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MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.	3305	Press	<i>Original</i>
~~B.P.~~ No.		Mts.	
Dated	7. 12.	195	
		1876	

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19

Proceedings of the Madras Government, Public Works Department,
7th December 1876 No 3,305

Read the following —

No 278 W

No 140. *Note by the Chief Engineer for Irrigation.*

THE following estimates from the Polocr range are forwarded by the District Engineer, North Arcot, with his letter No 1,778, dated 1st September 1876 marginally noted —

Taluq	Village	Work	Amount
Wandewash	Manickamungalum	V Tank	RS 665
Do	Velantungal	Do	385
Do	Punthamungalum	Do	445
Do	Yettithungal	Do	415
Do	Yenthal	Do	890
Do	Charicavachan	Do	105
		Total	2,905

2 The financial and hydraulic details of the Irrigation works concerned are exhibited in the following statement —

I—Financial Details.

Name of Work	Ayacut Area	Assessment	Average Revenue for 6 years	Highest Revenue for 6 years	During the previous 4 years	OUTLAY			
						PROPOSED			
						Capital	Revenue	Average annual portion of charges to Revenue	
Manickamungalum Tank	ACRPS 50	RS 325	RS 335	RS	RS	RS 65	RS 600	RS 39 7	
Velantungal do	14	70	68	Not stated		3 0	75	113 2	
Punthamungalum do	13	70	67			310	135	132 3	
Yettithungal do	18	109	139			330	85	59 7	
Yenthal do	58	292	325			150	735	54 7	
Charicavachan do	18	85	90			105		23 3	
Total	176	951	1 024			1,275	1,630	56 7	

II—Hydraulic Details

Name of Work	Catchment Basin Area	MAXIMUM SUPPLY		LENGTH OF ESCAPE		AVERAGE HEIGHT OF BUND		Surplus discharged at M L per Second	Tanks above
		Catchment per Second	Channels per Second	Total	Effective.	Above FTL	Above MTL		
Manickamungalum Tank	1	562		FT 30 E 30	FT 30 54	FT 2 81 4 50	FT 0 81 2 50	FT 235 1 423 2	NO 1
Velantangul do	0 37	292		E 30 E 36	30 36	2 06 3 50	0 32 1 75	192 4 230 9	
Punthamungalum do	0 75	464		E 40 E 60	40 60	1 18 3 50	0 57 1 75	52 0 384 9	
Yettythangal do	0 37	292		E 36 E 40	36 40	2 02 2 61	0 77 0 61	0 0 352 7	
Yenthal do	2	893		E 100 E 30	100 30	4 50 3 50	2 50 1 50	783 8 235 1	
Charicavachan do	5	354		E 36	36	3 50	1 50	282 1	

NOTE.—The proposed dimensions of escapes and heights of bund are printed in large type. The existing dimensions in small type. The following abbreviations are used — C—Catchment with dam stones W—Weir with flush crest E—Escape at ground level B—Bund of tank V—Village

Proceedings of the Madras Government, Public Works Department,
7th December 1876. No. 3,305.

3 The following is a summary of the work proposed to be carried out in each case —

Manickamungalum Tank — Raising, repairing, and turving the bund, closing the breach, repacking the revetment, and extending the dry stone escape

Velantagal Tank — Raising, repairing, and turving the bund, closing the breach, constructing an Irrigation sluice to replace the ruined earthenware pipe sluice, and constructing a dry stone escape

Punthamungalum Tank — Raising, repairing, and turving the bund, constructing an Irrigation sluice to replace the ruined earthenware pipe sluice, and constructing a dry stone escape

Yettythangal Tank — Raising, repairing, and turving the bund, constructing an Irrigation sluice to replace the ruined earthenware pipe sluice, and constructing a dry stone escape. By altering the section of the bund at the sluice site the cost may be considerably reduced and this should be done. Rupees 215 will then suffice.

The designs for other sluices should be similarly dealt with.

Yenthal Tank — Raising, repairing, and turving the bund, repacking the revetment, reconstructing an Irrigation sluice, and constructing a dry stone escape.

Charicavachan Tank — Constructing a dry stone escape.

4 On the cross sections of the tank bunds generally the benching out shown is unnecessarily extensive and should be reduced in execution. The Velantagal Irrigation sluice should have its face wall raised to F T L, and a spear should be provided for the plug. The retaining walls to the eastern will have to be lengthened to retain the earth. This last remark applies to the Yettythangal sluice.

There are no plans or sections of the proposed rough stone escapes. A section showing the nature of the arrangements and the inclination of the outfall is necessary in carrying out the work.

5 The foregoing tanks belong to the large system or group draining into the clear river. The financial details of the group, if they are recorded or are obtainable, may well be considered in connection with estimates for the repair of sections of the group. It will be useful to bear in mind when considering the question of group proposed, what the past expenditure on, and revenue derived from, the whole tank has been during the previous years, and this might be borne in mind when other tanks belonging to it are dealt with.

6 The co-efficient used by the District Engineer, North Arcot, for calculating the lengths of escapes necessary to discharge the surplus, appears to have been somewhat too high, with $C = 0.518$, the discharges with the heads allowed are generally less than the estimated drainage.

There is in every case, however, a considerable margin of embankment above the full tank level, and a greater depth can be allowed to pass over the escapes than has been proposed, and the discharge of the full amount to be received during flood will thus be provided for.

The earthwork rates should receive the District Engineer's careful attention. They appear to be generally excessive, and reasonable rates should be insisted upon.

Proceedings of the Madras Government, Public Works Department,
7th December 1876. No 3,305

The following statement shows the proposed distribution of the outlay recommended for sanction, to the debit of the several heads of account involved —

Name of Tank.	Items of Estimate	FUND, ORDINARY AGRICULTURAL		Total for each Tank, &c.
		Original Works	Repairs	
Manickamungalum Tank	Repairing the bund Extending the rough stone escape	RS 65	RS 600	RS 665
Velantagal do	Repairing the bund Reconstructing Irrigation sluice Dry stone escape	214 96	75	385
Punthamungalum do	Repairing the bund Reconstructing Irrigation sluice Dry stone escape	200 110	135	445
Yettythangal do	Repairing the bund Reconstructing Irrigation sluice Dry stone escape	215 74	85	374
Yenthal do	Repairing the bund Reconstructing Irrigation sluice Dry stone escape	155	430 307	890
Charicavachan do	Do do	105		105

FORT ST GEORGE,
30th November 1876.

(Signed) A DEC SCOTT, Major, R E,
by Chief Engineer for Irrigation,
for Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department

No 141

ORDER THEREON, 7th December 376, No 3,305

IRRIGATION, No 16-A

Account

No 278 W, dated 30th November 1876

The following estimates for Irrigation Works in the Poloor Range, North Arcot District, forwarded by the Chief Engineer for Irrigation with his memorandum marginally noted, are sanctioned —

Name of Work	Item of Estimate	Fund	Amount	Irrigation Registry No
Manickamungalum Tank	1 Repairing the bund 2 Extending the rough stone escape	Repairs Original Works	RS 600 65	195-I
Velantagal do	1 Repairing the bund 2 Reconstructing Irrigation sluice 3 Dry stone escape	Repairs Original Works	75 214 96	196-I
Punthamungalum do	1 Repairing the bund 2 Reconstructing Irrigation sluice 3 Dry stone escape	Repairs Original Works	135 200 110	197-I
Yettythangal do	1 Repairing the bund 2 Reconstructing Irrigation sluice 3 Dry stone escape	Repairs Original Works	85 215 74	198-I
Yenthal do	1 Repairing the bund 2 Reconstructing Irrigation sluice 3 Dry stone escape	Repairs Original Works	430 305 105	199-I
Charicavachan do	Do do	Do	105	200-I

Proceedings of the Madras Government, Public Works Department,
7th December 1876. No. 3,305

2. These sanctions are registered as shown above

(True Extract)

Major-General, R E,
Secretary to Government.

To the District Engineer, North Arcot
" Collector of do
" Chief Engineer for Irrigation
" Examiner of Public Works Accounts
" Revenue Department

M I Form No 1

OFFICE OF CHIEF ENGINEER FOR IRRIGATION,

Fort Saint George, 30th November 1876.

W 278-W

Note by the Chief Engineer for Irrigation

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ted 18 Sept 1876
Sunder 87

The following Estimates from the *Polosar* Range are forwarded
by the *District* Engineer *North Arcot* with his letter

marginally noted. — Taluq. Village. Work. Amount.
Rs

Wandiarash. Hanickamungalum V Tank 665
" *Nelantangel V Tank* 385
" *Punthamungalum V Tank* 445
" *Yethythangal V Tank* 413
" *Yenthal V Tank* 890
" *Channevachan V Tank* 105
Total 2905

2 The Financial and Hydraulic details of the Irrigation works concerned
are exhibited in the following statement —

I — Financial Details.

Name of Work	Ayacut Area. Acres	Assessment Rs	Average Revenue for 5 years Rs	Highest Revenue for 5 years Rs	During the previous 4 years Rs	OUTLAY		
						Proposed		
						Capital Rs	Reve- nue Rs.	Average annual proportion of Charges to Revenue Rs
<i>Hanickamungalum Tank</i>	13	325	335	Not stated	Nil	65	400	39.7
<i>Nelantangel</i>	14	70	65			310	75	113.2
<i>Punthamungalum</i>	13	70	67			310	135	132.8
<i>Yethythangal</i>	18	109	139			330	85	59.7
<i>Yenthal</i>	38	292	325			155	725	24.7
<i>Channevachan</i>	18	85	90			105		23.3
<i>Total</i>	116	951	1024			1275	1639	36.7

II—Hydraulic Details

Name of Work	Basin Area	Maximum Supply		Length of Escape		Average Height of Bund		Surplus discharged at M T L per Sec.	Tanks above
		Catchment per Second	Channels per Second	Total	Effective	Above F T L	Above M T L		
						Sq. M	C ft	C ft	Ft.
Manickamungalum Tank	1	562		E 30	30	2.8	0.8	235.1	1
Velantongal	0.37	292		E 30	30	2.50	2.50	423.2	1
				E 36	36	2.06	0.32	190.4	1
Bunthamungalum	0.75	464		E 36	36	3.50	1.50	235.1	1
				E 40	40	1.78	0.37	52.0	1
				E 30	30	3.50	1.50	235.1	1
Yethythongal	0.37	292		Nil	Nil	2.52	0.77	0.0	1
				Nil	Nil	3.50	1.50	235.1	1
Yenthal	2	893		E 45	45	2.6	0.6	352.7	2
Charasavashan	0.5	354		E 45	45	2.50	2.50	423.2	1
				E 30	30	3.50	1.50	235.1	1

Note.—The proposed dimensions of escapes and heights of bund are entered in red. The existing dimensions in black. The following abbreviations are used:—K—Kalingulath with dam stones W—Weir with flush crest
E—Escape at ground level B—Bund of tank N—Village

3 The following is a summary of the work proposed to be carried out in each case—

Manickamungalum Tank. Raising repairing and turfing the bund, closing the breach repacking the revetment, and extending the dry stone escape.

Velantongal Tank. Raising repairing and turfing the bund, closing the breach constructing an irrigation sluice to replace the ruined earthenware pipe sluice and constructing a dry stone escape.

Bunthamungalum Tank. Raising repairing and turfing the bund, constructing an irrigation sluice to replace the ruined earthenware pipe sluice and constructing

Note.—The following abbreviations are used:—K—Kalingulath with dam stones W—Weir with flush crest
E—Escape at ground level B—Bund of tank N—Village

a dry stone escape. Raising repairing and turfing the bund constructing an irrigation sluice to replace the ruined earthenware pipe sluice and constructing a dry stone escape. By altering the section of the bund at the sluice side this cost may be considerably reduced and this should be done. Rupees 215 will then suffice.

The designs for other sluices should be similarly dealt with.

Yenthal Tank. Raising repairing and turfing the bund, repacking the revetment reconstructing an irrigation sluice and constructing a dry stone escape.

Charasavashan Tank. Constructing a dry stone escape.

On the cross sections of the Tank bunds generally the benching out showing is unnecessarily extensive and should be reduced in section.

The Velantongal irrigation sluice should have its face wall raised to F.T.L. and a spear should be provided for the plug. The retaining walls to the eastern wall have to be lengthened to retain the earth. This last remark applies to the Yethythongal sluice.

There are no plans or sections of the proposed rough stone escapes. A section showing the nature of the arrangements and the inclination of the outfall is necessary in carrying out the work.

The foregoing Tanks belong to the large

large system or group draining into the clear river. The financial details of the group if they are recorded or are obtainable may well be considered in connection with estimates for the repair operations of the group. It would be useful to bear this in mind when considering the question of outlay proposed, what the past expenditure on and revenue derived from the whole group has been during previous years and this might be borne in mind when other tanks belonging to it are dealt with.

The coefficient used by the District Engineer at the West for calculating the lengths of escapes necessary to discharge the surplus appears to have been somewhat too high, with $C = 0.518$ the discharges with the heads allowed are generally less than the drainage.

There is, as in every case, however, a considerable margin of embankment above the full tank level & a greater depth can be allowed to penetrate the escapes than has been proposed and the discharge of the full amount to be received during flood will thus be provided for.

The earthwork rates should receive the District Engineer's careful attention. They appear to be generally excessive and reasonable rates should be insisted upon.

The

C. I. Form 201

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The following Statement shows the proposed distribution of the outlay recommended for sanction, to the debit of the several heads of account involved —

Name of Tank	Items of Estimate	FUND Ordinary Agricultural			Total for each Tank, &c
		Capital Outlay	Extension and Improvement Expenditure on the Tanks	Repairs	
Manekamungalam Tank	Repairing the bund	.	.	600	665
	Extending the rough stone escape —	.	65	.	
Telandongil d.	Repairing the bund	.	.	75	385
	Reconstructing Irrigation sluice —	.	214	.	
	Dry stone escape	.	96	.	
	Repairing the bund	.	.	135	
Punthamungalam d.	Reconstructing Irrigation sluice —	.	200	.	445
	Dry stone escape	.	110	.	
	Repairing the bund	.	.	85	
	Reconstructing Irrigation sluice —	.	215	.	
Yettithongal d.	Dry stone escape	.	74	.	574
	Repairing the bund	.	.	430	
	Reconstructing Irrigation sluice —	.	305	.	
	Dry stone escape	.	155	.	
Yenthal d.	Dry stone escape	.	105	.	105
	Dry stone escape	.	105	.	
Channavacham d.	Dry stone escape	.	.	.	.

Am. S. K.

Major A. B.
Deputy Chief Insp. for Irrigation
for Chief Insp. for Irrigation

The Secretary to Government
Public Department

10/11/11

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P.W.D.

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2000 The Chief Engineer for Irrigⁿ

Dated 20 Nov 76
Recd 2 Dec 76

Encls 18

11-278-10

Tank Repair - North Arcot District
- Note Submitting for sanction
for certain -

No 140

4-12-76

No 330577 Recd 76

18

E I Form No 3

The following Estimates for Irrigation
works in the Poloor Range,
North Arcot District, forwarded by the
Chief Engineer for Irrigation with his Memo.
marginally noted are sanctioned -

No 278-10
dated 30th November 1876.

Name of Work	Item of Estimate.	Fund	Amount	Irrigation Registry No
Kancheepamun- galum Tank	1 Repairing the bund	Repairs	600	195
	2 Extending the rough	Original works	15	
	3 Stone escape.			
Kelandanigel Tank	1 Repairing the bund	Repairs	75	196
	2 Reconstructing sluice	Original works	214	
	3 Dry stone escape	do do	96	
Punthamun- galum Tank	1 Repairing the bund	Repairs	135	197
	2 Reconstructing sluice	Original works	900	
	3 Dry stone escape	do do	110	
Keththongal Tank	1 Repairing the bund	Repairs	85	198
	2 Reconstructing sluice	Original works	215	
	3 Dry stone escape	do do	74	
Kenthak Tank	1 Repairing the bund	Repairs	450	199
	2 Reconstructing sluice	Repairs	305	
	3 Dry stone escape	Original works	155	
Channevachan	do do	do do	105	200

2 These sanctions are
requested as shown above

H. North Arcot.
Collector of Silt
Chd. for Irrigation
R. N. Acet
Revenue Dept
26/11/76

11

Ch. 87/6.

Govt. of 1876 Madras.

PUBLIC WORKS.

To The N.B. & S. S. Agent

Dated

Issued

Recd

Encl

G O. 7. 1876, No 3305

Nos. 140

Lau Krepais. h. Arest.

Estimates for cost of

Sanitation

Sanitation