

(1) Number of pages 10

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(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

GOVERNMENT OF MADRAS

Revenue DEPARTMENT

G.O. No.	2558	Press
B.P. No.		Mis.
Dated	4-11-1876	196

Not to be folded or roughly handled

2558

*Proceedings of the Madras Government, Public Works Department,
27th September 1876. No. 2,604.*

No. 499. Read the following endorsement of the Chief Engineer for Irrigation, dated Ootacamund, 15th September 1876, No. 190 W:—

From J. O'SHAUGHNESSY, Esq., District Engineer of Nellore, to Lieutenant-Colonel J. MULHINS, R.E., Chief Engineer for Irrigation, dated Nellore, 27th August 1876, No. 85.

In reference to G.O., dated the 7th December 1875, No. 3,455, I have the honor to submit a revised plan and estimate of the Nellore tank weir, which have been prepared in accordance with your instructions, No. 14, dated the 26th May 1876.

2. I have endeavoured to keep the estimate within the amount (Rupees 15,000) which you roughly calculated it would cost, but I have found it impossible to do so, and, considering the quality of the work, it will be cheap at a cost of 20,000 Rupees, the amount of the estimate now submitted.

3. It is probable that a further sum of 5 or 6 thousand Rupees will be added to the estimate in the Examiner's office an account of "Direction" and "Accounts." I do not think that these capricious charges, to works of this nature, are entirely fair; they are not distributed in a similar manner to individual minor works or to works of ordinary conservancy, nor does the practice obtain in other departments of public service, and, so far as this particular work is concerned, it would not make a farthing of difference in the cost of that portion of the Executive Government, which appertains to the Public Works Department, whether it was constructed or not.

The proportional amount of labor appertaining to this work in the Offices of Direction and Accounts cannot possibly cost the sums that are likely to be charged to it under these heads of services, and it will be a misrepresentation of facts to say that it will cost 25 or 26 thousand Rupees, when it really costs only 20,000 Rupees. It appears, moreover, that the cost of Establishments are debited to such works twice over for in the summary of yearly accounts, which are produced by the Accounts Office. The amounts in question appear to be again included in the total cost of Establishments. This is a very important matter, more especially in regard to works, the cost of which is compared with results, and I take this opportunity of bringing the matter to your notice.

You are, of course, aware that on the authority of the Government Order under reference the work in question is in progress. The accompanying section shows the progress made up to this date, and, if funds are available, the work can be completed in the current official year.

In this case a further allotment of Rupees 7,742 will be required as follows:—

	RS.	RS.
Amount of estimate	...	20,000
Expenditure in 1875-76	... 2,258	
Allotted for 1876-77 (<i>vide</i> Irrigation Budget Item, No. 19)	... 10,000	
Total Allotments	... 12,258	
Balance required	... 7,742	

Should there be any difficulty in allotting the balance of the estimate (Rupees 7,742) in this year, the excavation of the escape channel estimated to cost Rupees 5,580, and the formation of the roadway estimated to cost Rupees 910, can be deferred

until next year without inconvenience or loss, and the further allotment required in the current year will be 1,252 Rupees, or allowing for probable savings 1,000 Rupees as follows:—

Amount of estimate	...	Rs.
Deduct cost of escape channel	...	20,000
Approach road	...	5,580
Probable savings	...	910
	...	252
Total deductions	...	6,742
Work to be executed to end of 1876-77	...	13,258
Previous year's expenditure	...	2,258
Allotments for current year	...	10,000
Total	...	12,258
Further allotment required in current year	...	1,000

If this amount cannot be obtained from any other source at present at the disposal of Government, I beg to recommend that it be taken from the amount * allotted to the Pennair right bank from Nellore anicut to the sea, which appertains to the same head of service.

* Vide Irrigation Budget 1876-77,	Rs.
Item 52	19,500
Deduct as per Chief Engineer's Memorandum, No. 1,254, of 19th August 1876.	5,000
Net allotment available	14,500

I enclose a list of the plans and papers which accompany this letter, and I request that the plans and estimates may be returned to me when no longer required in your office.

DEPARTMENT PUBLIC WORKS, NELLORE.

ESTIMATE No. OF 1876-77.

Work.—Surplus weir in the bank of the Nellore Tank.

References.

- No. 1.—District Engineer's letter to Chief Engineer for Irrigation, No. 44, dated 22nd August 1874.
- No. 2.—Chief Engineer's Memorandum, No. 665, dated 3rd September 1874.
- No. 3.—District Engineer's letter to Chief Engineer for Irrigation, No. 65, dated 6th November 1875.
- No. 4.—Chief Engineer for Irrigation Memorandum, No. 1,400, dated 26th November 1875.
- No. 5.—G.O., No. 3,455, dated 7th December 1875.
- No. 6.—District Engineer's letter to Chief Engineer for Irrigation, No. 31, dated 19th May 1875.
- No. 7.—Chief Engineer for Irrigation Memorandum, No. 14, dated 26th May 1875.

Report.

In the first of the letters above referred to, the then District Engineer (the late Mr. R. Smith) brought to notice certain defects in the disposal of the surplus water of the Nellore tank.

This tank receives the drainage of 17 square miles, and by the formula now in use in the Irrigation Department $C^3 \sqrt{M^2}$ the surplus discharge amounts on certain occasions to 3,718 cubic feet per second as follows:—

$$C^3 \sqrt{17^2} = 562.5 \times 6.61 = 3,718.$$

It is scarcely necessary to mention that the occasions on which this discharge occurs is during heavy rains and when the tank is already full.

The tank receives a large supply from the Pennair river also, but this is not brought into the calculation, because the river-supply can be cut off at the existing head sluice, and chiefly because river floods and heavy rains never occur at the same time.

The surplus is now discharged by an old weir at the east end of the tank and is carried off by old channels a distance of about 16 miles in a south-easterly direction, where it falls into the Kundelairoo or Uppatairoo at a distance of about 5 miles from the sea. In former times this surplus was utilized by being turned into other tanks along the course of the old drainage channels which carried it off from the Nellore tank; but since the construction of what is known as the "Survapully Project," these tanks are supplied direct from the Pennair river. The surplus of the Nellore tank is now seldom or never utilized, and it runs directly to the sea by the drainage channel already described.

This drainage enters the main channel of the Survapully Project at a distance of about 2 miles below the Nellore tank, and provision was made for carrying it off by a surplus sluice about a mile lower down the channel. This provision is found to be insufficient, and the drainage forces its way through the banks of the Survapully channel, or heads back over the country, and thereby occasionally injures a considerable extent of cultivation. Even when the surplus is so limited in quantity as to be capable of being passed by the existing means under the Survapully channel, it floods a considerable quantity of low lands recently brought under cultivation below the Survapully channel, and under any circumstance the present means of carrying off the surplus of the Nellore tank is a source of danger and loss.

To remedy these defects, the District Engineer proposed to close the old weir and to construct a new weir at a point in the tank bank where the surplus could be discharged direct into the Pennair river about 5 miles above the anicut.

In the second of the letters under reference Colonel J. Mullins, R.E., Chief Engineer for Irrigation, expressed his concurrence in the District Engineer's views, and he approved generally of the District Engineer's proposals. He decided, first, that provision should be made for the discharge of 3,000 cubic feet per second of the tank surplus direct to the Pennair; second, that the old weir should be altered, so that it would discharge at maximum tank level 7 1/2 feet per second into the old drainages, and he ordered the submission of plans and estimates for the necessary works in time for entry in the Budget of 1875-76.

The great flood that occurred in the Pennair in October 1874, and the work of repairing the damage done by it, delayed the preparation of the designs and estimates, and it was not, until November 1875, that plans and estimates for the new weir only were submitted.

At the site selected for the proposed weir, the river margin is only 1,233 feet distant from the tank, and a public road passes between the tank and the river; the deep bed of the river is 8,855 feet from the tank and 27 feet lower than the full tank level; the river bed at the margin next the tank is only 14.64 feet below full tank level.

The District Engineer proposed that the lowest apron of the weir should be at the level of the deep bed of the river, or 27 feet below the crest of the work; but, in order to avoid the deep cutting which would be rendered necessary between the tank and the river and the construction of a bridge where the road crosses the line of the escape channel, he proposed the construction of two weirs instead of one. The first weir with an overfall of 10 1/2 feet in two drops to be in the tank bank, and the second weir with an overfall of 16 feet in three drops to be on the margin of the river, a distance of 943 feet from the first weir. The connecting channel was to be 10 1/2 feet deep and 330 feet wide at bottom, and paved with stone at the road crossing.

The crest of the weir was to be at full tank level or 66.14 feet above mean sea level. The highest flood of the Pennair rose in 1874 to 67.55 feet + mean sea level or 1.49 feet + the proposed crest of the weir. To provide against the water of a similar flood entering the tank, cast iron posts were to be fixed in the body of the weir 6.11 apart from centre to centre and projecting 4 feet above the crest level; moveable wooden shutters were to be placed between the posts to keep out river floods, and to retain at certain seasons water above full tank level for the supply of the Nellore town.

*Proceedings of the Madras Government, Public Works Department,
27th September 1876. No. 2,604.*

The weir was designed to be 195 feet 6 inches long from wing to wing, and, after deducting the space occupied by the cast iron posts, there would be 180 feet of clear waterway.

The tank bank is constructed to withstand a head of water up to 69.14 feet above M.S.L. or 3 feet above the crest of the proposed weir, with the water at this level the weir would by the usual formula and with a co-efficient of 66% discharge 3337.5 feet per second, or 337.5 feet more than it was supposed to have to discharge.

Finally, the work was estimated to cost Rupees 24,900 as follows:—

	Rs.
Upper weir	10,190
Lower do.	10,000
Connecting channel	4,110
	24,900

In placing these estimates before Government the Chief Engineer for Irrigation remarked that it was not necessary to drop the surplus of the tank a depth of 27 feet as proposed; he considered a drop of 15.60 sufficient for the present, and that it should be provided for by one weir in the tank bank.

In case the discharge channel even scoured out to the level of the deep bed, additional steps could be attached to the weir and all chance of its being undermined prevented; he suggested that accommodation for traffic by Baboo Roy's chuttrum road should be provided on the weir itself by turning it over one of the aprons of the weir which was to be made specially for the purpose.

The Chief Engineer calculated that, if the 9 or 10 millions cubic yards of water that would be held up in the tank between full and maximum tank levels was taken into account, a weir, 120 feet long, would probably be ample; but, considering the size and importance of the reservoir, he would, in order to secure perfect safety, allow the full length of 195½ of weir proposed.

The Chief Engineer remarked that risk would be incurred by the use of post and planks instead of self-acting shutters for keeping out the river floods, and he directed that the proposal to keep the water in the reservoir above full tank level for the use of the Nellore town be fully considered before incurring the risks that would attend it.

Finally, the Chief Engineer decided upon having a revised design in accordance with the modifications enumerated above, and he recommended that the District Engineer be authorized to take immediate steps for the construction of the work.

In G.O., dated 7th December 1875, No. 3,455, the Government approved of the Chief Engineer's proposals; they ordered the submission of a revised estimate at an early date; and they directed that the work be proceeded with on the provision of Rupees 5,000 entered for it in the Budget of 1875-76. The collection and preparation of materials were at once commenced on the above authority, but, owing to the lamented death of Mr. Smith shortly afterwards, nothing was done towards the preparation of the revised estimate before the end of the official year 1875-76.

On the arrival of the present District Engineer, the Executive Officer had arranged to proceed with the construction of the work, on the plan of upper weir originally designed by Mr. Smith, and the Government Order last quoted was considered sufficient authority for doing so, but he stopped the work for this purpose; he submitted on the 19th May a revised section of the work for the approval of the Chief Engineer for Irrigation. This section was further revised by the Chief Engineer, and it was sent back to the District Engineer with corrections and instructions on the 26th of the same month.

The only part of the work upon which the Chief Engineer did not give a decided opinion is the proposed addition of posts and shutters on the body of the work. It would have been as well perhaps to have raised the crest of the dam to the flood level of the Pennair, and so far as this is concerned, there would then be no necessity for the additions of posts and shutters at all, and so far as the impounding of water to a certain level for the domestic use of

*Proceedings of the Madras Government, Public Works Department,
27th September 1876. No. 2,604.*

Work.—Constructing a surplus weir, &c.—(Continued).

Contents.	Particulars.	Rate.	Per	Amount.	Total.
		RS. A. P.		RS. A. P.	RS. A. P.
1st Wing Wall.					
25½ C. yards.	Concrete	3 2 0	C. yd.	80 3 4	
165 " "	Brick in chunam	4 8 0	"	742 8 0	
8½ squares...	Pointing	2 8 0	Sqre.	21 4 0	843 15 4
1st Retaining Wall.					
36½ C. yards.	Concrete	3 2 0	C. yd.	113 1 3	
114 " "	Brick in chunam	4 8 0	"	513 0 0	
7 squares ...	Pointing	2 8 0	Sqre.	17 8 0	643 9 3
1st Floor.					
24½ C. yards.	Concrete	3 2 0	C. yd.	77 6 10	
24½ " "	Brick in chunam	4 8 0	"	111 8 0	
47½ " "	Laterite in chunam	8 0 0	"	379 8 11	
13.8 squares ...	Pointing	2 8 0	Sqre.	34 8 0	602 15 9
2nd Retaining Wall.					
33 C. yards...	Concrete	3 2 0	C. yd.	103 2 0	
91 " "	Brick in chunam	4 8 0	"	409 8 0	512 10 0
2nd Floor.					
44½ C. yards.	Concrete	3 2 0	"	138 3 1	
51½ " "	Brick in chunam	4 8 0	"	232 0 0	
70 " "	Laterite in chunam	8 0 0	"	560 0 0	
20 squares ...	Pointing	2 8 0	Sqre.	50 0 0	980 3 1
Cyclopean Rubble Floor					
1.20½ C. yards	Concrete	3 2 0	C. yd.	377 6 11	
241½ " "	Cyclopean rubble in hydraulic mortar.	4 9 0	"	1,102 9 8	1,480 0 7
2nd Wing Wall.					
16½ C. yards...	Concrete	3 2 0	"	51 0 8	
108 " "	Brick in chunam	4 8 0	"	486 0 0	
8 squares ...	Pointing	2 8 0	Sqre.	15 0 0	552 0 8
3rd Retaining Wall.					
29½ C. yards...	Concrete	3 2 0	C. yd.	91 6 6	
138½ " "	Brick in chunam	4 8 0	"	623 4 0	
9½ squares ...	Pointing	2 8 0	Sqre.	23 2 0	737 12 6
Last Floor.					
47½ C. yards.	Concrete	3 2 0	C. yd.	148 7 0	
48 " "	Brick in chunam	4 8 0	"	216 0 0	
69½ " "	Laterite in chunam	8 0 0	"	554 10 8	
18 squares ...	Pointing	2 8 0	Sqre.	45 0 0	964 1 8
Last Retaining Wall.					
36½ C. yards...	Brick cubes	4 8 0	C. yd.	164 4 0	
100½ " "	Brick in chunam	4 8 0	"	453 8 0	617 12 0

Proceedings of the Madras Government, Public Works Department,
27th September 1876. No. 2,604.

the inhabitants of Nellore, the addition of posts and shutters would be useless, because the water is constantly drawn off for irrigation purposes, and it is quite impossible at present, by any combination of posts and shutters to keep the water at the level required, to supply the town.

It appears from the original estimate that the water was to be kept up to a height of 4 feet above the crest of the proposed weir for this purpose, that is to say, 1 foot above maximum tank level; nothing is said about this in the report or specification, but the dimensions of the posts and shutters provided in the estimate show that this could be done.

The shutters were to be fixed or removed by manual labor, and as no dependence whatever could be placed on the certainty that this work would be attended to at the proper time. It would be very dangerous to shut up the weir to maximum tank level. It would be more than dangerous to hold the water up 1 foot above maximum tank level even if the agency for relieving the tank when necessary could be trusted to do so, but lascars cannot be trusted in these cases. They have no idea of the danger that would be incurred by sometimes neglecting to remove the shutters; they would neglect to do so, sometimes through laziness, and they might at other times be bribed to keep the shutters in the work when they should be removed.

Under all these circumstances, it is considered better to place the safety of the tank beyond dependence on the energy or honesty of a lascar and beyond doubt. The posts provided for in the revised design are therefore to project only 1½ feet above the crest or 1'68 inches above the Pennair flood level, and the river water will be shut out by flap shutters working in a horizontal bar which will run along through the tops of the posts. The length of the dam is no doubt much greater than it need be, and, even should these shutters be fastened down, there will be no occasion to fear for the safety of the tank. With the exception of the posts and shutters for keeping out the Pennair flood water, and regarding which the Chief Engineer ordered further inquiry, the plans and estimates now forwarded are in accordance with the Chief Engineer's sketch design and written instructions.

The estimate amounts to Rupees 20,000 as follows:—

	Rs.
Weir	13,510
Approaches	910
Escape channel	5,580
Total	20,000

The Chief Engineer roughly estimated that the work could probably be done for 15,000 Rupees, and, with the exception of the laterite, there is no material difference between the rates in the revised and in the original estimate, but the quantities are much greater, especially in the escape channel, and the provision of a roadway on the work adds very much to the cost in comparison with the quantities and cost of the upper weir in the original estimate. The plans and estimates for the alterations of the old calingulab, ordered in connection with this work, will be submitted at an early date.

NELLORE,
27th August 1876.

(Signed) J. O'SHAUGHNESSY,
District Engineer.

CAPITAL ORDINARY—ORIGINAL WORKS—N. RESERVOIRS.

DEPARTMENT PUBLIC WORKS—NELLORE DISTRICT.

Revised Abstract Estimate No. of 1876-77.

Work.—Constructing a surplus weir in the bank of the Nellore Tank.

Contents.	Particulars.	Rate.	Per	Amount.	Total.
		RS. A. P.		RS. A. P.	RS. A. P.
42½ C. yards.	Concrete	2 0 0	C. yd.	132 15 9	
253½ " "	Brick in chunam	4 8 0	"	1,140 12 0	
26½ " "	Laterite do.	6 0 0	"	210 10 8	
24½ squares	Pointing	2 8 0	Sqre.	61 4 0	
212 C. yards	Puddle work	0 4 6	C. yd.	59 10 0	
					1,605 4 5

Proceedings of the Madras Government, Public Works Department,
27th September 1876. No. 2,604.

Work.—Constructing a surplus weir, &c.—(Continued.)

Contents.	Particulars.	Rate.	Per	Amount.	Total.
		RS. A. P.		RS. A. P.	RS. A. P.
227½ C. yards...	Apron. Rubble apron...	1 14 0	C. yd.	427 1 4	427 1 4
20½ C. yards ..	Pitching. Rubble pitching ...	2 0 0	"	41 5 4	
6½ " "	Gravel backing ...	1 0 0	"	6 3 6	47 8 10
1,532 C. yards...	Earthwork for removing the old bank.	0 1 6	"	143 10 0	143 10 0
				1,589 4 0	1,589 4 0
8,476 C. yards...	Excavating foundations and filling in.	0 3 0	"	248 0 0	248 0 0
31 " "	Cast iron posts 3 feet high ...	8 0 0	Each.	360 0 0	360 0 0
30 " "	Teak shutters 6 feet 4 inches × 2½ inches × 1½ feet including iron bands and rings.	12 0 0	"	450 0 0	450 0 0
	Baling				326 0 0
	Superintendence				50 0 0
	Sundries				328 2 7
	Contingencies				13,510 0 0
	Total				
738 C. yards...	Forming road approaches. Earthwork ...	0 2 6	C. yd.	115 5 0	
175 " "	Rough stone revetment on both sides.	2 0 0	"	350 0 0	
60 " "	Metalling	1 4 0	"	75 0 0	
101 " "	Gravelling 3 inches do.	0 14 0	"	88 6 0	
130½ " "	Metalling for forming road beyond approaches.	1 4 0	"	174 2 8	
69½ " "	Gravelling for do.	0 14 0	"	60 15 4	
	Superintendence			18 0 0	
	Sundries			10 0 0	
	Contingencies...			18 3 0	
	Total				910 0 0
184,870 C. ft....	Cutting Channel. Sixty feet out— Earthwork ...	0 4 6	100 C. ft.	520 0 0	
429,886 " "	Widening to 200 feet— Earthwork...	0 1 0	"	269 0 0	
	Sundries and Contingencies.			41 0 0	830 0 0
	Shutter shed				350 4 0
	Total				15,600 0 0

NELLORE,
27th August 1876.

(Signed) J. O'SHAUGHNESSY,
District Engineer.

SUBMITTED for the consideration of Government with reference to G.O., No. 3,455, of the 7th December 1875.

2. The report drawn up by the District Engineer affords a full account of the several steps taken in connection with the designing of the new surplus weir of the Nellore tank, and of the reasons why the detailed estimate* submitted by the

* Rupees 20,000.

District Engineer exceeds the approximate estimate of Rupees 15,000 mentioned by the undersigned. The difference is principally due to the cost of the surplus channel, and there is no occasion fortunately for incurring the great expense on this account provided for in the estimate. It is one thing to found the masonry at a level believed to be quite safe, and another to cut a great channel to a corresponding level when the surplus will find its way into the river without difficulty if much less costly arrangements be adopted.

3. The estimate as submitted by the District Engineer consists of three items:—

Surplus weir	...	...	...	...	...	...	...	Rs.
Road approaches	...	...	...	...	...	...	...	13,510
Surplus channel	...	...	...	...	...	...	...	910
								5,580
Total	...	...	...	...	...	...	...	20,000

Regarding the first it may be remarked that the rates appear to be higher than they should be, and this impression is strengthened by the circumstance that in the second item the rate for such very simple work as the earthwork of the road approaches is $2\frac{1}{2}$ Annas a cubic yard.

4. The surplus channel should be arranged as follows:—

1st.—The bed need not be placed lower than 56.00 at its upper end, and should run to and terminate at the old channel shown on the site survey.

2nd.—The width of the artificial cut should be made in the first instance 60 feet only, with vertical sides, as shown by dotted lines on the site survey. Afterwards the sides of this cut can be loosened with crowbars when the weir is discharging, and the soil will then be washed away.

3rd.—The spoil banks to be made up to 6 feet above the bed of the 60 feet cut and to be placed about 120 feet from the centre line of channel to inside top line of spoil bank.

5. The cost of the channel with these arrangements will approximately be as follow:—

The deepest cutting will be $6\frac{3}{4}$ feet, and the greatest lift will not much exceed this while the lead will be about 50 yards; the rate for the 60 feet cut may therefore be taken as $1\frac{1}{4}$ Annas a cubic yard, or say $4\frac{1}{2}$ Annas for 100 cubic feet. The quantity and cost of excavation of this cut will be—

184,870 cubic feet, at $4\frac{1}{2}$ Annas per 100	...	...	...	Rs.
The further widening of the channel with the aid of the surplus water will not cost more than 1 Anna a 100 cubic feet. The quantity of soil to be removed will be 429,886 cubic feet, at 1 Anna per 100	...	...	...	520
Sundries and Contingencies	...	...	...	269
				41
Total	...	...	...	830

6. The swing flood shutters should be removeable, as they will only rarely be wanted, and for them a shed should be built near the junction of the tank bund and river flood bank and just behind the latter. Rupees 350 will suffice.

7. The estimate will then become—

Surplus weir	...	...	...	...	...	...	Rs.
Road approaches	...	...	...	...	...	...	13,510
Surplus channel	...	...	...	...	...	...	910
Shutter shed	...	...	...	...	...	...	830
							350
Total	...	...	...	...	...	...	15,600

and this may be sanctioned.

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

No. 500. ORDER THEREON, 27th September 1876, No. 2,604.

IRRIGATION, No. 50-A.

Account.

The regular estimate, which, as revised by the Chief Engineer for Irrigation, amounts to Rupees 15,600 for constructing a new surplus weir for the

Nellore tank, is sanctioned as follows, in suppression of the approximate estimate of Rupees 15,000 which was approved in G.O., No. 3,455, of the 7th December 1875:—

PENNAIR ANICUT SYSTEM.

IRRIGATION.

Capital Ordinary.

Main-head.—...

Sub-head.—N, Reservoir, Nellore tank.

Name of Work.—Constructing surplus weir.

Amount of Estimate.—Rupees 15,600.

and the work will be carried out by the Public Works Department.

This sanction has been registered as No. 60-I. of 1876-77.

2. It appears that the expenditure on this work in 1875-76 was 2,258
the Budget provision of 1876-77 is ... 10,000

Rs.
2,258
10,000
12,258
3,342

Sum required to complete ...
and as the weir must be completed and the Government have no funds under Capital Ordinary available for transfer, the Government of India will be requested to sanction the transfer of Rupees 3,342 from the allotment of Rupees 19,500 made in the Budget, Item No. 299, for the flood embankment from the anicut to the sea, under Ordinary Agricultural, Original Works.

(True Extract.)

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

To the District Engineer, Nellore.
" Collector of Nellore.
" Chief Engineer for Irrigation.
" Examiner of Public Works Accounts.
" Revenue Department.

Exd. A. Grubert.
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Govt. of 1876 Madras.

PUBLIC WORKS.

To

THE DISTRICT ENGINEER,
NELLORE
&c., &c., &c.

Dated September 27th.

Issued

Recd. Nov 2^d

Encl.

G. O., 27th September 1876, No. 2,004

SEPTEMBER.

Nos. 499-500.

7th 12th of Revenue Sep-27/76-

New Surplus Weir for the Nellore Tank,
Nellore District.—Sanctioning the revised
estimate for constructing a — and providing
by transfer the balance required for the
completion of the work.

N^o 2558

Comd. to the
Secy of Revenue

Dated

196

be folded or roughly handled