M.R.O. 1—77,006—8-6-37.

(1) Number of pages 44

(2) Date of repair 13-3-44

(3) Initials of the Referencer

MADRAS RECORD OFFICE.

Government of Madras.

Public works **DEPARTMENT.**

G.O. No. 1140 Press / Mis.

440-41

Dated 29. 4 1870.

Not to be folded or roughly handled

No. 440. Read the following letter from the Superintending Engineer, 5th Division, to the Secretary to Government, Public Works Department, dated Cuddalore, 29th March 1870, No. 220 :—

I HAVE the honour to forward, for the sanction of Government from the Reserve of 1870-71, an estimate of Rupees 6,000, for completing the Pombay channel in South Arcot.

One estimate.
One section per banghy.

2. In my letter of the 25th January 1869, I reported that there was likely to be a saving of Rupees 4,400 on the estimate* for this channel, and Government, in their Order of the 18th of February, No. 536, sanctioned this amount being laid out in building bridges and otherwise improving the channel. The necessity for a supplemental estimate will, therefore, require some explanation.

* Rupees 45,400.

3. At the time of my inspection, the channel was confessedly incomplete, and work was in progress in several portions ; but, as most of the masonry works had been built, the channel opened out from end to end and water had passed down to the Pombay river, and the tanks on the way had been supplied, I accepted the Range Officer's estimate. I could not have ascertained the irregularities in the slope without taking a longitudinal section, and I understood that the Talook Overseer had tested the work from time to time with a level.

4. It now appears that the estimate of work remaining to be done was not based on any detailed measurements, but was obtained by valuing the remainder of the earth-work at 1,000 rupees, to which was added the cost of completing the sluices. A mistake was also made in not including in the cost of the channel the value of work lately done but not paid for. In fact, there was no available surplus at the time, and the balance of the estimate would have just sufficed to complete the channel.

5. These mistakes might have been, and probably were, discovered before much progress was made with the extra works, but they were not brought to my notice ; and in the Progress Report for April and following months the remark against the channel was as follows :—

" The works of the channel have been all but completed. All that now remains to be done is the sloping of the channel sides in a few miles, strengthening the embankments in a few places, and other trifling works. The additional works sanctioned in G. O., No. 536, of the 18th of February 1869, are all in progress."

Captain Howard, the Range Officer, who had charge of the channel from its commencement, left on sick leave in April 1869, and the present Range Officer, Mr. Barnardo, did not join the range till July 1869. He informs me that from observing the flow of the water, he suspected the channel had not been cut properly in some places, but, as there was water in it from August to the end of the year, he could not get a longitudinal section of the channel taken before January, and no estimate could be prepared till the section had been taken.

6. The section shows that the first three miles of the channel have been cut correctly ; that some further cutting is required in the fourth, at the commencement of the fifth, and in the sixth, seventh, and tenth miles, while in the eighth

and ninth miles the excavation has been carried down below the level of the proper bed of the channel. No great loss, however, has been caused by the extra cutting, as in general, at these places, there were side embankments to be formed, for which the earth was used, and the hollows may be expected to fill up gradually.

7. One reason for the channel not having been cut to the full depth in some portions is no doubt that the portions remaining to be cut are through hard rock. Now in the original estimate nothing whatever was allowed for the removal of rock. The highest rate was 1½ annas the cubic yard, and for the greater part of the earth-work only one anna was allowed. It is impossible to get rock removed for these rates, and the nature of the soil having now been ascertained higher rates have been allowed in the supplemental estimate.

8. The Pombay channel, instead of being completed within its estimate of Rupees 45,400, will have cost Rupees 51,400; but in this latter sum are included all the extra works, and also repairs and maintenance during three years. The channel has also come into operation, though not yet completed; I regret that Government should have been induced to sanction the extra works on the representation that the estimate would not be exceeded. However, the extra works, that is the bridges, are really required and are what the Government of India have directed should be provided for all large channels.

No. 441. ORDER THEREON, 29th April 1870, No. 1,140.

IRRIGATION, No. 27.

IN February 1869 the Government were induced, on the report of the Superintending Engineer, 5th Division, that there would be a saving of Rupees 4,400 on the Pombay channel, the sanctioned estimate of which amounted to Rupees 45,400, to sanction the execution of certain additional works, nearly all of which were for the convenience of the villagers. It now appears that there had been no saving, but that on the other hand, where the channel was incomplete, the estimate rates were insufficient for its completion; and, as the result of the want of a complete record of the work done, the Government are now asked to grant supplemental sanction to the extent of Rupees 6,000.

2. The Government consider that had the work been carried out in a regular and proper manner, and had the depths of excavation been measured from bench-marks, no such mistake as has occurred could have taken place, and His Excellency the Governor in Council must notice with displeasure the serious irregularity committed by Captain Howard in estimating by guess the work, which remained to be done some eighteen months ago, instead of ascertaining the exact state of the channel from actual measurements, which latter, it may be remarked, ought to have been forthcoming in support of the expenditure incurred, quite irrespective of the proposition to carry out extra works from supposed savings.

3. The Superintending Engineer should have required, the Government consider, such particulars of the then state of the work as would have enabled him to see whether the Range Officer's estimate of the cost of the work remaining to be done had been accurately made out, as also that every requirement of the channel, so far as provided for in the sanctioned estimate, would be duly secured within the revised estimate of its cost.

4. The supplemental estimate Rupees 6,000 is sanctioned, but, with reference to the concluding part of the Superintending Engineer's letter, it must be noticed that, if the extra works were really necessary, they should have been included in the original estimate, and their necessity does not make the circumstances, under which sanction for them was obtained, any the less unsatisfactory.

5. The additional funds required will be allotted from the Reserve under "Agricultural" for 1870-71.

(True Extract.)

Major, R.E.,
Acting Joint-Secretary to Government.

To the Superintending Engineer, 5th Division.
,, Controller of Public Works Accounts.

Exd. E. C. Shunker.

Agricultural. Fifth Division D.P.W. Original work

South Arcot District. No: 3 Range. Villapuram Taluq.

Abstract of a Supplemental Estimate of 1870.71

Work. Cutting the Bombay Channel from the Northern end of the Ponniar Anicut to supply a portion of the Villapuram Taluq

Remarks. This Estimate provides for completing the Bombay Channel in all its parts viz clearing the bed of channel as shewn in the accompanying Section, Strengthening embankment in 5th 8th and 9th miles. completing the Slopes to Sides of channel in 6th, 7th, 10th and 11th miles removing rock in 6th and 7th miles. and completing the additional works sanctioned in G. O No. 536 dated 18th February 1869.

Quantity	Description of Work	Rate	Per	Amount	Total
	Cutting.				
4310	Cub yds of Earth work (Rocky Soil)	4	Cyd	1077 8	
2125	do of do do	3	do	398 7	
1900	do of do	2	do	237 8	
2083⅓	do of do	1 6	do	195 5	
2916⅔	do of do	1 3	do	227 13 10	
2298⅓	do of do	1	do	143 10 4	2280 4 2
	Embanking.				
672	Cub yds of Earth work	1 6	do	63	
4080	do of do	1 3	do	318 12	
2920	do of do	1	do	182 8	564 4
	Carried forward				2844 8 2

	Brought forward					2824	8 2
	Sloping-						
8264	Cub: yds of Earth work			16 Cyp	774 12		
3818 3/4	—do— of —do—			13 do	298 5 5		
973 1/2	—do— of —do—			1 do	60 13 6	1133 14 11	
48	—do— of Rock blasting & removing			1 12 do	84	84	
150	—do— of Revetting with rough Stone			1 do	150	150	
4	Bridges (for completing)					1824	
	Stone Steps					200	
	Maintaining Channel & until 31st March 1870					234	8 11
	Sundries					29	
	Total Amount of Supplemental Estimate Rupees					6000	

No: 3 Range Office South Arcot
Camp Moolatthoor 12th March 1870

(Signed) G. C. F. Barnardo B.A.
Assistant Engineer

Ed Ford Colonel R.E.
Superintending Engineer 5th Div.

Fifth Division D.P.W.

South Arcot District.

W. 1252/70.

Abstract of a Supplemental Estimate for Cutting the Pombay Channel from the Northern end of the Pounian Anicut to supply a portion of the Villapuram Taling

Amount of Estimate Rs: 6000

№ 220 Superintg: Engr's Office, 5th Division,
Cuddalore, 29th March 1870.

From,
The Superintending Engineer,
5th Division.

To,
The Secretary to Government,
Public Works Department,
Madras.

Sir,

I have the honor to forward, for the sanction of Government from the reserve of 1870-71, an estimate of Rupees 6000.- for completing the Pombay channel in South Arcot.

2. In my letter of the 25th of January 1869, I reported that there was likely to be a saving of Rupees 4400.- on the estimate for this channel, and Government, in their order of the 18th of February, № 536, sanctioned this amount being laid out in building bridges and otherwise improving the channel. The necessity for a supplemental estimate will, therefore, require some explanation.

Enclosures
1 Estimate
1 Section per bungly.

* Rs. 45,400.-

At

3. At the time of my inspection, the channel was confessedly incomplete, and work was in progress in several portions. But, as most of the masonry works had been built, the channel opened out from end to end, and water had passed down to the Sombay river, and the tanks on the way had been supplied, I accepted the Range Officer's estimate. I could not have ascertained the irregularities in the slope without taking a longitudinal section, and I understood that the Taluq Engineer had tested the work from time to time with a level.

4. It now appears that the estimate of work remaining to be done was not based on any detailed measurements, but was obtained by valuing the remainder of the earth work at 1000 rupees, to which was added the cost of completing the sluices. A mistake was also made in not including in the cost of the channel the value of work lately done but not paid for. In fact, there was no available surplus at

at the time, and the balance of the estimate would have just sufficed to complete the channel.

5. These mistakes might have been, and probably were, discovered before much progress was made with the extra works, but they were not brought to my notice, and in the Progress Report for April and following months the remark against the channel was as follows:—

"The works of the channel have been all but completed. All that now remains to be done is the sloping of the channel sides in a few miles, strengthening the embankments in a few places and other trifling works. The additional works sanctioned in G.O. No 536 of the 18th of February 1869 are all in progress".

Captain Howard, the Range officer, who had charge of the channel from its commencement, left on sick leave in April 1869, and the present Range officer, Mr Barnardo, did not join the range till July 1869. He informs me that

that from observing the flow of the water, he suspected the channel had not been cut properly in some places, but, as there was water in it from August to the end of the year, he could not get a longitudinal section of the channel taken before January and no estimate could be prepared till the section had been taken.

6. The section shews that the first three miles of the channel have been cut correctly, that some further cutting is required in the fourth, at the commencement of the fifth, and in the sixth, seventh and tenth miles; while in the eighth and ninth miles the excavation has been carried down below the level of the proper bed of the channel. No great loss, however, has been caused by the extra cutting, as in general, at these places, there were side embankments to be formed, for which the earth was used, and the hollows may be expected to fill up gradually.

One

7. One reason for the channel not having been cut to the full depth in some portions is no doubt that the portions remaining to be cut are through hard rock. Now in the original estimate nothing whatever was allowed for the removal of rock. The highest rate was 1½ annas the cubic yard and for the greater part of the earth work, only one anna was allowed. It is impossible to get rock removed for these rates, and the nature of the soil having now been ascertained, higher rates have been allowed in the supplemental estimate.

8. The Bombay channel, instead of being completed within its estimate of Rupees 45400-"-", will have cost Rs. 51,400-"; but in this latter sum are included all the extra works, and also repairs and maintenance during three years. The channel has also come into operation, though not yet completed. I regret that Government should have been

been induced to sanction the extra
works on the representation that the
estimate would not be exceeded. However,
the extra works, that is the bridges, are
really required and are what the Govern=
=ment of India have directed should
be provided for all large channels.

I have the honor to be
Sir,
Your most obedient Servt.

Ed Ford Colonel R.E.,
Superintending Engineer.

Dept.

1140

Proceedings of the Madras Government
Under date the 29th April 1870
Read the following

1252

From the Supg Engineer 5th Division
To The Secty to Govt P W Department
No 220 of 29th March 1870

In February 1869 the Govt were induced, on the report of the Supg Engineer 5th Division that there would be a saving of Rs: 4,450 on the Pambay Channel, the sanctioned estimate of which amounted to Rs: 45,400, to sanction the execution of certain additional works, nearly all of which were for the convenience of the villagers. It now appears that there has been no saving, but that

on

No 1140
Dated 29th March 1870
Rec'd 1st April 1870

Enclosures 2. (plans)
1 E Ledger
No 220.

Pambay Channel.
Forwarding for sanction from the Reserve of 1870-71, an estimate of Rs 6000 for completing the Pambay Channel in South Arcot, and assigning reasons to the original estimate of the work being exceeded.

No 440
13 April 1870 R. 2120

on the other hand, where the channel was incomplete, the estimate rates were insufficient for its completion; and, as the result of the want of a complete record of the work done, the Govt are now asked to grant supplemental sanction to the extent of Rs: 6900.

2. The Govt consider that had the work been carried out in a regular and proper manner, and had the depths of excavation been measured from benchmarks, no such mistake as has occurred could have taken place, and His Excellency the

the Governor in Council must notice with displeasure the serious irregularity committed by Capt. Howard in estimating by guess the work, which remained to be done some 18 months ago, instead of ascertaining the exact state of the channel from actual measurements, which latter, it may be remarked, ought to have been forthcoming in support of the expenditure incurred, quite irrespective of the proposition to carry out extra works from supposed saving.

3. The Supt Engineer should have required, the Govt consider, such particulars of the then state of the work

as

as would have enabled him to see whether the Range Officer's estimate of the cost of the work remaining to be done had been accurately made out, as also that every requirement of the channel so far as provided for in the sanctioned estimate would be duly secured within the revised estimate of its cost.

4. The Supplemental estimate Rs. 6,000 is sanctioned, but with reference to the concluding part of the Sup^{t}: Engineer's letter, it must be noticed that, if the extra works were really necessary they should have been included in the original estimate, and their necessity does not make the circumstances, under which sanction for them was obtained, any the less unsatisfactory.

5. The additional funds required will be allotted from the Reserve under Agricultural for 1870-71.

Ag. 8/4/70

22/5

J. 6 The S. Engr. 5th Dec. ✓
5 Contractor ✓

Despd 4/5/70.

C. No 1252.

Govt. of {1870} Madras.

PUBLIC WORKS.

To The Superintending Engr.
5th Division

Dated

Recd. Jul. 2

G. O. 29 April 1870, No. 1140

Nos. 460-461

Bombay Channel. Re
Supplemental Clothing
of the boys, for Completing
the Bombay Channel,
Sanctioned, with
Remarks.