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(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	2028	(2)	Press
B.P. No.			Mis.
Dated	7-8-		1876.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department,
7th August 1876. No. 2,028.

Read the following :—
No. 123-W.

No. 156. Note by the Chief Engineer for Irrigation.
The following estimates from the No. 1 or Salem Range are forwarded by the District Engineer, Salem, with his letter marginally noted :—
No. 1 B. L., dated 8th April 1876.
Karapur Series.

Taluk.	Village.	Work.	Amount.
Salem	Pannungadu	V. Paddyary Tank	Rs. 80
Do.	Karapur	V. Tank	182
Do.	Mangopay	V. Tank	524
Do.	Dalavapatty	V. Tank	800
Do.	Ariagoundepatty	V. Tank	240
Do.	Southapuram	V. Tank	740

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

I.—Financial Details.

Name of Work	Acreage.	Assessment.	Average Revenue for 5 Years.	Highest Revenue for 5 Years.	During the previous 4 years.	OUTLAY.		
						Proposed.		
						Original Works.	Repairs.	Average Annual Provision of Charges to Revenue.
	ACRES.	RS.	RS.	RS.	RS.	Rs.	Rs.	Rs.
Pannungadu Paddyary Tank	73	305	274	299	Nil.	...	50	5.6
Karapur Tank	20	70	65	67	do.	134	48	13.0
Mangopay Tank	278	1,539	803	833	do.	217	107	8.0
Dalavapatty Tank	108	430	367	307	do.	300	500	43.5
Ariagoundepatty Tank	39	125	126	129	do.	175	65	38.0
Southapuram Tank	151	608	214	234	do.	280	400	69.1
Total	678	3,127	1,854	1,925	Nil.	1,106	1,250	25.1

II.—Hydraulic Details.

Name of Work.	Catchment Basin Area.	MAXIMUM SUPPLY.		LENGTH OF ESCAPE.		AVERAGE HEIGHT OF BUND.		Surplus discharged at M.T.L. per Second.	Tanks above.
		Catchment per Second.	Channel per Second.	Total.	Effective.	Above F.T.L.	Above M.T.L.		
	SQ. M.	C. FT.	C. FT.	FT.	FT.	FT.	FT.	C. FT.	No.
Pannungadu Paddyary Tank.	1.12	802	...	C. 14.5 W 44.5	33.5 44.5	3.54 5.00	1.04 2.50	421.5 591.0	Nil.
Karapur Tank	2.5	1,036	...	C. 32 E 109	23 109	2.67 4.00	0.67 2.00	198.0 690.8	2
Mangopay Tank	7	3,658	...	C. 64 E 217	49 217	3.96 4.00	0.60 2.00	441.1 1,374.8	3
Dalavapatty Tank	9	2,434	...	E. 89 E 256	80 256	1.34 4.50	0.00 2.50	506.8 1,621.8	3
Ariagoundepatty Tank	10	2,611	...	E. 38 E 275	38 275	2.22 4.00	0.32 2.00	240.8 1,742.2	3
Southapuram Tank	13.5	3,189	...	E. 123 E 344	123 344	1.40 4.50	0.00 2.50	770.3 2,179.4	9

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

Proceedings of the Madras Government, Public Works Department,
7th August 1876. No. 2,028.

3. These tanks form a chain in the order above given, and these estimates are a commencement of the systematic treatment of connected tanks. As affecting the line of Railway they have been among the earliest, the requirements of which have been ascertained.

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

Pannungadu Peddyairy Tank.—Raising and repairing the bund, and removing the upright stones of the calingulah.

Karapur Tank.—Raising and repairing the bund, removing the dam stones of the existing calingulah, and extending the same with rough stone work.

Mangopay Tank.—Raising and repairing the bund, repairing the heads of two sluices, removing the dam stones of the existing calingulah and extending the same with rough stone work.

Dalavaputty Tank.—Raising and repairing the bund and extending the existing escapes with rough stone work.

Ariagoundenputty Tank.—Raising and repairing the bund, repairing the sluices, and extending the existing escape with rough stone work.

Southapuram Tank.—Raising and repairing the bund, and extending the existing escape with rough stone work.

The following general observations apply to the designs for the repairs, &c., of these tanks:—

Surplus Escapes.—The sketches in the sections of these are probably conventional, if not the packing of the stones does not seem to be very secure. They would be better laid on edge to the full depth of the apron, that is the largest dimension of the stone vertical and the smallest exposed. The tail of the apron should be flush with the ground. The lengths of crest are calculated with a co-efficient of discharge of 0.628. The fall from the crest seems to be rapid, and a deduction for the absence of a clear overfall may be unnecessary. In that case the lengths will suffice.

Bund.—The interior slopes of 1 to 1 cannot stand, and the top width of 4 feet or so will not bear reduction by the falling away of the crest. The slopes should where unrevetted not be steeper than $1\frac{1}{2}$ to 1 unless the soil be exceptional.

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.	ORDINARY AGRICULTURAL WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE NOT KEPT.		Total for each Tank, &c.
		Original Works.	Repairs.	
Pannungadu Peddyairy Tank.	Raising and repairing the bund and removing the upright stones of the Calingulah ...	rs. 50	rs. 50	rs. 100
Karapur Tank ...	Raising and repairing the bund ...	134	48	182
Mangopay Tank ...	Removing the dam stones of the existing Calingulah and extending the same with rough stone work ...	217	107	324
Dalavaputty Tank ...	Raising and repairing the bund ...	300	500	800
Ariagoundenputty Tank ...	Extending the existing escapes with rough stone work ...	175	460	635
Southapuram Tank ...	Raising and repairing the bund ...	280	...	280

Proceedings of the Madras Government, Public Works Department,
7th August 1876. No. 2,028.

Name of Tank.	Items of Estimate.	ORDINARY AGRICULTURAL WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE NOT KEPT.		Total for each Tank, &c.
		Original Works.	Repairs.	
		rs.	rs.	rs.
Ariagoundenputty Tank ...	Raising and repairing the bund, and also repairing the sluices ...	...	66	66
	Extending the existing escapes with rough stone work ...	175	...	175
Southapuram Tank ...	Raising and repairing the bund ...	...	460	460
	Extending the existing escapes with rough stone work ...	280	...	280

OOTACAMUND,
13th July 1876.

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

To the Secretary to Government, Public Works Department.

No. 157. ORDER THEREON, 7th August 1876, No. 2,028.

IRRIGATION, No. 14.
Account.

No. 123-W., dated 13th July 1876.

The following estimates for Irrigation works in the No. 1 or Salem Range, Salem District, forwarded by the Chief Engineer for Irrigation with his memorandum marginally noted, are sanctioned:—

Name of Work.	Item of Estimate.	Ordinary Agricultural Works for which no Capital or Revenue Accounts are kept.	Amount.	Irrigation Registry No.
Pannungadu Peddyairy Tank.	Repairing the bund and calingulah.	Repairs ...	rs. 60	91-I.
Karapur Tank ...	Repairing the bund ...	Do. ...	48	11-02-I.
	Extending the calingulah ...	Original Works ...	134	21
Mangopay Tank ...	Repairing the bund and sluices ...	Repairs ...	107	11-03-I.
	Calingulah ...	Original Works ...	217	25
Dalavaputty Tank ...	Repairing the bund ...	Repairs ...	500	11-04-I.
	Escapes ...	Original Works ...	300	21
Ariagoundenputty Tank ...	Repairing, &c., the sluices ...	Repairs ...	65	11-05-I.
	Escapes ...	Original Works ...	175	21
Southapuram Tank ...	Repairing the bund ...	Repairs ...	460	11-06-I.
	Escapes ...	Original Works ...	280	21

2. These sanctions are registered as shown above.
(True Extract.)

To the District Engineer, Salem.
" Collector of Salem.
" Chief Engineer for Irrigation.
" Examiner of Public Works Accounts.
" Revenue Department.
Exd. W. H. French.
Spare Copies

Colonel,
Offg. Under Secy. to Govt., P.W.D.

N^o 123-W. Pottasamud 13th July 1876.

Note by the Chief Engineer for Irrigation.

No. *1 S. I.*

Dated *8 April 1876*.

Encls 20.

THE following Estimates from the *N^o 1 Salem* Range are forwarded by the *District* Engineer *Salem* with his letter marginally noted:—

Taluq.	Village.	Work.	Amount. Rs.
<i>Salem</i>	<i>Punnamgadu</i>	<i>V Biddigary tank</i>	<i>50</i>
<i>do</i>	<i>Karapur</i>	<i>V Tank</i>	<i>132</i>
<i>do</i>	<i>Mangapay</i>	<i>V Tank</i>	<i>324</i>
<i>do</i>	<i>Balaraputty</i>	<i>V Tank</i>	<i>800</i>
<i>do</i>	<i>Arigoundenputty</i>	<i>V Tank</i>	<i>240</i>
<i>do</i>	<i>Southapuram</i>	<i>V Tank</i>	<i>740</i>

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

I.—Financial Details.

Name of Work.	Acreage Area.	Assessment.	Average Revenue for 5 years.	Highest Revenue for 5 years.	During the previous 4 years.	OUTLAY.		
						Proposed.		
	Acre.	Rs.	Rs.	Rs.	Rs.	Capital.	Revenue.	Average annual proportion of charges to Revenue.
<i>Punnamgadu Biddigary tank</i>	<i>73</i>	<i>305</i>	<i>274</i>	<i>298</i>	<i>Nil</i>	<i>"</i>	<i>50</i>	<i>3.6</i>
<i>Karapur Tank</i>	<i>29</i>	<i>70</i>	<i>65</i>	<i>67</i>	<i>5</i>	<i>134</i>	<i>48</i>	<i>56.1</i>
<i>Mangapay Tank</i>	<i>278</i>	<i>1639</i>	<i>803</i>	<i>853</i>	<i>5</i>	<i>217</i>	<i>107</i>	<i>8.0</i>
<i>Balaraputty Tank</i>	<i>108</i>	<i>450</i>	<i>367</i>	<i>367</i>	<i>5</i>	<i>300</i>	<i>500</i>	<i>42.5</i>
<i>Arigoundenputty Tank</i>	<i>39</i>	<i>125</i>	<i>126</i>	<i>126</i>	<i>5</i>	<i>175</i>	<i>65</i>	<i>38.1</i>
<i>Southapuram Tank</i>	<i>151</i>	<i>608</i>	<i>314</i>	<i>234</i>	<i>5</i>	<i>330</i>	<i>560</i>	<i>69.1</i>
<i>Totals</i>	<i>678</i>	<i>3127</i>	<i>1354</i>	<i>1925</i>	<i>Nil</i>	<i>1106</i>	<i>1250</i>	<i>25.1</i>

II.—Hydraulic Details.

Name of Work.	Catchment Basin Area.	Maximum Supply.		Length of Escape.		Average Height of Band.		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.		
						Ft.	Ft.		
	Sq. M.	C. ft.	C. ft.	Ft.	Ft.	Ft.	Ft.	C. ft.	No.
Pannungadu Piddigay Tank	1' 12	562	.	N. 40.5	33.5	3.56	1.66	251.5	Nil
Karapur Tank	3.5	1056	.	K. 22	22	2.67	0.67	198.0	2
Mangopay Tank	7'	2055	.	K. 64	49	2.30	0.30	245.5	3
Dalavapatty Tank	9'	2454	.	E. 80	80	1.36	0.00	326.5	3
Brigundenpatty Tank	10'	2611	.	E. 38	38	2.29	0.22	320.0	3
Southapuram Tank	13.5	3189	.	E. 12	12	1.40	0.00	779.0	4

Note.—The proposed dimensions of escapes and heights of band are entered in red. The existing dimensions in black. The following abbreviations are used:—K.—Kalingulak with dam stones. W.—Wall with flash crest. E.—Escape at ground level. B.—Band of tank. V.—Village.

—These tanks form a chain in the order above given and these estimates are a continuation of the design for the escape of the tanks. The following is a summary of the work proposed to be carried out in each case—:

Pannungadu Piddigay Tank. Raising and repairing the band and removing the upright stones of the Kalingulak.

Karapur Tank. Raising and repairing the band, removing the dam stones of the existing Kalingulak and extending the same with rough stone work.

Mangopay Tank. Raising and repairing the band, repairing the heads of two sluices, removing the dam stones of the existing Kalingulak and extending the same with rough stone work.

Dalavapatty

Dalavapatty Tank. Raising and repairing the band and extending the existing escapes with rough stone work.

Brigundenpatty Tank. Raising and repairing the band, repairing the sluices, and extending the existing escape with rough stone work.

Southapuram Tank. Raising and repairing the band and extending the existing escape with rough stone work.

The following general observations apply to the designs for the repairs of these tanks.

Surplus escapes

The sketches in the sections of these are probably conventional, if not the packing of the stones does not seem to be very secure. They would be better laid on edge to the full depth of the apron. That is the largest dimension of the stone vertical and the smallest exposed. The bed of the apron should be flush with the ground. The lengths of crest are calculated with a coefficient of discharge of 0.68. The fall from the crest seems to be rapid and a deduction for the absence of a clear overfall may be unnecessary. In that case the lengths will suffice.

Band

The interior slopes of 1 to 1 cannot stand and the top width of 4 feet or so will not

be

near reduction by the falling away of the crest
The slopes should where unretained not be
steeper than 1 1/2 to 1 unless the soil be
exceptional

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	<i>Ordinary Agricultural Works for Co. Road</i> <i>Capital & Revenue</i> <i>Disbursements not kept</i>	
		Major Repairs	Minor Repairs

Pannangadu Paddyary Tank	Raising and repairing the bund and removing the upright stones of the Kalingulak	50	50
	Raising and repairing the bund	40	
Harapur Tank	Removing the dam stones of the existing Kalingulak & extending the same with rough stone work	134	152
	Raising and repairing the bund & also repairing the head of 2 sluices	107	
Mangapay Tank	Removing the dam stones of the existing Kalingulak & extending the same with rough stone work	217	224
	Raising		

Note: In the above statement the items are to be printed in clear
and the minor work in small letters

Palarapally Tank	Raising and repairing the bund	500	
	Extending the existing escapes with rough stone work	300	800
Aranganadapally Tank	Raising and repairing the bund and also repairing the sluice	65	
	Extending the existing escape with rough stone work	175	240
Southapuram Tank	Raising and repairing the bund	400	
	Extending the existing escape with rough stone work	280	680

Resdeto

M. K. P. B.
Deputy Chief Engineer for Irrigation
for Chief Engineer for Irrigation

To
The Secretary to Government
Public Works Department

C. B. B.

FORMER CASES.

No. 1352 of 1876.

for 25 May / 76 No 1481

Issue No.

Dated 13 July 1876

LATER CASES.

No. of 187 .

Sent to Government with No.

W. of

18

Printed with G. O. No.

dated

REMINDERS ISSUED.

No. 1, dated 187 .
 " 2, " " "
 " 3, " " "
 " 4, " " "
 " 5, " " "

KEEP WITH:-

No 156
 13 July 1876
 13 July 1876

Issue Case.

I. E. Form No. 31.

Chief Engineer for Irrigation.

RECEIPT No.

13 S. L.
 Dated 18 July 1876.
 M. J. G. M. G.

No. 123 W.

Subject:—

Submits estimates for
 repairing certain Tanks
 in the Salem District

ENCLOSURES. 20

R. I. Form No. 3.

The following Estimates for Irrigation
 works in the *M. or Salem* Range,
Salem District, forwarded by the
 Chief Engineer for Irrigation with his Memo.
 marginally noted are sanctioned:—

No. 123 W.
 dated 13 July 1876.

Name of Work.	Item of Estimate.	Amount	Irrigation Registry No.
Chinnagadai	Repairing the bund & kalingulak	50	41. I
Peddipalayam Tank	Repairing the bund	48	42. I
Karapalayam Tank	Repairing the bund & kalingulak	134	43. I
Mangalay Tank	Repairing the bund & kalingulak	107	44. I
Dalavaputhi Tank	Repairing the bund & kalingulak	500	45. I
Arigoundampally Tank	Repairing the bund & kalingulak	65	46. I
Longthapuram Tank	Repairing the bund & kalingulak	460	47. I

or Salem
 Collector do
 C. R. for I. with 20 Enclos
 13 July 1876

Dated 4/7/76

These sanctions are
 registered as shown
 above.

And
 13 July 1876

5709

Bohl of 1870
PUBLIC WORKS.

To

No N. & Salem

Dated

Issued

Received

G. O. of the District No. 2028

No. 156-157

Jacks - Salem St.

Estimates for the
repair of certain
sanitation

Sanitation
5-9-18