to stand; as I do not think the difference between the Estimate and that to be submitted will be great. I must, however, here record my opinion that a large expenditure will be necessary to put this work in a safe and efficient condition. The Tank Revetment was partly constructed by Lappers, partly by Contract. The former rests on gravelly soil, and may, I think, be left untouched; the latter rests on Black Cotton soil, the backing appears to be rotting but decomposed rock in a loose state, the Revetment is everywhere bulging out, or slipping, and in short, I consider all this portion of the Revetment must be rebuilt and properly backed. The Revetment now being reconstructed is in this latter position, and includes the most dangerous part of the whole - i.e., that across the

- original Nullah, where of course the depth of water in the Tank is greatest.
2. It must be understood that the present Estimate only provides for the repairs most emergently required; I fear that before the water supply can be placed on a solid and satisfactory footing a very considerable further expenditure will be required to:-
1. Reconstruct the remaining portion of the Revetment built on Contract.
 2. Strengthen the Embankment of the Supply Channel from the Chuttram Nullah, involving a good deal of additional Revetment.
 3. Alter the direction of the Commencement of the Supply Channel from Aleppo Tank, which now passes through low ground, beyond which is a length obstructed by rocks, which causes the water to stand back, and constantly breach the Embankment.
 4. Strengthen in places the Embankment of the Supply Channel from Fischer's Tank, and re-appoint the slope, which in one part is far too small, and in another unnecessarily

great. These are the principal points requiring attention, and to carry them out, as before said, considerable expenditure will be required. Mr. Fraser is now engaged on the preparation of the estimate, which it is hoped will be shortly submitted.

9. I may here mention that the work now being carried out is of a first class character. The formation of the Kerement has been carried down to the gravel, no stones of less than a certain length have been admitted; the stones have been laid with their greatest dimension in the embankment, the beds being at right angles to the batter and an excellent backing has been provided consisting of good gravel laid in 3 layers, each well tamped with water.

10. Within the last few days we have had very heavy rain, which has caused sundry breaches in the supply channels - which are now being repaired. I am however, ^{happy} to be able to report that, in spite of this, the Fort Ditch is fuller than it has been for many years, and that the large tank is also brimful. Considering that we have yet to receive the N.E.

monsoon, I think all fear regarding the water supply until the next S.W. Monsoon, may be said to be past.

11. It is of the utmost importance that the repairs to the European Infantry Family Quarters should be pushed on as fast as possible. Owing to the inferior description of tiles to be obtained in Bellary, these buildings used to leak very much, and were a constant source of complaint. The tiles were removed, and those selected as well-seasoned are being relaid with other seasoned tiles obtained from dismantled buildings, and in the market. The work is satisfactorily progressing on the reduced estimate of Rs 494.

12. The "Alipor Tank Project" is purely a Military work, and as such repairs, whether minor or extensive, must be met from the grant for repairs. I trust that some provision may be made in next year's Budget by increasing the grant for "Military Repairs" for this, and for carrying out work on some Estimates kept over, or which have not been prepared for want of funds.

I have &c.
James F. T. Major &c.
Offg. Superintending Eng.
310

Statement showing the re-distribution of allotments on Repair Military Works under progress in the Belcan and Hospite Ranges during 1872-73.

Name of work	Amount of Estimate	Amount Expended during 1871/72	Amount allotted in 1872/73	Amount recommended to be sanctioned over during 1872/73.	Amount	Remarks
	2	3	4	5	6	7
<u>Belcan Range</u>						
Works already completed as per Register of Allotments—	"	"	1044	"	1044	
Brigade Major's Office—	1050	300	750	"	750	
1 st and 16 th Native Infantry Barracks repairs—	2450.	1239.	1241	"	1241	
2 nd Light Cavalry Barrack repairs—	1270.	300.	971	317	653	
European Infantry Hospital—	4908	500	4400.	3908.	500.	
Plunge bath European Infantry—	68.	"	68.	"	68	
Artisan and Plunge bath Wells—	320	"	320.	"	320.	
Artillery Barrack Family Quarters—	533.	"	533.	"	533.	
Lock Hospital repairs—	773	"	773.	"	773.	
Garrison Prison—	143	"	143	"	143	
Repairing the Rocket Court—	90	"	90	"	90	
Or Purbah European Infantry Barracks—	160	"	160	"	160	
Armourer's Shop &c in the Arsenal—	331.	"	331	"	331	
Barrack Sergeants Quarters—	43.	"	43.	"	43	
Store Sergeants Quarters Arsenal—	337.	"	337	"	337.	
Alford Tank—	7745.	"	"	"	7745	
Repairing Family Drs. European Infantry—	5894.	"	"	900.	4994	
Repairing the floor &c of the 2 nd Light Cavalry	5955.	"	"	5955.	"	
4 th and 16 th Regt. N. I. Placing Arms—						
Fitting in Ridge Ventilators in Garrison Church—	29.	"	"	"	29.	
Roof of 1 st Barracks—	37	"	"	"	37	
Roof of Barracks and Family Quarters Royal Artillery—	922.	"	"	"	922.	
Whitewashing Family Quarters Royal Artillery—	466.	"	"	"	466	

Hospite Range

Works in progress in Hospite Range—	1220	300	920		920	
Amount actually required for Estimates sanctioned & pending sanction on urgent works—					21299	
Budget Allotment for Military Repairs—					17340	
(Difference required—					3960	

Amount of Estimates kept over or reduced (as per Item 11000 Statement) for want of funds.

Supd. Engr. Messrs
Belcan 13 Sept. 1872

James W. W. Major R.E.
Supt. Engr. Engineer Corps

To,
The Secretary to Government,
Public Works Dept.
Ind. Charge
No. 1360.
Dated 28 September 1872.
Received
ENCLOSURES 1/1

The Superintending Engineer
3rd Division.

Alotment of accounts
for the year ending 31st Dec 1872
under the special
circumstances of the
year.

Public Works Department
 No 2325
 Proceedings of the Madras Government

Read the following
 Resolution

From The Supt Engineer

3rd Ser. No 1360 of 13th Sept 1872

To the Secy to Govt

In his letter

printed with P. O. No 578 of 2nd March 1872

to the Secy to Govt

Substant Colonel A

Moberly reported that

the works for bringing

water into the Billai

controversial, shall be

so far successful that

This is a most important work - the water supply at Bellary, being so very uncertain. The momentum of the mounted portion of the Government to the banks of the Coombrooda was contemplated at the time this year & but a timely fall of rain obstructed the progress. Any facility that be given for the completion of the Bellary project -

a supply of water for the current year. But that a

Statement showing
 the distribution of
 all the funds

P. N. 4533/72

Secy

Order 13 of 1872

to the Secy to Govt
 Sub: Works Dept

to the Secy to Govt
 Sub: Works Dept

1872-73

1. it will report in
2. detail the causes of
3. increased expenditure
4. and the individuals
5. responsible for bad
6. work or incorrect levelling
7. of the road.
8. The committee will
9. determine the causes
10. of the expenditure and
11. the individuals responsible
12. for the bad work or
13. incorrect levelling of
14. the road.
15. The committee will
16. determine the causes
17. of the expenditure and
18. the individuals responsible
19. for the bad work or
20. incorrect levelling of
21. the road.

To Mr. L. E. 32-8-1
- Controller General
- Public Works
Despatch 9/10/72

Op 4533

Gobt. of 1872 Madras.

PUBLIC WORKS.

*The Officiating Superintendent
Engg & Division*

Dated

Recd.

Encl

City
G. O. 4. 2326.

Nos. 46 & 47

Funds. Papering orders
in letter from the Engineer
who is applying for
an increased allotment
of funds under "Repairs
Military."