

(1) Number of pages.....

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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No.	1352/63 (9)	Press <u>Mis.</u>
Dated	20-4-	1877.

Not to be folded or roughly handled

No. 493.

Read the following:—

No. 184—W.

MEMORANDUM.

In G.O., No. 2,929, dated 2nd November 1876, revised estimates were sanctioned for six* of the eighteen items sanctioned by the Government of India in letter No. 367-I, dated 2nd August 1871, for "completing and perfecting the system of irrigation and navigation in the western section of the Godavery Delta."

- * (1.) Head sluice, Main Canal.
- (2.) Main Canal.
- (6.) Venkia and Weyeru.
- (7.) Restoring navigation with the Weyeru (Junction Canal).
- (17.) Additional surplus weir near head of Ellore Canal (Nundamur weir).
- (18.) Rest-houses.

These revised estimates are less than the original ones by Rupees 16,441.

A revised estimate for the Ellore Canal, which is item 16 of the Government of India sanction above noted, is now submitted. It exceeds the original estimate by Rupees 30,014,† the chief causes of the excess being—

† Including the Mid and Low-level Channel head sluices originally in "Junction Canal" estimate.

‡ Paragraph 54 in Proceedings, Madras Government, No. 1,906, dated 15th July 1874.

Extra cost of earthwork Rs. 14,520.

1st.—A revision of levels due to errors in the original levels as brought to notice in the notes of inspection as per margin.‡

2nd.—A provision which was not made in the original sanction estimate for adding§ to the existing arrangements for passing upland drainage across the canal. One of the works has been already sanctioned by Government in Government Order marginally noted.

Vide Notes of Inspection, para. 54 as above.

§ Cost of new under tunnel and three escapes Rupees 12,504.

G.O., No. 616, dated 9th March 1874.

3rd.—The addition of an important

Rupees 10,900.

distributary the "Agadalanka Channel" sanctioned in G.O., No. 2,065, 30th July 1874.

The excesses from these causes amount to Rupees 37,924, but this sum is reduced by a general saving on other items of the estimate to Rupees 30,014.

The excess then so far on Western Delta completion estimates revised up to date is Rupees 13,573, viz., the amount above stated less the Rupees 16,441 saving recorded in G.O., No. 2,929, dated 2nd November 1876. It may be here remarked that in G.O., No. 1,281, dated 22nd May 1876, a saving of Rupees 27,780 is recorded on one of the items of the completion estimates of the Eastern Delta of the same district.

In the revised estimate now forwarded are entered the new head sluices for the Mid and Low-level Channels which were included in the original estimate for the Junction Canal, the construction of that canal having rendered it necessary to demolish the head sluices previously built and to build new ones. As, however, the Mid and Low-level Channels are *Ellore Canal* distributaries, the head sluices were omitted from

both sides of the comparative statement and from the revised|| estimate for the Junction Canal, and are now, in order to

bring them into the prescribed classification, added to both sides of the comparative

|| Sanctioned in G.O., No. 2,929, dated 2nd November 1876.

*Proceedings of the Madras Government, Public Works Department,
20th April 1877. No. 1,362.*

statement forwarded herewith. They will in future be regarded as Ellore Canal distributary works.

The excess on the Ellore Canal estimates after taking into account the recorded savings on other sanctions of the Western Delta being more than 5 per cent. on the sanction for the Ellore Canal, will need the sanction of the Government of India; but as the canal cannot be ready for the irrigation and navigation of the season commencing in May, June next unless authority be given for at once proceeding with the works, and as in that case there will be loss of revenue and much inconvenience also to the traffic, the undersigned considers that, in anticipation of the sanction of the Government of India, the District Engineer should be instructed to go on with the works under the revised estimate as rapidly as possible. Out of the total of Rupees 2,76,604 of the estimate now submitted, Rupees 2,00,770 had been spent up to 31st January 1877. As the Government are aware, this canal, which is a main line of communication, cannot be closed without interfering very inconveniently with the trade of the country, and as navigation is this year at an end owing to the exceptionally low state of the river, advantage should be taken of this circumstance to complete the works as far as may be practicable before water again becomes available. The only further remark necessary is this. The objections made by the Examiner of Public Works Accounts to variations from sanctioned estimates which were originally prepared under very different conditions has necessitated, or will render necessary, the revision perhaps more than once of every canal estimate in the Delta, and this work cannot be done without delay, seeing that without it the time of the canal officers was already very fully occupied. As a matter of fact the works generally are almost at a stand still, not because the sanctions have been exhausted, but because their details have to be modified, as such details must be to a greater or less extent in all such projects.

FORT ST. GEORGE,
28th March 1877.

(Signed)

JOHN MULLINS, Lt.-Col., R.E.,

Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department.

*Proceedings of the Madras Government, Public Works Department,
20th April 1877. No. 1,362.*

ELLORE CANAL, CLASS I.—WORKS.

Comparative Statement showing the Original and Revised Estimates.

WESTERN DELTA, GODAVERY.

Main head.	Sub head.	Items.	ORIGINAL ESTIMATES.		REVISED ESTIMATES.		Remarks.
			Amount.	Total.	Amount.	Total.	
(2)—Main Canals and Branches.	B.—Land		Rs.	Rs.	Rs.	Rs.	
	F.—River and Hill Torrent works.		..	..	..	1,000	Actual expenditure. An estimate of Rupees 1,030 was sanctioned in G.O. No. 616 of 9th March 1874.
	H.—Escapes.		..	..	..	10,300	Actual expenditure.
	L.—Earthwork.		..	..	737	46,100	Actual expenditure.
		Earthworks ..	31,580	31,580	..	59,604	
(2)—Distributaries.	Total, (2) Main Canals and Branches ..		..	31,580	..	7,440	
	Mid-level Channel.		8,440	8,440	1,480	1,480	Built before "Junction Canal" constructed, but removed and head sluice provided for in original sanction of that canal.
	Compensation for Mid-level Channel ..		..	..	..	..	
	Head sluice to ..		1,480	1,480	..	..	
	Bridge at 1½ mile on ..		980	980	..	..	
	Do at 3½ mile on ..		980	980	..	..	
	Do at 4½ mile on ..		1,930	1,930	..	..	
	Do at 5½ mile on ..		980	980	..	..	
	Under tunnel at 7½ mile on ..		4,330	4,330	..	..	
	Channel ..		980	980	..	..	
(2)—Distributaries.	Bridge at 7½ mile on Mid-level Channel.		700	700	..	..	
	Drop at 7½ mile on ..		1,930	1,930	..	..	
	Bridge at 8½ mile on ..		700	700	..	..	
	Drop at 9½ mile on ..		2,840	2,840	..	..	
	Escape and regulating bridge at 9½ mile on ..		700	700	..	..	
	Drop at 10½ mile on ..		700	700	..	..	
	Do at 11½ mile on ..		3,600	3,600	..	..	
	Do and regulating bridge at 11½ mile on ..		1,530	1,530	..	..	
	Regulating bridge and escape at 12½ mile on ..		..	..	..	..	
	Drop at 12½ mile on Mid-level Channel		..	..	..	680	Not required. Left out of original estimate by mistake.

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(5.)—Distribu-
tions.

	MINOR DISTRIBUTARIES. Twenty-six Irrigation sluices on Main Canal.	12,690	Details as shown in appendix Do not determined ..	10,920 4,530
C.—Works	Twenty dams on do. .. Sluice to Chinamindrakollu Channel.	3,270 1,220	..	15,460
L.—Earthworks.	Minor channels from Main Canal ..	7,660	Details as shown in appendix Do not determined ..	7,660
	Total Minor Distributaries, Ellore Canal.	..	Total, Minor Distributaries ..	23,010
B.—Land	Total, (3) Distributaries ..	..	Agadalunka Channel .. } (L.)—Earthworks .. }	10,900
	Compensation for land for drain from 9½ mile, Mid-level Channel.	2,100	Total, (3) Distributaries ..	1,14,798
	Do do for Pandicodu drain ..	6,385	Compensation for land for drain from 9½ mile, Mid-level Channel.	2,100
	Do do for drainage diversion ..	2,175	Do do for Pandicodu drain ..	6,385
		9,660	Do do for drainage diversion ..	2,175
	Drop at ¼ mile on drain from 9½ mile, Mid-level Channel.	620	Drop at ¼ mile on drain from 9½ mile, Mid-level Channel.	609
	Do at 1 mile on drain from 9½ mile, Mid-level Channel.	620	Drop at 1½ mile on drain from 9½ mile, Mid-level Channel.	638
	Do at 2 do on do ..	650	Do at 2 do on do ..	642
	Do at 2½ do on do ..	720	Do at 2½ do on Mid-level Channel ..	532
	Do at 3 do on do ..	760	Aqueduct over Chinnakapaveram Channel.	17,716
C.—Works	Aqueduct over Chinnakapaveram Channel.	18,240	Bridge over drain near Chilakampand on do do.	1,358
	Bridge over drain near Chilakampand on do do	1,305	Drop at 2½ mile on drainage diversion.	794
	Drop at 2½ mile on drainage diversion.	660	Do. at 3½ mile on do ..	1,186
	Do at 3½ do do ..	900	Bar across drain at 5½ mile on do ..	380
	Bar across drain at 6½ mile do ..	380	Self acting sluice at 6½ mile on do ..	600
		24,845	Earthwork for drain from 9½ mile, Mid-level Channel.	15,924
	Earthwork for drain from 9½ mile, Mid-level Channel.	17,730	Drain from under tunnel at 7½ mile, Mid-level Channel.	776
	Drain from under tunnel at 7½ mile, Mid-level Channel.	800	Earthwork for Pandicodu drain ..	34,763
	Earthwork for Pandicodu drain ..	34,800	Earthwork for drainage diversion ..	14,604
	Earthwork for drainage diversion ..	18,375	Total, (4) Drainage works ..	68,007
		69,505		99,820
		1,04,010		

(4).—Drainage Works.

Made up of an actual expenditure of Rupees 11,494 and a provision of Rupees 4,430 for fall race to Kyturum under tunnels.

{ Sanctioned in G. O. No. 2,065 of 30th July 1874.

drainage diversion."

Comparative Statement showing the Original and Revised Estimates—(Continued).

Proceedings of the Madras Government, Public Works Department,
20th April 1877. No. 1,362.

Main head.	Sub head.	ORIGINAL ESTIMATES.		REVISED ESTIMATES.		Remarks.
		Items.	Amount.	Total.	Amount.	Total.
(2.)—Distributaries.		Original sanction. See letter from Government of India, No. 367-I, 2nd August 1871, with G.O., No. 2,925, 18th November 1871.	Rs. ..	Rs. ..	Rs. ..	Rs. ..
		Total ..	..	2,43,700	..	2,74,222
		Items originally included with "Junction Canal," ("Restoring navigation with Weyeru.")	..	..	..	..
		Head sluice to Mid-level Channel ..	1,810	..	1,315	These sluices were included in sanction for "restoring navigation with the Weyeru" (Junction Canal); but, as the channels at the heads of which they are are "distributaries" of the Ellore Canal, these works are brought under that canal.
		Do. do Low-level do ..	1,080	..	1,067	
		Total from Junction Canal ..	..	2,890	..	2,382
		Grand Total of Sanction ..	..	2,46,590	..	2,76,604
						Total, Excess of Revised Estimate.. 30,014

FORT ST. GEORGE,
28th March 1877.

(Signed) G. T. WALCH,
Ag. Dy. Chief Engineer for Irrigation,
for Chief Engineer for Irrigation.

Proceedings of the Madras Government, Public Works Department,
20th April 1877. No. 1,362.

APPENDIX OF DETAILS.

Details of Minor Distributaries referred to in body of Comparative Statement.

Sub head.	Items.	Amount.	Remarks.
(C.)—Works...	16 Irrigation sluices already built ...	RS. 7,690	Actual. See letter from Range Officer to Superintending Engineer, No. 324, dated 30th October 1874. 76
	1 Irrigation sluice at 9½ mile ..	550	
	1 do. at 18½ " ..	370	
	1 do. at 28½ " ..	620	
	1 do. to Chinnanindrakollu channel ...	1,220	
	1 Dam in channel at 33 miles ..	150	
	1 do. in Thalapuram channel ..	190	
	1 do. do. ..	130	
	Total, Details, (C.) Works ...	10,920	
(L.)—Earth-works.	Thalapuram channel ...	1,000	
	Chebrole do. ...	1,460	
	Rachur do. ...	360	
	Total, Details, (L.) Works ...	2,760	

(Signed) G. T. WALCH,
Ag. Dy. Chief Engineer for Irrigation,
for Chief Engineer for Irrigation.

No. 494. ORDER THEREON, 20th April 1877, No. 1,362.

IRRIGATION, No. 46.

THE revised estimate, amounting to Rupees 2,76,604, for the Ellore Canal, Western Delta, Godavery, will be transmitted for the sanction of the Government of India.

2. It is observed that the original estimate amounted to Rupees 2,46,590, that the excess is Rupees 30,014, and that against the latter there are recorded* savings amounting to Rupees 16,441, consequently the net excess is Rupees 13,573, which is but to a small extent beyond the power of this Government to sanction. The explanations of causes of excess, which is due in great part to improvements to the canal, additional distribution, and provision for cross drainage, &c., which have been shown to be necessary, are considered satisfactory.

3. Under the circumstances brought to notice in the latter part of the Note by the Chief Engineer for Irrigation, His Grace the Governor in Council authorizes

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the works provided for in the revised estimate to be proceeded with in anticipation of the sanction thereto of the Government of India.

(Here enter No. 1,363, dated 20th April 1877.)

(True Extract.)

Lieut.-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.

PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, 20th April 1877.

No. 495.

No. 1,363.

FROM

THE JOINT SECRETARY TO THE GOVERNMENT OF MADRAS,
Public Works Department, Irrigation Branch,

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

IRRIGATION, No. 47.

SIR,—I am directed to forward, for the sanction of the Government of India, a revised estimate, amounting to Rupees

2,76,604, for the Ellore Canal, Western Delta, Godavery, one of the items of the comprehensive scheme to which the approval of the Supreme Government was conveyed in the Deputy Secretary's letter of the 2nd August 1871, No. 367 I.

2. It will be observed that the excess of Rupees 30,014 over the original estimate for the work is due in great part to improvements to the canal, to additional distribution, and to provision for cross drainage. I am to say that His Excellency in Council considers that the explanations of the necessity for the revised estimate are satisfactory.

3. A sum of Rupees 16,441 is available from savings on other canals of the Western Delta to meet in part the present excess.

4. I am in conclusion to say that the Superintending Engineer, Godavery, has been authorized to proceed with the works provided for in the revised estimate in anticipation of sanction thereto by the Government of India for the reasons given in the latter part of the Note by the Chief Engineer for Irrigation, which will be found in the Proceedings, Madras Government, No. 1,362, dated 20th April 1877, of which a copy is herewith transmitted.

I have the honor to be,

Sir,

Your most obedient servant,

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

Exd. E. C. Shunker.
Spare Copies

*Western Delta Godavery
Comparative Statement showing the Original and*

Original Estimates.

	Sub head.	Items.	Amount	Total.
<u>Main Canals and Branches</u>	B. Land	"	"	"
	F. River and Hill Torrent works	"	"	"
	H. Escapes	"	"	"
		"	"	"
		"	"	"
	I. Earth work	Earth works	31,580	31,580
		<u>Total Main Canals and Branches</u>		<u>31,580</u>

revised estimates. Class I. Works.

Revised Estimates.

	Amount	Total.
Compensation	1000	1000
Under Tunnel at 20 Miles	10,300	10,300
Escape in 42 ⁷ / ₈ Miles	396	
Do. 43 ⁷ / ₈ Mile	1071	
Do. 45 ⁷ / ₈ Mile	737	
		2,204
Earth works	46,100	46,100
<u>Total Main Canals and Branches</u>		<u>59,604</u>

Actual expenditure.
Actual expenditure. An estimate of Rupees 1050 was sanctioned in G.O. No. 616 of 9 March 1874.
Actual expenditure.

(3) Distributaries

	Mid Level Channel.		
B. Land	Compensation for Mid Level Channel	8440	8440
C. Works	Head sluice to Mid Level channel	1480	
	Bridges at 1 ¹ / ₂ mile on do.	980	
	do. at 3 ¹ / ₂ mile on do.	980	
	do. at 4 ¹ / ₂ mile on do.	1930	
	do. at 5 ¹ / ₄ mile on do.	980	
	Under Tunnel at 7 ¹ / ₂ mile on do.	4330	
	Bridges at 7 ¹ / ₂ mile on do.	980	
	Drop at 7 ¹ / ₂ mile on do.	700	
	Bridges at 8 ¹ / ₂ mile on Mid Level channel	1930	
	Drop at 9 ¹ / ₂ mile on do.	700	
	Escape and regulating bridge at 9 ¹ / ₂ Miles on do.	2840	
	Drop at 10 ¹ / ₂ mile on do.	700	
	do. at 11 ¹ / ₂ mile on do.	700	
	<u>Carried forward</u>	<u>19,330</u>	<u>84,400</u>

Mid Level Channel		
Compensation for Mid Level channel	7440	7440
Head sluice to Mid Level channel	1480	
Bridges at 1 ¹ / ₂ mile on do.	980	
do. at 3 ¹ / ₂ mile on do.	982	
do. at 4 ¹ / ₂ mile on do.	1930	
do. at 5 ¹ / ₄ mile on do.	980	
Under Tunnel at 7 ¹ / ₂ mile on do.	4314	
Bridges at 7 ¹ / ₂ mile on do.	980	
Drop at 7 ¹ / ₂ mile on do.	600	
Bridges at 8 ¹ / ₂ mile on Mid Level channel	1927	
Drop at 9 ¹ / ₂ mile on do.	929	
Escape and regulating bridge at 9 ¹ / ₂ Miles on do.	3306	
Drop at 10 ¹ / ₂ mile on do.	547	
do. at 11 ¹ / ₂ mile on do.	469	
	19,466	7440

Built before Junction Canal constructed, but removed and head sluice provided for in original sanction of that canal.

Western Delta, Godavari
Comparative Statement showing the Original and

Original Estimates.

Ellore Canal. Class I. Works.
revised estimates.

Revised Estimates.

Main heads.	Sub head.	Items.	Amount.	Total.
(3) Distributaries.	C. Works	Brought forward.	19,230	8,440
		Drop and regulating bridge at 11 1/2 mile on Mid Level channel.	3,600	
		Regulating bridge and escape at 12 7/8 mile on — do. —	1,530	
		Drop at 14 mile on — do. —	550	
		— do — at 14 1/2 mile on — do. —	530	
		— do — at 15 1/2 mile on — do. —	500	
		12 Village sluices on — do. —	5,040	
				30,980

I. Earth works	Earth work for Mid Level channel	20,280	
	— do. — Branch channel on — do. —	3,520	
	6 Metalled crossings on Mid Level channel.	960	24,760
	Total Mid Level Channel.		64,180

	Low Level Channel.		
B. Land.	Compensation for Low Level Channel.	2,760	2,760
C. Works.	Head sluice to Low Level channel.	1,140	
	Bridge and Drop at Muddapuram Low Level channel.	1,430	
	Escape at 2 1/2 mile on Low Level channel.	1,000	
	Drop at 2 1/2 mile on — do. —	560	
	Bridge over Duva road on — do. —	1,100	
	Drop at 3 3/4 miles on — do. —	520	
	— do — at 7 5/8 mile on — do. —	520	
	— do — at 8 5/8 mile on — do. —	470	
	Carried forward.	6,740	2,760

Main heads.	Sub head.	Items.	Amount.	Total.	Remarks.
		Brought forward.	19,466	7,440	
		Drop and regulating bridge at 11 1/2 Miles on Mid Level channel.	3,037		
					Not required.
		Drop at 12 7/8 mile on — do. —	680		Left out of original estimate by mis- taken
		Drop at 14 mile on — do. —	916		
					Not required.
		12 Village sluices on — do. —	5,040		
		Culvert under Pentapand Bridge	367		Not provided for in original estimate built when channel belonged to W. S. Range and charged to this estimate
		Approach on — do. —	525	30,031	
		— do. — Atampuram — do. —			
		Earth work for Mid Level chag.	21,449		Actual cost
		— do. — Branch channel on — do. —	3,200		
		6 Metalled crossings on Mid Level channel.	461	25,110	Actual cost
		Total Mid Level Channel.		62,581	
		Low Level channel.			
		Compensation for Low Level chag.	2,760	2,760	
		Head sluice to Low Level channel.	885		Built before construction of Junction Canal, but required and Head sluice provided for in original estimate of that Canal.
		Bridge and Drop at Muddapuram — do. —	1,054		
		Escape at 2 1/2 mile on Low Level chag.	1,040		
		Drop at 2 1/2 miles on — do. —	716		
		Bridge over Duva road on — do. —	1,352		
		Drop at 3 3/4 miles on — do. —	622		
		— do — at 7 5/8 mile on — do. —	703		
		— do — at 8 5/8 mile on — do. —	480		
			6,852	2,760	

Western Delta, Godavery
Comparative Statement showing the Original and

Original Estimates.

Ellore Canal. Class I. Works.
revised estimates.

Revised Estimates.

Main head.	Sub head.	Items.	Amount	Total.
(3) Distributaries	C. Works	Brought forward.	6740	2760
		6 Village sluices on Low Level channel	2520	9260
	I. Earth Works	Earth work for do.	6150	
		7 Metalled Cattle crossings on Low Level channel	1120	7270
		Total Low Level Channel		19290
		Minor Distributaries		
	C. Works	26 Irrigation sluices on main canal	12590	
		20 Dams on do.	3270	
		Sluice to Chimanindrakollu channel	1220	14080
	I. Earth Works	Minor channels from main canal	9560	
		Total Minor Distributaries		24640
		Total (3) Distributaries		102110
(4) Drainage Works	B. Land	Compensation for Land for Drain from 9 1/2 Miles Mid Level Channel	2100	
		Compensation for Land for Pondicodu Drain	5385	
		do. for Drainage Diversion	2175	9660
	C. Works	Drop at 1/2 mile on drain from 9 1/2 Miles Mid Level Channel	620	9660
		Carried forward	620	

Amount	Total.	Remarks.
6852	2760	
2520	9272	6 Village sluices on Low Level channel
5329		Earth work for do.
535		do. minor branches on do.
311	6175	7 Metalled Cattle crossings on Low Level channel
	18307	Total Low Level Channel
		Minor Distributaries
10920		Details as shown in Appendix
4530		do. not determined
	15450	
2760		Details as shown in Appendix
4800		do. not determined
	7560	
	23010	Total Minor Distributaries
10900		Agadalunka channel (L.) Earth Works
	10900	
	114798	Total Distributaries
2100		Compensation for Land for Drain from 9 1/2 Miles Mid Level Channel
5385		Compensation for Land for Pondicodu Drain
2175		do. for Drainage Diversion
	9660	
509		Drop at 1/2 mile on drain from 9 1/2 Miles Mid Level Channel
509	9660	

Chinnindrakollu sluice appears under Drainage Diversion.

Sanction

620 2065 2065

Original Estimates.

Revised Estimates.

Main head.	Sub head.	Items.	Amount	Total.
(4) Drainage Works & Works.....				
		Brought forward	620	9660
		Drop at 1 mile on drain from		
		9 1/2 Miles Mid Level chan- nel	620	
		do. at 2 do. on do.	650	
		do. at 2 1/2 do. on do.	720	
		do. at 3 1/2 do. on do.	760	
		Aqueduct over Chinnaka. -pavaram Channel	18,240	
		Bridge over drain near Chila. -Kampand on do. do.	1305	
		Drop at 2 1/2 Miles on Drain. -age Diversion	650	
		do. at 3 1/2 Miles on do.	900	
		Bar across Drain at 5 1/4 Miles on do.	380	
		"		24,840
I. Earth Works				
		Earth work for drain from 9 1/2 Miles Mid Level Channel	17,730	
		Drain from under Tun- nel at 7 1/2 mile Mid Level channel	800	
		Earth work for Pandicodu Drain	34,600	
		Brought forward	53,130	34,505

	Amount	Total.
	509	9660
Drop at 1 1/4 mile on drain from		
9 1/2 Miles Mid Level chan- nel	638	
do. at 2 do. on do.	542	
do. at 2 1/2 do. on do.	532	
Aqueduct over Chinnakapa. -veram channel	17,716	
Bridge over drain near Chi. -lakampand on do. do.	1356	
Drop at 2 1/2 Miles on Drain. -age Diversion	794	
do. at 3 1/2 Miles on do.	1186	
Bar across Drain at 5 1/4 Miles on do.	380	
Self acting sluice at 5 mile on do.	500	24,153
Earth work for drain from 9 1/2 Miles Mid Level Channel	15,924	
Drain from under Tunnel at 7 1/2 mile Mid Level Channel	776	
Earth work for Pandicodu Drain	34,703	
	51,403	33,813

Not required.

Made up of an actual expenditure
of Rupees 11,494 and a provision of
Rupees 4,300 for Tail race to
Kypkaram under Tunnel.

Western Delta, Godavery Comparative Statement showing the Original and

Original Estimates.

Main head.	Sub head.	Items.	Amount.	Total.
		Brought forward.	53130	34595
(4) Drainage Works I, Earth Works.		Earth work for Drainage		
		Diversion	16375	69505
		<u>Total (4) Drainage Works</u>		<u>104010</u>

Original sanction - see letter from Government of India
N^o 3671, 2^d August 1871 with G. O. N^o 2925-18. N^o.
- vember 1871. Total Rupees

243700

(3) Distributaries C Works.

Items originally included with
"Junction Canal" ("Restoring
Navigation with Weyeru.")

Head Sluice to Mid Level	1810
Channel	
do. Low Level do.	1080

2890

Total from Junction Canal

Grand Total of Sanction

246590

Ellore Canal. Class I. Works. revised estimates.

Revised Estimates.

	Amount.	Total.
	51403	33813
Earth work for Drainage		
Diversion	14604	66007
<u>Total (4) Drainage Works</u>		<u>99820</u>

Total Rupees 274222

Head Sluice to Mid Level	1315
Channel	
do. Low do.	1067

2382

Grand Total Revised Estimate 276604

Total Receipts of Revised Estimate 30014

These sluices were included in the plan for Restoring Navigation the Weyeru Junction Canal as the channels at the heads which they are, are Distributaries of the Ellore Canal, these works brought under that Canal.

Fort St. George
28 March 1877

C. G. G. G.
Acting Deputy Chief Engineer for Irrigation.
in Chief Engineer to Govt.

Appendix of Details.
Details of Minor Distributaries referred to in body of Com.
parative Statement.

Sub head	Items.	Amount	Remarks
(C) Works	16 Irrigation sluices ab. ready built	7690	Actuals See letter from Range Officer to Superintending Engineer No. 324, dated 30 Oct. 1934.
	1— at — 9 3/4 miles	550	
	1 — — 18 1/2 —	370	
	1 — — 28 1/2 —	620	
	1 — — to Chinnamindra channel	1220	
	1 Dam in channel at 33 miles	150	
	1 — — Thalapuram channel	190	
	1 — — — —	130	
	Total Details C. Works	10920	
(L) Earth Works	Thalapuram channel	1000	
	Chibrole — —	1460	
	Rachur — —	300	
	Total Details L. Works	2760	

Corrected
By Deputy Chief Engineer for Irrigation
for Chief Engr for Irrigation

done by the 4/1/77

1/0 2010 April 77 2010 193

P.W.D.1
12 APR 77
NA 2010
4

The Comparative Statement
of course — but no other
papers — the following names
should be noted in the summary
Letter # 1907-7/10/76 from Supt. L. Godwin
to Chief Engineer Brigadier
- 267-25/7/76 from Officer in Charge L. Godwin
Godwin bit to Supt. L. Godwin
- 3384-22/2/77 from Supt. L. Godwin
to Chief Engineer Brigadier

No 184-W

Memorandum

In L.O. No 2929 dated 2 November 1876
revised Estimates were sanctioned

- for 6 of the 18 items sanctioned
by the Government of India
in letter No 367 S. dated 2 August
1871 for completing & perfecting
the system of irrigation and
navigation in the Western
section of the Godavari Delta's
- (1) Head Sluice Main Canal
 - (2) Main Canal
 - (6) Venkiah & Wigeru
 - (7) Restoring navigation
with the Wigeru
(junction Canal)
 - (11) Additional surplus
weir near head of
Ellore Canal (Kundamur
weir)
 - (13) Rest Houses

These revised Estimates are less than
the original ones by Rs. 16441.

A revised Estimate for the Ellore Canal
which is item 16 of the Government of
India sanctioned above, is now
submitted. It exceeds the original
Estimate by Rs. 30014. The chief causes
of the excess being
(1st) a revision of levels due to errors

Including the
Head & Level
Channel Head
Sluices originally
in Junction
Canal Estimate

in the original levels as brought to notice in the notes of inspection as per margin (2nd) A provision, which was not made in the original sanctioned Estimate, for, adding to the existing arrangements for passing upland drainage across the Canal. One of the works has been already sanctioned by Government in G.O. marginally noted.

Extra cost of Earthwork Rs 14,520-
Para 54 in P.M.B. No 1906 dated 15 July 1874
vide notes of Inspection para 52 as above.
(1) Cost of new under tunnel 43 escapes Rs 12,504-
G.O. No 616 d/d 10/11/1874.

(3rd) The addition of an important distributary the Agadalanika Channel sanctioned in G.O. No 2065-30 July 1874.

The excess from these causes amount to Rs 37,924, but this sum is reduced by a general saving on other items of the Estimate to Rs 3,0014-.

The excess so far ~~then~~ on Western Delta Completion Estimates revised up to date is Rs 13,573 namely the amount above stated less the Rs 16,448 saving recorded in G.O. No 2929 dated 2 November 1876. It may be here remarked that in G.O. No 1281 d/d 22 May 1876 a saving

of Rs 27,780 is recorded on one of the items of the Completion Estimates of the Eastern Delta of the same District. In the revised Estimate now forwarded are entered, the new head sluices for the mid and low level channels which were included in the original Estimate for the Junction Canal, the construction of that Canal having rendered it necessary to demolish the head sluices previously built and to build new ones. As however the mid & low level channels are Ellore Canal distributaries - the head sluices were omitted from both sides of the comparative statement and from the revised Estimate for the Junction Canal, and are now, in order to bring them into the prescribed classification, added to both sides of the comparative statement forwarded herewith. They will in future be regarded as Ellore Canal Distributary Works. The excess on the Ellore Canal Estimate after

Sanctioned
G.O. No 2929 d/d
2 November 1876.

after taking into account, the recorded savings on other sanctions of the Western Delta being more than 5 per cent on the sanction for ^{the} Urra Canal, will need the sanction of the Govt of India, but as the canal cannot be ready for the irrigation & navigation of the season commencing in May/June next unless authority be given for at once proceeding with the works, and as in that case, there will be loss of revenue, and much inconvenience also to the traffic, the undersigned considers that in anticipation of the sanction of the Government of India the District Engineer should be instructed to go on with the works under the revised Estimate as rapidly as possible. Out of the total of Rs. 2,76,604 of the Estimate now submitted Rs. 2,00,770 had been spent up to 31 January 1877 as the Government are aware, this canal, which is a main line of communication,

cannot be closed without interfering very inconveniently with the trade of the country, and as navigation in this year is slow and, owing to the exceptionally low state of the river, advantage should be taken of this circumstance to complete the works as far as may be practicable before water again becomes available. The only further remark necessary is this. The objections made by the Examiner of Public Works, accounts to variations from sanctioned estimates which were originally prepared under very different conditions has necessitated, or will render necessary, the revision perhaps more than once of every canal estimate in the Delta, and this work cannot be done without delay, seeing that without it the time of the Canal officers was already very fully occupied. As a matter of fact the works generally are almost at a stand still, not because the sanctions have been exhausted, but because their details have to be modified as such details must be

to a greater or less extent in all such
projects.

British Legation
28 March 1877

William Lewis Lieut Col. R.E.
Chief Engineer for Irrigation

To The Secretary to Govt.
P. W. D.

I have the honor to acknowledge the receipt of your letter of the 21st inst. in relation to the proposed irrigation project in the district of the British Legation. I am pleased to hear that the project is being considered with interest by the Government. I am sure that the project will be of great benefit to the district and will result in a great increase in the productivity of the land. I am sure that the project will be successful and will result in a great increase in the productivity of the land.

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 9 March 1874 " 616
 15 July " " 1906
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 22 May 1876 " 1287. 1282
 19 Aug " " 2132
 2 Nov " " 2929

E. I. Form No. 18.

P.W.D.

12 APR 77

3840

From

The Chief Engineer for Irrigation,

To

The Secretary to Government,

Public Works Department.

Dated

Despatched

Received

25 March
 12 April 1877

ENCLOSURES 4.5

No. 184-N.

Subject.

Ellore Canal - Western Delta
 Godavery District. - Submits for
 sanction, with remarks, revised
 estimate for Rs. 276,604 for the —

40 20 April 77 SB No. 492

Cw 13.4.77

E. I. Form No. 22.

Public Works Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

UNDER date the 20th April 1877.

Read the following:—

Memo. of the Chief Engineer for
 Irrigation.

The revised estimate amounting
 to Rupees 276,604 for the Ellore -
 Canal, Western Delta Godavery, with
 be transmitted for the sanction of
 the Government of India.

2. It is observed that the original
 estimate amounted to Rupees 246,570,
 that the excess is Rupees 30,014, and
 that against the latter, there are
 recorded savings amounting to
 Rupees 16,441, consequently the net
 excess is Rupees 13,573, which is
 but to a small extent beyond the
 power of this Government to sanction.
 The explanations of cause of excess,
 which is due in great part to
 improvement

60.1. 2929 8/27 Nov 1876

improvements to the Canal, additional distribution, and provision for cross drainage, &c, which have been shown to be necessary, are considered satisfactory.

3. Under the circumstances brought to notice in the latter part of the note by the Chief Engineer for Irrigation, His Grace the Governor in Council authorizes the works provided for in the revised estimate to be proceeded with in anticipation of the sanction thereof of the Government of India.

Wm. 12/4

DE Godavery
Colr. Godavery
Chief Enr for Enr
Exr P W Accts
Dpd 3^d 5-77

No. 1363

GOVERNMENT OF MADRAS,

PUBLIC WORKS DEPARTMENT.

To The Secretary to the Government
of India
Public Works Department

Fort St. George,

1877

SIR,

I am directed to forward for the sanction of the Govt of India a revised estimate amounting to Rs 2,76,604 for the Ellore Canal Western Delta Godavery one of the strains of the comprehensive scheme to which the approval of the Supreme Government was conveyed in the Deputy Secretary's letter of the 2nd August 1877 No 3671. It will be observed that the excess of Rs 30,914 over the original estimate for the work is due in great part to improvements to the Canal, to additional

distribution, and to
provision for crop drainage.
I am to say that His
Excellency in Council
considers that the expla-
-ations of the necessity for
the revised estimate are
satisfactory.

3. A sum of Rupees
16,441. is available from
savings on other Canals of
the Western Delta to meet
in part the present exco.

4. I am in conclusion to
say that the Superintending
Engineer Godavery has
been authorized to proceed
with the work provided
for in the revised estimate
in anticipation of sanction
thereof by the Govt of India
for the reasons given in
the latter part of the note
by the Chief Engineer for
Irrigation which will be
found in the P.M. G.

No. 1362 dated 20 April
1877 of which a copy is
herewith transmitted

10/4

Desd. - 3-5-77
with 25 copies of
Go No. 1362 of 1877

Printed
at the
Government
Press

Ans 110
Govt. of 1877 ~~India~~
PUBLIC WORKS.

To *The S. B. Godavery*

Dated

Issued

Recd.

Encl.

G. O. *20th April* 1877, No. *13627363*

Nos *493*
494
495

Ellore Canal, Western
Delta, Godavery. - The
revised estimate amounting
to Rs 276,604 for the
transmitted for the sanction
of the Govt. India; the
work being proceeded with
in the meantime.

Forwarding for sanction
a revised estimate amounting
to Rs 276,604 for the Ellore
Canal, Western Delta,
Godavery.