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MADRAS RECORD OFFICE.

Government of Madras.

Public Works **DEPARTMENT.**

G.O. No. 1277 (0)	Press ~~Mis.~~
Dated 14-4-	1877.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
14th April 1877. No. 1,277.*

Read the following papers :—

No. 334. From Major J. BEATTY, R.E., Officiating Superintending Engineer, Godavery, to the Joint Secretary to Government, Public Works Department, Irrigation Branch, dated Dowlaishweram, 28th November 1876, No. 2,437.

I HAVE the honor to submit a revised comparative statement of the Attili Canal, Western Delta, which shows in the revised estimate 19 instead of 100 minor sluices, also that the head sluices under distributaries (instead of dividing dams under drainage) were built to the Palur

One comparative statement.
One Range Officer's letter No. 245 of 13th September.
One Range Officer's letter No. 340 of 8th November.
and Manchili channels; earthworks for distributaries have been corrected from Rupees 13,770 to Rupees 13,620, and the two under tunnels are not included in the revised estimate. The general result shows a saving of Rupees 4,100 instead of Rs. 2,600.

2. The Range Officer would prefer* excluding the two under tunnels from both sides of the Attili Canal comparative statement, and showing them in the original and revised estimates of Velpur

* *Vide* his letter No. 340 of 8th November 1876.
Canal, but I have informed him that I consider it will be more correct to show them in the original estimate of Attili Canal and the revised estimate of Velpur Canal.

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14th April 1877. No. 1,277.

Main-head.	Sub-head.	Items.	ORIGINAL ESTIMATE.		REVISED ESTIMATE.		Remarks.
			Amount.	Total.	Amount.	Total.	
(2) Main Canals and Branches.	B. Land	Compensation ..	Rs. 4,500	Rs. 4,500	Rs. 4,500	Rs. 4,500	† Nearly finished. Revised estimate of Rs. 3,600 sanctioned in G.O. No. 2,328 of 19th August 1874. Savings on estimate, Rupees 150. † Actual cost. Finished. Very nearly finished. † Actual cost. Finished. † Actual cost. Finished.
	H. Escapes	Surplus weir at 10½ mile ..	2,650	2,650	73,450	3,450	
	I. Navigation Works.	Lock, Godicherla at 4th mile ..	14,730	14,730	213,372		
		Do. Gummumpad at 13½ do. ..	16,770	16,770	12,550		
L. Earthworks		Do. weir Godicherla at 4th do. ..	4,000	4,000	33,900		**Do. Do Not required.
		Do. do. Gummumpad at 13½ do. ..	1,580	36,170	11,847	31,765	
		Earthworks ..	23,610	23,610	**17,537	17,537	
		Improvements to works ..	1,200	1,200			
(3) Distributaries.		Total, Main Canals and Branches.	68,030	68,030		57,262	Actual cost. Finished. Finished. A revised plan and estimate for each sluice sanctioned by District Engineer. † Revised estimates sanctioned by District Engineer. Work nearly finished.
		Head sluice, Relanghi channel ..	4,110		1,395		
		Sluices, eleven ..	3,520		160		
		Dividing dam at 10th mile ..	870		770		
L. Earthwork		Do. do. ..	820		600		Revised estimate includes Rupees 7,350 sanctioned for Relanghi channel, earthwork improvements. See G.O. No. 578 of 2nd April 1875.
		Dividing dams, ten ..	1,500		1,500		
		Minor sluices, one hundred ..	2,400		1,200		
		Earthwork for distributaries ..	6,270	10,200	13,920	10,338	
(4) Drainage and Protective works.		Total, Distributaries ..	16,470	16,470		23,958	Finished.
		2 Under tunnels ..	1,500			690	
		Amadalapalem under tunnel ..	1,300			690	
		Grand Total ..	86,000	86,000		81,900	

* These have nothing to do with the Attili Canal being built under distributaries of the Velpur Canal, and will be shown in the Velpur Canal revised estimate.

8th November 1876.

(Signed) A. R. F. DORWARD, Lieut., R.E.
Asst. Engr. in charge, Western Delta Division, Godavery.(Signed) J. BEATTY, Major, R.E.,
Offg. Superintending Engineer, Godavery.

Proceedings of the Madras Government, Public Works Department,
14th April 1877. No. 1,277.

From Lieutenant A. R. F. DORWARD, R.E., Assistant Engineer in charge, Western Delta Division, Godavery District, to Major J. BEATTY, R.E., Officiating Superintending Engineer, Godavery District, dated Godavery, 11th September 1876, No. 245.

I HAVE the honor to forward herewith a revised estimate for Attili Canal.

- 1 Revised estimate.
1 Classified abstract of revised estimate.
1 Abstract of classified abstract of revised estimate.

Work on this canal has been nearly finished, and with the exceptions of the 100 minor sluices and 10 small dividing dams to channels will soon be completely so. The

revised estimate therefore is almost a statement of actual cost.

As in almost all the canals the "earthwork" improvements were considerably over-estimated, in this case there has been a saving of over Rupees 6,000. The canal has been cut out to carry 65,000 cubic yards per hour (see paragraph 14 of Note by Chief Engineer for Irrigation, No. 240 of 22nd November 1870, embodied in G.O. No. 768 of 14th March 1871) instead of the 56,400 cubic yards allowed for in the original estimate. The saving on the original estimate is therefore the more marked. The lock at Godicherla has been finished, and that at Gummumpad only requires a little coping work to be done to one parapet to complete it also. The lock weirs at Godicherla and Gummumpad have both been completed. The surplus weir at 10½ miles has been completed except coping of parapets. The Relinghi channel sluice has been completed. The excess on the original estimate was due to a discharge of 19,500 cubic yards per hour having been allowed for instead of one of 15,000 cubic yards, and to the provision of screw gearing to the shutters.

The two dividing dams at 16th mile are really head sluices to two irrigation channels. Revised plans and estimates were prepared and the works have been nearly finished.

The extra Rupees 1,200 allowed for improving masonry works will not be required.

The provision for minor channels, Rupees 13,770, includes Rupees 7,500 sanctioned for improving Relinghi channel in G.O. No. 878 of 2nd April 1875.

In the classified abstract the provision is shown as Rupees 13,620. This is due to Rupees 150 allowed for a dam on the Relinghi channel being shown under head dividing dams. The original provision of Rupees 3,520 for eleven sluices has been exceeded by about Rupees 1,100. On all canals the provisions for distribution arrangements are too small. This was due to Mr. Rundall having generally built brick sluices without screw gearing, and with a capability of discharge of only 2 cubic yards per hour per acre independent of the acreage, and having allowed for similar sluices in his estimates.

Many of these brick sluices are already in bad order, the bricks having been of very poor quality, and will shortly have to be rebuilt. Their vents have in many cases been enlarged. All sluices built in the last five years have been of stone, and the greater number have been provided with screw gearing. Their discharging capability has been in accordance with Circular No. 27 of 30th May 1870 of the Chief Engineer for Irrigation.

In the original estimate there was a provision of Rupees 2,400 for 100 minor sluices. Nothing like that number will be wanted, and it is not possible or rather perhaps no way is known of building an efficient sluice for Rupees 24. A concrete sluice was two years ago built on this canal as an experiment. It has answered very well. It cost Rupees 57. The shutter grooves only were of stone; all the rest of the work being concrete. Nineteen similar sluices are all that it is necessary to provide for direct irrigation. I have therefore entered in the revised estimate a provision of Rupees 1,200 for these sluices.

The tunnel under Amadalapalem channel was not provided for in the original estimate, but was ordered to be charged to it by the District Engineer.

In the original estimate there was a provision of Rupees 1,500 for two under tunnels. These have been built for Rupees 1,403. They have nothing to do with the Attili Canal, being built under distributaries of the Velpur Canal. They were originally entered under Attili Canal by mistake and will be shown in the Velpur Canal revised estimate. The original estimate has therefore been now shown as Rupees 84,500 instead of Rupees 86,000.

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14th April 1877. No. 1,277.

I have left unchanged the provision of Rupees 4,500 for compensation for land, as I have no idea what has yet to be paid. A considerable area of land was taken up in the years 1873 and 1874 when widening the canal. Statements were in those years sent in the regular way to the Revenue Department, but no compensation for the land occupied has yet been given; at the end of last year I brought this matter to the notice of the Acting Head Assistant Collector. The total payment up to date for compensation of land has been Rupees 74-8-5, and this has been paid for land occupied by irrigation channels or masonry works, not by the main canal improvements.

The revised estimate shows a total saving of Rupees 2,600 on the original one.

No. 172-W.

Note by the Chief Engineer for Irrigation.

The Superintending Engineer, Godavery, has with his letter No. 2,437 of the Godavery Western Delta, Attili Canal.

28th November 1876, transmitted for sanction a revised estimate for the Attili Canal, the works of which are so far completed as to make the statement a very close approximation to the actual cost of the works.

2. It will be seen that the total of the revised estimate, notwithstanding the large additional cost of the Relanghi distribution channel, is Rupees 4,100 less than the amount of the sanctioned estimate. Of this saving Rupees 1,500 for two under tunnels, or rather their actual cost, will appear as a charge against the Velpur Canal, to which they properly belong, in the revised estimate for that work.

3. The revised estimate is recommended for sanction.
FORT ST. GEORGE,
2nd April 1877.
To the Secretary to Government, Public Works Department.

(Signed) JOHN MULLINS, Lt.-Col., R.E.,
Chief Engineer for Irrigation.

No. 335. ORDER THEREON, 14th April 1877, No. 1,277.

IRRIGATION, No. 24.
Account.

THE revised estimate, amounting to Rupees 81,900, for the Attili Canal, Godavery Western Delta, is sanctioned in lieu of that for Rupees 86,000 according to the particulars shown in the comparative statement. It is observed that there will be Rupees 4,100 available as a set off against excess expenditure on other works of this delta.

2. This sanction has been registered as No. 7 I of 1877-78.
(True Extract.)

Lt.-Col., R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Superintending Engineer, Godavery.
" Collector of Godavery.
" Chief Engineer for Irrigation.
" Examiner of Public Works Accounts.
" Revenue Department.
Exd. E. C. Shunker.
Spare Copies

Godavery
Western Delta
Attili Canal.

Encl. 14.

First
Dep. Secy. to Govt.
3 P.W.D. Secy. to Govt.
3 P.W.D. Secy. to Govt.

No. 172-W.
Note by the Chief Engineer for Irrigation

The Superintending Engineer Godavery has with his letter No. 2437 of the 28th Nov. 1876 transmitted for sanction a revised estimate for the Attili Canal the works of which are so far completed as to make the statement a very close approximation to the actual cost of the works.

2. It will be seen that the total of the revised estimate, notwithstanding the large additional cost of the Relanghi distribution channel, is Rupees 4,100 less than the amount of the sanctioned estimate. Of this saving Rupees 1,500 for two under tunnels, or rather their actual cost, will appear as a charge against the Velpur Canal, to which they properly belong, in the revised estimate for that work.

3. The revised estimate is recommended for sanction.

Fort St. George
2nd April 1877

John Mullins
Chief Engineer for Irrigation

To the Secretary to Government
P.W.D.

P.W.D.

4 APR 77

NA 3531

From
The Chief Engineer for Irrigation

Dated 2nd April 1977
Despt. 4 - do

Encls. 4.

1: 172-W

Atali Canal - Godavery Western
Delta - here recommending for
sanction, revised estimate for Rs. 81,900
for the same.

4.6.14: April 77 SB-334

Rev 6-4-77

6-4-77

No 1277
5 Jm
Acate 10
Public Works Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

UNDER date the 11 April/77

Read the following:—

Note by the Chief Engineer for Irrigation — (H.S. No. 172-V. dated 2nd April 1877)

JA

The revised estimate amounting to Rupees 81,900 for the Attili Canal, Godavery Western Delta is sanctioned in lieu of that for Rupees 86,000, according to the particulars shown in the Comparative statement. It is observed that there will be Rupees 4,600 available as a set off against excess expenditure on other works of this Delta.

S. G. S. Lanning ✓
Collector ✓
Ch. E. for S. with 4 En.
1c. P. H. A. & Def papers.
Recd Dept ✓

pa
WJ

Depd 8-8-77 1877-78.

4/4

Q13531

Subt. of 1877
PUBLIC WORKS.

To The Hon. E. Goddard
Dated
Issued
Recd.

Referenced
to Messrs
27/4-1877

Returned
1/5-1877

Encl.

G. O. 14 April 1877. No. 1277

Nos. 334-335

Attest Canal, Goddard
Frederick Della. The record
estimate amounting to
\$87,000 further
sanctioned

Entered in Reg.