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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Revenue DEPARTMENT

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R.R.
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Proceedings of the Madras Government, Public Works Department,
19th April 1877. No. 1,333.

Read the following:—

No. 173-W.

No. 437. *Note by the Chief Engineer for Irrigation.*

THE following estimates from the No. 3 or Chingleput Range are forwarded by the Superintending Engineer, Chingleput, with his letter marginally noted:—

Taluq.	Village.	Work.	Amount.
Madurantium ..	Vasandavadi ..	S. No. 213 V. Tank ..	Rs. 380
Do. ..	Ammayappah Nullur ..	S. " 10 " ..	810
Do. ..	Karanai ..	S. " 13 " ..	335
Do. ..	Sithundy ..	S. " 293 " ..	1,245
Do. ..	Pakkam ..	S. " 215 " ..	2,140
Do. ..	Olukkakkam ..	S. " 195 " ..	525
Total ..			5,435

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

I.—Financial Details.

Name of Work.	Ayent Area.	Assessment.	Average Revenue for 5 years.	Highest Revenue for 5 years.	During the previous 4 years.	OUTLAY.		
						Proposed Ordinary Agricultural Irrigation.	Original Works.	Average annual portion of Charges to Revenue.
	ACRES.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Vasandavadi Tank ..	27	116	111	126	NIL.	..	308	55.4
Ammayappah Nullur Tank ..	77	408	255	306	..	..	725	56.8
Karanai Tank ..	15	85	76	85	..	..	292	76.8
Sithundy ..	239	1,043	531	547	56	..	1,160	45.8
Pakkam ..	320	1,473	1,345	1,663	869	220	1,580	36.6
Olukkakkam Tank ..	36	118	156	187	NIL.	..	420	53.3
Total ..	714	3,243	2,474	2,914	925	220	4,485	45.5

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 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.	FT.	FT.	FT.	C. FT.	No.
Vasandavadi Tank ..	0.5	354	..	NIL.	NIL.	2.5	1.0	0.0	Not stated.
Ammayappah Nullur Tank ..	1.0	562.5	..	E. 115	115	4.0	2.5	354.8	..
Karanai Tank ..	0.5	354	..	E. 26	26	2.5	1.0	132.3	..
Sithundy Tank ..	4.5	1,533	..	E. 182	182	4.0	2.5	561.6	..
Pakkam ..	5.0	1,644	..	NIL.	NIL.	2.5	1.0	0.0	..
Olukkakkam Tank ..	0.25	223	..	E. 120	120	4.0	2.5	370.3	..
				W. 30	30	2.5	1.0	490.6	..
				E. 60	60	..	..	..	..
				W. 30	30	4.0	2.5	1530.6	..
				E. 436	436	3.5	1.5	540.1	16
				C. 72	60	..	..	..	..
				W. 72	173	5.0	3.0	1644.0	..
				W. 101	..	..	..	..	..
				NIL.	NIL.	2.5	1.0	0.0	Not stated.
				E. 73	73	4.0	2.5	371.6	..

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.—Calingulah with dam stones. W.—Weir with flush cross. E.—Escape at ground level. B.—Bund of tank. S.—Revenue Survey. V.—Village.

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

Vasandavadi Tank.—This tank is situated in the catchment basin of the Mambakkam tank, latitude $12^{\circ}27'$ longitude $79^{\circ}56'$, which latter tank commands the South Indian Railway line at the 50th mile. The bund of the tank is in bad order.

The tank has no surplus work except a temporary cut made in the bund. The tank is provided with an irrigation sluice which is in need of repair.

The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ feet above M.W.L., planting kuskus on the front slope to M.W.L. and turfing it above that level, for repairing the irrigation sluice and forming a grass planted escape.

The estimate is recommended for sanction with the following alterations, which will reduce it from Rupees 380 to Rupees 308:—

(1) The turfing (Rupees 32-7-3) is struck out.

* = $\frac{3}{4}$ ths of the turfing which is estimated for on vertical height of $2\frac{1}{2}$ feet, whilst the strip of planting here disallowed is on $1\frac{1}{2}$ vertical height.

(2) The kuskus grass need not be planted above F.T.L., which will reduce the quantity to be planted by about 1,245* square yards and the estimate for it by Rupees 39-3-6.

Ammayappah Nullur Tank.—This tank is in the catchment basin of the Madranticum tank of the Tennalur group latitude $12^{\circ}34'$ longitude $79^{\circ}44'$; its bund was damaged by the cyclone in 1872 and again in 1874, and is in bad order. It has no provision for getting rid of surplus except a breach in the bund 26 feet in length.

The tank has two irrigation sluices and a channel which are in need of repair.

The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ feet above M.W.L., planting kuskus grass on the front slope to M.W.L.; and turfing it above that level, for repairing the sluices and a portion of the channel in connection with one and for forming a grass planted escape.

The plan of the proposed face wall which in the report is stated to accompany it did not do so.

The estimate is recommended for sanction with the following alterations, which reduce it from Rupees 810 to Rupees 725:—

(1) Turfing (Rupees 38-4-6) is struck out.

(2) The strip of kuskus grass planting between F.T.L. and M.W.L., taken as 1,470 square yards (Rupees 46), is struck out.

Karanai Tank.—This tank also is situated in the catchment basin of the Madranticum tank, latitude $12^{\circ}33'$ longitude $79^{\circ}44'$, and was damaged by the floods of 1872 and 1874. The injured portions were patched up by the villagers, but the tank bund is in bad order. The tank has one irrigation sluice which is in need of repair. The surplus of this tank escapes round the south end of the bund.

The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ feet above M.W.L., planting kuskus grass on front slope to M.W.L. and turfing it above that level, for repairing the irrigation sluice, and for forming a grass planted escape.

The estimate is recommended for sanction with the following alterations, which reduce it from Rupees 335 to Rupees 292:—

(1) Turfing (Rupees 25-1-3) is struck out.

(2) Planting kuskus grass between F.T.L. and M.W.L. is not necessary and of doubtful efficacy, as this grass does not thrive at a high level. This item has been reduced, therefore, by Rupees 17-10-0.

Sithundy Tank.—This tank is at about latitude $12^{\circ}42'$ longitude $79^{\circ}53'3''$ and was breached by the floods of 1872, and further damaged by those of 1874. Repairs costing Rupees 250, which are included in the estimate now submitted for sanction, have been carried out on emergency, but further repairs are required. The tank has three irrigation sluices, the face walls of two of them require reconstruction, and the third sluice requires slight repairs. This tank has a "fine masonry escape" 30 feet long, built ten or twelve years ago, which proving insufficient 60 feet of the bund have been removed since 1874.

The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ feet above M.W.L., planting kuskus grass on the front slope to M.W.L. and turfing it above that level; for repairing the three irrigation sluices and for forming an escape 436 feet long planted with grass. It is stated that the ayacut area of this tank is 239 acres, but that its shallowness is such that it can store water sufficient for the cultivation of only 99 acres.

In the estimate Rupees 250, stated to have been spent on this tank on emergency, are included. Emergent repairs should be specially sanctioned while the emergency exists by the Superintending Engineer.

The plan of new face wall stated to have been sent did not come. The estimate is recommended for sanction with the turfing, and kuskus grass planting above F.T.L. struck out, reducing it from Rupees 1,245 to Rupees 1,160.

The arrangements for the disposal of surplus are not considered suitable. It is stated that there is a masonry escape 30 feet long, that 60 feet of bund were cleared away after 1874, that 218 feet of bund at east end are to be cleared away, and that 436 feet of water-way in addition to the masonry escape are to be provided. These figures do not tally. The maximum flood discharge is about 1,400 cubic feet a second. The difference between F.T.L. and M.W.L. may be 2 feet, and the discharge per foot of clear water-way will then be 9 cubic feet a second; 270 cubic feet are provided for by the masonry escape leaving 1,130 cubic feet to be disposed of; 126 feet of clear escape would suffice, and 250 feet of grass planted escape will do; so 190 feet additional will be required. It may be necessary to dispose of surplus in this way to save expense, but, if stone be readily procurable, a pavement of 130 feet in length would be preferable.

Pakkam Tank.—This tank is situated in the catchment basin of the Mambakkam tank latitude $12^{\circ}28'$ longitude $79^{\circ}55'$. Its bund was much injured by the floods of 1872 and 1874, and narrowly escaped breaching, being only saved by cuts made in it. The inner slope has for a length of 572 feet a revetment up to about $1\frac{1}{2}$ feet below F.T.L., but the stones need repacking.

The tank is provided with four irrigation sluices which require only slight repairs to the cisterns and face walls. The tank has also a calingulah 72 feet long (60 feet available for discharge), which is insufficient.

The estimate provides for repairing the bund, raising it to 3 feet above M.W.L., repacking the existing stones as revetment and slope to $1\frac{1}{2}$ feet below F.T.L., planting

kuskus grass above that to M.W.L., and turfing above that level, for repairing the irrigation sluices, for converting the existing calingulah into a weir by removing the dam stones and raising the body wall to F.T.L., and for constructing a new masonry weir 101 feet length of crest.

The South Indian Railway crosses the bund of this tank west of the calingulah. If the rock at the site for the new weir is hard enough to stand the overfall without protection, the depth of the foundations of the work need not be more than 2 feet with $2\frac{1}{2}$ breadth, the body wall being only 2 feet thick. In the report it is stated, "the surface being rocky requires simply a crest wall raised to F.T.L., and the bank at the ends protected with loose stone." The plan does not tally with this, but it will be enough if the wall is stepped up two steps* to M.W.L., and

* Each 1 foot broad.

continued at that level for $4\frac{1}{2}$ feet to allow the toes of the revetted slopes to fall beyond the ends of crest of the weir. With the reductions and dimensions given above, the cost of the work will at estimated rates be, instead of Rupees 340, Rupees 220, and that amount is recommended for sanction.

In the estimate for converting calingulah into a weir, which is recommended for sanction, it is noticed that for concrete is allowed a higher rate than for "stone in chunam." The useless masonry proposed to be added to the wings should as noted on the plan be omitted.

The estimate for repairing the bank is recommended for sanction reduced from Rupees 1,520 to Rupees 1,300 by striking out turfing and kuskus grass planting. The tank will be safe if the top be made $2\frac{1}{2}$ feet above M.W.L., and a further reduction in cost of repairs will therefore be feasible.

Olukkakkam Tank.—This tank is also situated in the catchment basin of the Mambakkam tank latitude $12^{\circ} 29'$ longitude $79^{\circ} 53' 5''$. The surplus of this tank crosses the line of railway at the 55th mile.

The floods of 1872 and 1874 damaged the bund. The tank has an irrigation sluice which is in need of repair. The tank has no proper surplusage work, and the surplus is passed off during floods round the south of the bund.

The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ feet above M.W.L., planting kuskus grass on front slope to M.W.L., and turfing it above that level, for repairing the irrigation sluice, and for forming an escape by removal of bund to F.T.L. for 73 feet where the surface is "rocky."

The plan for the alteration of the sluice does not show clearly the existing portion of work. The plug and its spear as shown in the drawing are clumsy. A drawing of a better form of plug will be found with memorandum No. 46 W, dated 20th April 1876, of Chief Engineer, printed with G.O., No. 1,300, dated 24th May 1876. As the surface of the proposed escape is not to have kuskus grass on it, 45 feet in length instead of 73 will be enough. This is a small tank and there is not much fear of wave injury to its bank. Turfing and kuskus grass planting are struck out of the estimate, which, reduced by the alterations from Rupees 525 to Rupees 420, is recommended for sanction.

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, IRRIGATION.		Total for each Tank, &c.
		Original Works.	Repairs.	
Vasandavadi Tank ..	Raising and repairing the bund, repairing the Irrigation sluice, and forming an escape planted with kuskus ..	Rs. ..	Rs. 308	Rs. 308
Ammayappah Nullur Tank ..	Raising and repairing the bund, repairing two Irrigation sluices and a channel, and forming an escape planted with kuskus ..	..	725	725
Karanai Tank ..	Raising and repairing the bund, repairing the Irrigation sluice, and forming an escape planted with kuskus ..	..	292	292
Sithundy Tank ..	Raising and repairing the bund, repairing three Irrigation sluices, and forming an escape planted with kuskus ..	..	1,160	1,160
Pakkam Tank ..	Raising and repairing the bund ..	..	1,300	1,800
	Repairing four Irrigation sluices ..	..	60	
	Converting calingulah into a weir ..	..	220	
Olukkakkam Tank ..	Constructing a masonry weir ..	220	..	..
	Raising and repairing the bund, repairing Irrigation sluice, and forming an escape ..	..	420	420

(Signed) G. T. WALCH,

Ag. Dy. Chief Engineer for Irrigation,
for Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department.

No. 438. ORDER THEREON, 19th April 1877, No. 1,333.

IRRIGATION, No. 40.

Account.

No. 173 W, dated 2nd April 1877.

THE following estimates for Irrigation Works in the No. 3 or Chingleput Range, Chingleput District, forwarded by the Chief Engineer for Irrigation with his memorandum marginally noted are sanctioned:—

Name of Work.	Item of Estimate.	FUND. Ordinary Agricultural, Irrigation.	Amount.	Irrigation Registry No.
			Rs.	
Vasandavadi Tank ..	Repairing bund and sluice and forming an escape ..	Repairs ..	308	12 I.
Ammayappah Nullur Tank ..	Repairing bund, two sluices and channel and forming an escape ..	Do. ..	725	13 I.
Karanai Tank ..	Repairing bund and sluice and forming an escape ..	Do. ..	292	14 I.
Sithundy Tank ..	Repairing bund and three sluices and forming an escape ..	Do. ..	1,160	15 I.
Pakkam Tank ..	Repairing bund ..	Do. ..	1,300	16 I.
	Repairing four sluices ..	Do. ..	60	
	Converting calingulah into weir ..	Do. ..	220	
Olukkakkam Tank ..	Weir ..	Original Works ..	220	4
	Repairing bund and sluice and forming an escape ..	Repairs ..	420	

*Proceedings of the Madras Government, Public Works Department,
19th April 1877. No. 1,333.*

2. These sanctions are registered as shown above.

(True Extract.)

W. H. Mullins

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

To the Superintending Engineer, Chingleput.

- " Collector of Chingleput.
- " Chief Engineer for Irrigation.
- " Examiner of Public Works Accounts.
- " Revenue Department. ✓

Exd. E. C. Shanker.

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Revenue Department
2427 No 2303
Govt. of 1877 Madras.

PUBLIC WORKS.

To

THE SUPERINTENDING ENGINEER,

CHINGLEPUT,

&c. &c. &c.

Dated April 19th.

Issued

Recd. 27th April 1877 Encl.

G. O., 19th April 1877, No. 1,333

See Memo

APRIL

Nos. 437-438.

No 2427

Comm. to the
Board of Revenue

30th April 1877

Tanks, Chingleput District. — The estimates for repairs, &c., to certain —, sanctioned.

9. To the H^{on}ble Revenue Secy 1-5-77