

N. 26

P.M.C. No. 787

530 D 12. 8. 86.
22587 C 23. 7. 86.
2659 C 4. 8. 86.
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59. 9. 30. 1. 86.

B. No 2486 W of 24-9-86.

Could be the Supp.
Court to the Supp.
Court II Circle, with refer.
to his nos 561 K.S. and
748 K.S. of 7th and 28th
July 1886 respectively.
20th July 1886 respect.

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2. With advertisement
to the later letter also one
to the later letter about
noted it is remarked
that the appointment
of an unpassed Candidate
to a Clerkship on Rs
19-8-0 per mensem
is opposed to Code
para 46.

22/9/86

23/9/86

24/9
S.C.C. with 2 orig. encls.
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P.M.C. No. 7424

Govt. of 188 Madras.

To The M.D.

Encls: 4

Recd: 22.9.86

Proceedings, dated 2/9/1886
No. 606 M.

Subject.
B. No 2486 W of 24-9-86.
Permitting J. Rajeswar
Rayudu Clerk, Madras
Eastern division to
draw the maroonium
pay of his grade
viz Rs 30 -

20/9

20/9

GOVT.
OF MADRAS.

1886.

P. W.
DEPT.

EXAMINER, P. W. ACCOUNTS.

Madras, 8th October 1886.

OFFICE NOTE No.

492.

To

W.

As already stated, the grant of maximum pay of grade to clerk Rajeswararoyadu, is opposed to Section 46(b) of the Pay and Acting Allowance Code. There appears no objection to the clerk being exempted from passing the requisite test up to a maximum pay of Rs. 30 per mensem. The clerk will, if Government approve, be allowed to commence on the minimum and rise by annual increments in the usual course.

C.

C. S.
8/10

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

30th January 1880, No. 59 I.

Irrigation.
Account.

Read the following paper:—

No. 63. From Lieutenant-Colonel W. CHRYSTIE, R.E., Superintending Engineer, First Circle, to the Chief Engineer for Irrigation, dated Dowlaishweram, 8th January 1880, No. 2,181 G.D.

I HAVE the honor to forward copy of the Executive Engineer, Eastern and Central Delta, Godavari Division's letter No. 2,600 of 8th ultimo, submitting a deviation and comparative statement showing original and revised estimates for the reconstructing of the Central Delta head sluice, which I regret to report show an excess of Rs. 26,700.

2. The deviations have been reported to you from time to time in the Inspection Notes of myself and predecessor; it is unnecessary therefore to explain the causes of them again.

3. In framing the original estimate the rates entered were those at which similar work is usually carried out in the delta of the Godavari, but which are certainly not sufficient for a work of the magnitude and position of the Central Delta head sluice and carried out under adverse condition of time and weather. At an ordinary work in the delta the labor live in the neighbourhood and walk to and from the work, the boats with material arrive, and are unloaded at once, there being labor ready at hand and space to place their loads handy to the work, whilst there is leisure to arrange and organise all details of labor. At the head sluice the work was delayed, first, by the difficulties in getting down the wells, secondly, by the cyclone in May and, thirdly, by the unprecedented fresh in the river early in June. From early in June steamers ran morning, noon, and evening to both banks of the river, conveying the labor employed and their food backwards and forwards (the coolies would not stay at the work); the front bank, at which the boats discharged their loads, was necessarily placed some distance from the work to give room, requiring that all materials should be carried further than at an ordinary work, and even the limits thus provided was insufficient, and many boats were detained and charged to the work for days because there was no space to discharge them, much of the materials had to be carried up on to the high banks bounding the canal.

4. I am of opinion that to the causes assigned in the last paragraph, an excess over ordinary delta rates of 15 per cent. may fairly be ascribed for all items of the estimate. On some it would be higher, on others less.

5. But these combined causes will not account for the excess of over 25 per cent. in ordinary concrete, of 25 per cent. in rubble, of more than 100 per cent.

in cyclopean stone, although the handling of this heavy stone would no doubt be influenced in cost more than lighter materials by length of lead; of 30 and 60 per cent. in cut stone, of 50 per cent. in dressed faces, and nearly a 100 per cent. in rustic work. Excess in gravelling is accounted for, and although I forward the statement for the purpose of getting an appropriation, the Executive Engineer will submit data showing the cost of ordinary concrete work and all kinds of stone work in detail, distinguishing the prices paid for the materials themselves at the quarries, cost of carriage to the work, and labor skilled and unskilled at Bobberlunka.

6. Amongst excesses on lump sums the most important are wells, excavating foundations and filling in and baling.

7. You have already received very full reports on the difficulties experienced in sinking the wells.

8. The provision in the original estimate of Rs. 600 for excavating foundation and filling in was seen to be altogether insufficient so long ago as February last, and was so reported in the Acting Superintending Engineer's Inspection Notes for that month, but it was not until the month of June, when the river unexpectedly came into fresh, that it was realised how large this excess would be. Not only did the conveyance of the labor to and from the main shores of the river cause a heavy charge, but the absolute necessity of pushing the work rapidly obliged us to consent to pay more liberal terms to the Buntadars than would have been yielded under ordinary circumstances. The expenditure on tamping was also exceptionally large. Mr. Walch assures me that large as the charges under this sub-head are, he has no doubt whatever that they were actually paid for workmen employed. It is an item which it is difficult to check.

9. Under baling the excess is Rs. 5,080-10-6, and is due to the very long time taken to complete the work below flooring level. Indeed the baling was continued until within a few days of cutting the bund and admitting water into the canal. Under the circumstances the charges were necessarily incurred.

10. Should, as is expected, the rear flooring of concrete be found to have sustained no damage during the past season, it will be unnecessary to remove and replace it with cyclopean stone, and there will be a saving in the amounts of the comparative statement of Rs. 3,750.

11. Strutting between wells shows an excess of Rs. 570-1-9; this was ordered by the Acting Superintending Engineer, as he feared lest the two front lines of wells should fall inward on the workmen employed in excavating and filling the concrete between them. More should have been recovered from the old materials.

12. I think in the above I have noticed all items of importance regarding which the Executive and Assistant Engineers have not given full information, and I believe that your personal knowledge of the officers more immediately employed in charge of the head sluice will convince you, that although certain arrangements might be better were the work to be done again after the experience now gained, yet that on the whole it has been managed with more than ordinary ability, and that, certainly, there has been no lack of genuine interest in its progress or sparing of the personal exertions necessary to ensure success.

13. The Executive Engineer requests that a further appropriation of Rs. 21,678 may be made this year for the work.

From G. T. WALCH, Esq., Executive Engineer, in charge of Eastern and Central Delta Division, Godáviri District, to the Superintending Engineer, First Circle, dated Dowlaishweram, 8th December 1879, No. 2,600.

I HAVE the honor to forward herewith a comparative statement showing the probable excess on the new head sluice to the Central Delta.

2. As by far the greater part of the expenditure to be dealt with had been incurred on the work already done under the special supervision of Mr. de Winton, I put the preparation of this statement into his hands and send it on nearly as received from him, the only alterations of

GODAVARI DISTRICT, EASTERN AND CENTRAL DELTA DIVISION.

Comparative Statement showing Original and Revised Estimates for Reconstructing Head Sluice at Bobberlunka.

ORIGINAL ESTIMATE.					REVISED ESTIMATE.												Excess.	Surplus.	REMARKS.		
Sub-heads of Estimate.	Quantity.	Rate.	Per.	Amount.	Work executed to end of November 1879.				Work still to be done.				Total.						By Sub-Divisional Officer.	By Divisional Officer.	
					Quantity.	Rate.	Per.	Amount.	Quantity.	Rate.	Per.	Amount.	Quantity.	Rate.	Per.	Amount.					
		RS. A. P.		RS. A. P.		RS.		RS. A. P.		RS. A. P.		RS. A. P.		RS. A. P.		RS. A. P.		RS. A. P.			
Wells 16' 6" deep	No.	70	50 0 0	Each	3,500 0 0	98	89 0 6	Each	8,725 3 7	..	..	..	..	98	89 0 6	Each	8,725 3 7	3,665 3 7	..	Excess due to (1) the difficulty experienced in sinking the majority of the wells below 10 feet, a large amount of time and labor being expended with very poor results; (2), the cost of the iron frames and cylinders used to preserve the shape of wells which bulged; for saving in number see sheet of Statement of Deviations.	The difficulties met with were from time to time reported. The wells had to be sunk with labor utterly unused to such work. Numerous expedients, such as iron framings for the wells, had to be resorted to which were not foreseen. The estimate rates I now see to have been absurdly too low.
Do. 12' da.	..	38	40 0 0	Do.	1,560 0 0																
Concrete with surki mortar.	C. ft.	42,400	10 0 0	100 C. ft.	4,240 0 0	52,677	11 7 6	100 C. ft.	6,041 12 8	..	..	..	..	52,677	11 7 6	100 C. ft.	6,041 12 8	1,801 12 8	..	Excess in quantity is due to concrete having been substituted for cyclopean stone over a large portion of the floor. Small excess in rate is due to the necessity for working at night, when it is impossible to get good work out of coolies, whether by task or daily hire.	The handling and fitting of the large "cyclopean" blocks was taking so much time that for it concrete had to be substituted in the floor from just behind the piers, and I believe that it will be found to be perfectly efficient.
Do. ordinary	..	44,800	9 0 0	Do.	4,041 0 0	37,308	11 10 10	Do.	4,356 6 9	2,036	10 0 0	100 C. ft.	203 9 7	39,344	11 9 5	Do.	4,560 0 4	519 0 4	..	Saving in quantity due to concrete in surki mortar being laid in parts where estimate allowed only for ordinary mortar. Excess in rate due to night work as above explained, and to the fact that concrete in surki has been charged to under head "concrete in ordinary mortar," by mistake, to what extent it is not known with accuracy.	
Rubble	..	53,740	12 4 0	Do.	6,583 2 5	60,178	15 11 8	Do.	7,893 1 2	10,928	13 0 0	Do.	1,420 10 2	61,106	15 3 10	Do.	9,313 11 4	2,730 8 11	..	"Concrete in superstructure," as per original estimate, is allowed for in "work to be done."	The much greater quantity of water present in the foundations than anticipated made it necessary to use surki cement in the lower portions of the "concrete platform," which in the estimate was all in ordinary mortar, and the short time there was for the work to set before opening it rendered it necessary to build nearly all the superstructure in surki mortar.
Cyclopean stone floor	..	14,800	22 8 0	Do.	3,330 0 0	6,990	48 14 2	Do.	3,419 11 10	9,258	45 0 0	Do.	4,166 1 7	16,248	46 11 0	Do.	7,585 13 5	4,255 13 5	..	Excess in rate is due to the extensive use of surki mortar where only ordinary mortar was provided for in the original estimate. The large quantity shown under head "Work still to be done" is due to provision being made for removing and relaying rear retaining wall as well as for building backing to arches, front and rear face walls and parapets.	
																			..	Saving in quantity due to concrete having been substituted for cyclopean stone as mentioned above. Provision is made under head "Work still to be done" for removing this concrete and laying cyclopean stone in its stead.	I think it possible, indeed probable, that it will be found unnecessary to make this alteration and that a further expenditure of more than, say, Rs. 500 under this head will not be required. This simply means that 1,148 cubic feet are transferred from "cut stone in chunam (Dowlaiswaram)" to cyclopean stone floor.
Cut stone in chunam (Dowlaiswaram).	..	10,925	20 8 0	Do.	5,517 2 0	9,167	68 15 8	Do.	6,323 8 8	610	50 0 0	Do.	305 0 0	9,777	67 12 10	Do.	6,628 8 8	1,111 6 8	..	1,148 cubic feet of work executed under piers should have been charged under head "Cut stone in chunam, Dowlaiswaram;" it is not therefore deducted from "Work still to be done," under head "Cyclopean stone floor." Excess in rate due to the rate allowed in original estimate being insufficient. Owing to its excessive* hardness it costs as much to roughly dress this class of stone as to dress Dowlaiswaram cut stone to a fine surface.	
Do. (Pedavagi)	..	1,964	65 0 0	Do.	1,276 9 7	1,001	142 5 8	Do.	1,424 13 8	820	65 0 0	Do.	533 0 0	1,821	107 8 4	Do.	1,957 13 8	681 4 1	..	Excess in rate due to the universal use of surki mortar, and to the fact that the stones had all to be dressed and laid dry at the quarries in the positions they were subsequently to occupy in the work and then numbered so as to ensure as little delay and confusion as possible in actual construction. This was of course expensive. Saving in quantity is due to 1,148 cubic feet of stone having been charged under head cyclopean stone floor, as mentioned above. (Provision has been made under head "Work still to be done" for laying cornice and finishing off piers.)	† Yes; the well sinking took so much longer than anticipated that this course was considered necessary.
Brick arch work	..	3,600	19 12 0	Do.	675 0 0	293	29 9 1	Do.	86 10 1	3,300	20 0 0	Do.	660 0 0	3,593	20 12 8	Do.	746 10 1	71 10 1	..	Excess in rate due to increased cost of this stone at quarries. Contractors refusing to quarry at former rates because of difficulties in procuring carriage to canal bank. Slight saving in quantity due to substitution of Dowlaiswaram stone in (coping of) front and rear returns. Provision has been made under "Work to be done" for facing main arches and coping parapets and rear wings and pillars.	† Of the total cost of work done here given Rs. 166-1-3 belong to "Work still to be done," being payments made for stone and dressing for faces of main arches not yet turned. The rate resulting from the actual payments less the sum above mentioned is however so enormous that I believe payments really belonging to other heads have been charged to this, but this we cannot now trace.
Plastering	S. ft.	2,000	3 8 0	100 S. ft.	70 0 0	4,518	1 14	100 S. ft.	85 4 6	1,746	3 0 0	100 S. ft.	52 6 0	6,264	2 3 3	100 S. ft.	137 10 6	67 10 6	..	Excess in quantity due to plastering of concrete substituted for cyclopean stone, and of tops of rear wings while waiting for resumption of work. Saving in rate due to cheap work. Provision has been made for plastering soffit of main arches. Rate higher than actual work hitherto done is given because work will be more difficult.	

Excess due to (1) the difficulty experienced in sinking the majority of the wells below 10 feet, a large amount of time and labor being expended with very poor results; (2), the cost of the iron frames and cylinders used to preserve the shape of wells which bulged; for saving in number see sheet of Statement of Deviations.

Excess in quantity is due to concrete having been substituted for cyclopean stone over a large portion of the floor. Small excess in rate is due to the necessity for working at night, when it is impossible to get good work out of coolies, whether by task or daily hire.

Saving in quantity due to concrete in surki mortar being laid in parts where estimate allowed only for ordinary mortar. Excess in rate due to night work as above explained, and to the fact that concrete in surki has been charged to under head "concrete in ordinary mortar," by mistake, to what extent it is not known with accuracy.

"Concrete in superstructure," as per original estimate, is allowed for in "work to be done."

Excess in rate is due to the extensive use of surki mortar where only ordinary mortar was provided for in the original estimate. The large quantity shown under head "Work still to be done" is due to provision being made for removing and relaying rear retaining wall as well as for building backing to arches, front and rear face walls and parapets.

Saving in quantity due to concrete having been substituted for cyclopean stone as mentioned above. Provision is made under head "Work still to be done" for removing this concrete and laying cyclopean stone in its stead.

1,148 cubic feet of work executed under piers should have been charged under head "Cut stone in chunam, Dowlaiswaram;" it is not therefore deducted from "Work still to be done," under head "Cyclopean stone floor." Excess in rate due to the rate allowed in original estimate being insufficient. Owing to its excessive hardness it costs as much to roughly dress this class of stone as to dress Dowlaiswaram cut stone to a fine surface.

Excess in rate is due to the universal use of surki mortar, and to the fact that the stones had all to be dressed and laid dry at the quarries in the positions they were subsequently to occupy in the work and then numbered so as to ensure as little delay and confusion as possible in actual construction. This was of course expensive. Saving in quantity is due to 1,148 cubic feet of stone having been charged under head cyclopean stone floor, as mentioned above. (Provision has been made under head "Work still to be done" for laying cornice and finishing off piers.)

Excess in rate due to increased cost of this stone at quarries. Contractors refusing to quarry at former rates because of difficulties in procuring carriage to canal bank. Slight saving in quantity due to substitution of Dowlaiswaram stone in (coping of) front and rear returns. Provision has been made under "Work to be done" for facing main arches and coping parapets and rear wings and pillars.

Excess in rate due to use of surki mortar, and small amount of work done. Provision has been made for laying main arches.

Excess in quantity due to plastering of concrete substituted for cyclopean stone, and of tops of rear wings while waiting for resumption of work. Saving in rate due to cheap work. Provision has been made for plastering soffit of main arches. Rate higher than actual work hitherto done is given because work will be more difficult.

The difficulties met with were from time to time reported. The wells had to be sunk with labor utterly unused to such work. Numerous expedients, such as iron framings for the wells, had to be resorted to which were not foreseen. The estimate rates I now see to have been absurdly too low.

The handling and fitting of the large "cyclopean" blocks was taking so much time that for it concrete had to be substituted in the floor from just behind the piers, and I believe that it will be found to be perfectly efficient.

The much greater quantity of water present in the foundations than anticipated made it necessary to use surki cement in the lower portions of the "concrete platform," which in the estimate was all in ordinary mortar, and the short time there was for the work to set before opening it rendered it necessary to build nearly all the superstructure in surki mortar.

I think it possible, indeed probable, that it will be found unnecessary to make this alteration and that a further expenditure of more than, say, Rs. 500 under this head will not be required.

This simply means that 1,148 cubic feet are transferred from "cut stone in chunam (Dowlaiswaram)" to cyclopean stone floor.

"Yerrampalle" stone, a vitrified sandstone. Very hard and therefore excellently suited to resist the wear of the scour through the vents and between the piers was used, it is a stone much more troublesome to dress than Dowlaiswaram stone. The difficulty of lifting the large blocks over the stop bank and of carrying them to the work also helped to make the rate allowed insufficient.

† Yes; the well sinking took so much longer than anticipated that this course was considered necessary.

‡ Of the total cost of work done here given Rs. 166-1-3 belong to "Work still to be done," being payments made for stone and dressing for faces of main arches not yet turned. The rate resulting from the actual payments less the sum above mentioned is however so enormous that I believe payments really belonging to other heads have been charged to this, but this we cannot now trace.

consequences being in regard to work yet to be done, for which, in some cases, I consider the provision made by him to be unnecessarily high, e.g., "Centerings for main arches Rs. 1,500, which I have reduced to Rs. 300 for "Ramasami" centerings.

3. I have considered it best to leave Mr. de Winton's explanations, adding such of my own as appear advisable.

4. The great excess, which is explained in detail in the "comparative statement," I believe to have been unavoidable.

5. You yourself saw how much of the work had to be carried on in the face of great and unforeseen difficulties and dangers, which rendered expedition at almost any cost necessary and prevented rigid economy.

6. You did not see the difficulties met with in sinking wells to depths unusual in this part of India with workmen not one of whom had ever seen such work, but you will remember how at the very time when all previous experience led us to expect the river to be at its lowest it rose to 5 feet over the anicut and poured in on the work volumes of water which it was quite beyond our power to keep down, and how this necessitated the gathering of extra labor by extra rates, not only at the time to cope with the immediate danger whilst the fresh was rising and high, but also afterwards to make up for the delay so unexpectedly caused.

7. You will also remember that the greater part of this labor, which in ordinary seasons could have come to the work along the anicuts, had in this season to be taken to and fro daily in steamers at a great expense and loss of time.

8. I much regret the large excess, but I believe it to have been unavoidable, and it is utterly insignificant compared with the interests which were dependent on getting the work opened, as it was, in time for the irrigation season.

GODAVARI DISTRICT, EASTERN AND CENTRAL DELTA DIVISION.

Statement of Deviations as regards Wells.

AS SANCTIONED.				AS EXECUTED.			Remarks.
Sub-heads.	No.	Quantity.	Rate.	Per.	Cost.	Details.	
Wells 4½' internal, 6' external diameter 16' 6" deep ..	70	1,155 vertical feet.	50	Each.	Rs. 3,500	Wells 4½' internal and 6' external diameter. Do. 6' internal, 9' external .. Do. 9' internal and 12' external .. Do. 2½' internal, 4' external ..	The two end wells on either side were omitted, because 9" internal was left between wells instead of 6" as on plan. The 2-9 internal diameter wells were sunk for pumping purpose, the 6' well was sunk to fill up the gap between the pumping well and nearest 4½' well. The 2½' well was sunk to close the west end of space between wells, the east end was closed by one of the large pumping wells.
Wells 4½' internal, 6' external diameter, 12' deep ..	39	468	40	Each.	1,560	Wells 4½' and 6' .. Do. 4½' and 7½' ..	* The extreme end well on either side was omitted by permission of the Superintending Engineer. The four wells with 18" walls in the centre of the line were tried as an experiment when the 9" wells were found to fail. They occupied the space of five 6" wells. Two wells were omitted because 9" instead of 6" internals were left between wells. Wells in rear were filled in to + 26 instead of + 24.

11th December 1879.

(Signed) G. T. WALCH, Executive Engineer.
(Signed) W. CHRYSTIE, Lieut.-Colonel, R.E., Superintending Engineer, First Circle.

GODAVARI EASTERN AND CENTRAL DELTA DIVISION.
Statement of Deviations for sanctioned Estimate for Reconstructing Bobberlunka Head Sluices.

Division.	Name of Work.	SANCTIONED ESTIMATE.		Sub-head in which departure occurs.	NATURE OF DEVIATURE.							Remarks.	
		Register No.	Amount.		Original of sanctioned arrangement.				Arrangement being or to be carried out.				
					Quantity.	Rate.	Per.	Cost.	Quantity.	Rate.	Per.		Cost.
Godavari Eastern and Central Delta Division.	Constructing new head sluices for Central Delta.	..	RS. 57,000	Walls 16' 6" deep	70	RS. A. P. 50 0 0	Each.	RS. 3,500	}	98	RS. A. P. 89 0 6	Each.	RS. 8,725
				Do. 12' "	39	40 0 0	"	1,560					
				Concrete in Surki mortar.	42,400	10 0 0	100 C.ft.	4,240	52,677	11 7 6	100 C.ft.	6,042	
				Do. in ordinary mortar.	44,900	9 0 0	"	4,041	39,344	11 9 5	"	4,560	
				Rubble	53,740	12 4 0	"	6,583	61,106	15 3 10	"	9,214	
				Cyclopean stone floor ..	14,800	22 8 0	"	3,330	16,248	46 11 0	"	7,586	
				Cut stone, Dowlaishweram.	10,925	50 8 0	"	5,517	9,777	67 12 10	"	6,629	
	Pedavagi do. ..	1,964	65 0 0	"	1,277	1,821	107 8 4	"	1,958				

For details see sheet annexed; for explanation of excess cost see remarks on revised estimate. Concrete was substituted for 9,258 cubic feet of cyclopean stone in floor as a temporary measure, and concrete in surki was largely used instead of ditto in ordinary mortar. Concrete between front wells was laid to a depth of 10 feet only instead of 14 feet 6 inches. All necessary explanations of cost of these alterations are given in remarks on revised estimate. A large portion estimated to be laid with ordinary mortar was laid in surki instead, hence increased cost. Rear retaining wall between rear wings was built up from + 28.5 only, as a temporary measure, to be removed and relayed as per estimate next year. Seats of main arches in abutments were filled in temporarily with rubble, to be removed next year when arches are built. Concrete substituted temporarily as above stated, owing to pressure of time. Used for coping front wings and rear returns instead of Pedavagi as estimated. Flooring under piers was executed with cyclopean stone and charged to head "Cyclopean stone flooring."

Vide cut stone, Dowlaishweram.

Plastering	2,000	3 8 0	100 S.ft.	70	6,264	2 3 3	100 S.ft.	138
Dressed Faces, plain ..	1,400	9 8 0	"	133	5,788	13 12 4	"	797
Rustic Faces	9,700	8 0 0	"	776	2,933	15 12 7	"	463
Pointing with Surki ..	11,100	2 8 0	"	278	3,695	2 8 0	"	92
Pointing with Portland Cement.	19,325	4 0 0	"	773	28,796	3 15 11	"	1,150
Rough Stone Apron ..	33,350	6 0 0	100 C.ft.	2,001	28,793	5 15 2	100 C.ft.	1,713
Revetment	8,500	6 8 0	"	553	7,743	6 15 9	"	541

Extra work done in plastering concrete, substituted for cyclopean stone in rear flooring. Were substituted for "Rustic" from + 40.5 to + 45 and in faces of piers. Front faces of blocking wall were only roughly dressed and rear faces of ditto and of small piers under main arches were not dressed at all for want of time. *Vide* plain do. Pointing with Portland cement was substituted over 7,405 square feet of work. *Vide* do. with surki. Full amount estimated for not required, to join new apron to old sluice in rear. Do. Rear revetment raised to + 45.

DOWLAISHWERAM,
11th December 1879.

(Signed) G. T. WALCH,
Executive Engineer.
(Signed) W. CHRYSTIE, Lieut.-Colonel, R.E.,
Superintending Engineer, First Circle.

No. 18 I.

No. 63-A. *Note by the Chief Engineer for Irrigation.*

THE revised estimate for the reconstruction of the head sluice
of the Main Canal, Central Delta, Godávári, amounts to ... Rs. 70,850
the amount of the original estimate was „ 44,150
Excess „ 26,700

As regards the foundation wells, moreover, these not having been put down to the full depth intended, the excess refers to the head sluice as built rather than to that designed and sanctioned.

2. Whatever the ultimate causes of increased cost of work, whether from the need of pushing on construction, substituting temporary work for the one season instead of carrying out the permanent work at once, or postponement of work by freshes, the greater part of the excess is primarily due to the very unfortunate delay which occurred in getting down the wells for the foundations of the front and rear retaining walls. It appears from the diagrams that the well sinking was commenced on the 9th February; that many of the wells for the front retaining or curtain wall were not got down until the latter part of March, and a few not until late in April; that well sinking for the rear retaining wall was not commenced until nearly the end of March; most of the wells were finished in the latter part of April and some not until May.

All the well sinking might and should have been finished by the middle of March at latest, and had this been effected the cost of the construction of the work would have been altogether different. Great difficulties were met with in sinking the wells, but most of these should have been foreseen and obviated. As it was, the failure of the lower parts of some wells made it impossible to sink them to the intended depth, and much time was lost in trying to overcome difficulties which should not have been allowed to occur. It had not been usual to sink wells to a depth of 20 feet or thereabouts, and in the Godávári Delta probably no such wells had ever been put down, but of late years so many masonry works have been founded on deep wells that all necessary information on the subject could readily have been obtained.

As soon as it became known that difficulties had been met with, and what these difficulties were, instructions were sent, but they were too late to be of any use, and there was no possibility of regaining the lost time.

3. The energy shown by the officers more immediately concerned with the reconstruction of the sluice was highly creditable to them, and but for the loss of time in February, March, and April this energy would have produced altogether satisfactory results. As it was the work was pushed forward amidst very great difficulties arising from the early commencement of the freshes, and the sluices were sufficiently advanced to allow of water being passed through them for irrigation at the proper time.

4. With regard to the work remaining to be done it may be noticed :—

(1) That work done temporarily last year to allow of the sluices being opened may, if found to be perfectly reliable, be left. Concrete substituted for cyclopean stone work in the floor may, if fulfilling the above condition, be left above the line of the cutwaters on the up-stream side, and below the rear edge of the thick concrete platform on the down-stream side of the sluices.

(2) All unsightly work done in a hurry last year to the superstructure should be conformed as closely as may be to the original intention, *e.g.*, rough faces should be dressed and bad work should be removed and rebuilt.

5. The revised estimate of Rs. 70,850 is recommended for sanction under Ordinary Productive Public Works, Maintenance and Repairs. The small excess*

* Rs. 201.

anticipated on the new shutters and gear, which are chargeable to capital, does not need any modification of the amount of Rs. 12,850 already sanctioned.

6. Further inquiry will be made regarding the puddle work which it is proposed, in the remarks made in the comparative statement, to omit.

7. The requisite provision of funds will be separately submitted for sanction.

CAMP, PODOOR, (Signed) JOHN MULLINS, Colonel, R.E.,
22nd January 1880. Chief Engineer for Irrigation.

To the Joint Secretary to Government, Public Works Department, Irrigation Branch.

No. 64. ORDER THEREON, 30th January 1880, No. 59 I.

THE revised estimate of Rs. 70,850 for the reconstruction of the head sluices of the Main Canal, Godávári Central Delta, is sanctioned, and Government regret to learn that much of the large excess in the cost of this important work was due primarily to delay in putting down the wells of the retaining walls, which delay was mainly caused by the absence of suitable arrangements for sinking wells of the depth intended and provided for in the design and estimate. The difficulties consequently experienced have prevented the foundations of the curtain walls being placed as low as was considered desirable, and this is much to be regretted.

2. The foregoing sanction will supersede that of the original estimate, and has been registered as No. 56 I. of 1879-80.

(True Extract.)

Ag. Under Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation, with file.
" Superintending Engineer, First Circle.
" Superintendent of Works, Godávári.
" Examiner of Public Works Accounts.
" Revenue Department.
" Collector of Godávári.

Exd. S. T. Austin.
Spare Copies

IRRIGATION.
ACCOUNT.

Govt. of (1880) Madras.
PUBLIC WORKS.

To
THE CHIEF ENGINEER FOR IRRIGATION,

&c., &c., &c.

Dated January 30th.

Issued

Recd.

Encl.

G. O., 30th January 1880, No. 59 I.

JANUARY.

Nos. 63-64.

Head Sluices of the Main Canal, Godavari
Central Delta.—Sanctions with remarks the
revised estimate for the construction of the

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

29th July 1880, No. 1,809 W.

General.
Establishment.

Read the following paper :—

No. 115. From Major H. R. MEAD, R.E., Superintending Engineer, Second
Circle, to the Chief Engineer, Public Works Department, dated Coimbatore,
13th July 1880, No. 162.

I HAVE the honor to inform you that I have entertained the undermentioned
individuals to the temporary appointments sanctioned in G.O., No. 1,087 W., dated
5th May 1880. Preference was given to these men for they were thrown out of their
employment owing to the recent reduction, and the Examiner provisionally passed
their pay for May, but in auditing the bill for June he has disallowed their whole pay
for May and June 1880, pending an order of Government on a reference made by him
on the subject :—

1. Mr. J. M. Brito to be temporary Clerk on Rs. 25 per mensem. He is an
old servant of Government, and has submitted his application for pen-
sion.
2. C. M. Mylappah Pillay to be a temporary Clerk on Rs. 25 per mensem.
He is a passed candidate, and is in Government service from December
1872, and has submitted his application for gratuity.
3. Sandappa Pillay to be a temporary Clerk on Rs. 19½ per mensem. He is
an unpassed man, but in Government service for the last nine years, and
has submitted his application for gratuity.

2. I have the honor to request that you will be so good as to authorize the
Examiner to pass the pay due to the temporary clerks for their actual services in my
office; and at the same time I solicit an order for re-admitting (for such temporary
employment as sanctioned by Government in G.O., No. 1,433 W., dated 18th June
1880) the men who have not passed the Uncovenanted Civil Service Examination,
but otherwise qualified for the temporary employment for a limited time. The
unpassed old servants will only be allowed to draw Rs. 19½, though the sanctioned
rate of pay is Rs. 20 or above per mensem.

No. 116. ORDER THEREON, 29th July 1880, No. 1,809 W.

THE Government have already intimated in their Order, No. 1,684 W., of 15th
instant, that there is no objection to the re-employment of compensation pensioners,
provided that their pay and pension do not together exceed their former salary.

2. Unpassed men discharged on account of reduction may be re-appointed to
posts the salaries of which do not exceed those formerly drawn by them, even should
the latter exceed Rs. 20.

3. If Sandappa Pillay's former salary was not less than Rs. 25, he can be appointed on that salary, but if not, he can only be so appointed if no qualified candidate is available.

4. The practice of appointing unpassed men on salaries below Rs. 20 to posts the proper salaries of which are above that amount is forbidden.

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To Superintending Engineers.
To Superintendents of Works.
To the Examiner of Public Works Accounts.
" Chief Engineer for Irrigation.
" Consulting Architect.
" Consulting Engineer for Railways.
" Examiner of Railway Accounts.
" Superintendent, Madras Harbour Works.
" General Superintendent, Public Works Stores.

Exd. A. F. Goodall.
Spare Copies

GENERAL.
ESTABLISHMENT.

Gobt. of [1880] Madras.
PUBLIC WORKS.

To

SUPERINTENDING ENGINEERS,

&c., &c., &c.

Dated July, 29th.

Issued

Recd.

Encl.

G. O., 29th July 1880, No. 1,809 W.

JULY.

Nos. 115-116.

Re-employment of Compensation Pensioners
and unpassed men.—Passing orders regard-
ing the —.

81-11-8

No. 2567 of 23 July 1880.

P. W. Department.

Memorandum.

With reference to his No.
561 H. L. dated 7th July 1880,
the Superintending Engineer
II Circle is requested to
report what appointment
is held by ^{Mr.} S. Rajeswarara-
-yudu and the pay actually
drawn by him. If, as it
appears, he is graded as clerk
IV Class, III grade, and
receives Rs 19-8-0 per mensem,
his appointment is opposed
to Code para 46, & his service
book, which shows him to be in
receipt of Rs 20/- per
mensem, is 16/7/86
not a correct
record.

To

The Suptg. Engineer II Circle.

24/7

W.
20-7-86



Memo

N^o 2567 c of 23-7-86

N^o 530 D of Aug: 12. 1886

Letter from S.E. II Circle

N^o 561 Kd of 7.7.86
748 Kd 28.7.86

5993
C. 5499 ² 6170

Transferred
to the Educat.
ional Dept for
favorable consid-
eration.
Ga (an unpassed candidate)
may be exempted from
passing the M.S. Ex^m & he
all need to draw the maximum
pay of his grade viz Rs 30/-
ON from C N^o 335
9.8.86

10/8/86

12-8-86

The Educational Dept ✓
with 2 enclosures. D of 12.8.86

Oct. 10 1887

N^o 2567 Ca/25.7.86.
- 1809 W d/29.7.80.
- 59 I d/30.1.80.

N^o 530 I d/Aug. 12. 86

Del^d 12.8.86

Reg. 4578
Co. 10.8.86

No 561.Hs.

Superintending Engineer's Office
2nd Circle Berzuda 7th July 1886

From
The Superintending Engineer
2nd Circle

To
The Chief Engineer
Public Works Department

Enclosures. 2.

1 Service
Book
1 Petition
2

Sir

* T. Rajeswerayudu
Service 12 years 7 months
Age 42 years

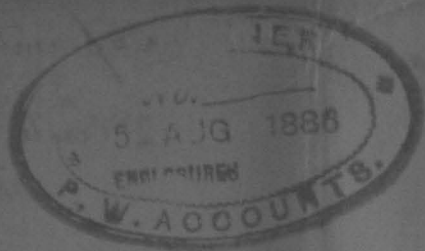
I have the honor to submit for your favorable consideration the claims of the clerk marginally named to be exempted from passing the prescribed Middle School Examination. He bears a very high character, and is a good, useful clerk in an office, vide the Service Book entries. During 1879, he was employed as Head Clerk under Mr De Winton, when engaged on the construction of the Central Delta Head sluices and received high commendation together with some of the other employes for his assiduity and good work.

2 I would beg that he might, in consideration of his good service extending over 12 years, be allowed to draw the maximum pay of his grade viz No 30; but prohibited from rising to the higher grades.

I have the honor to be
Your most O^{bed} servant

Superintendent
Offg. Superintending Engineer 2nd Circle

Comptroller



P.W.C. No. 5499
7424/86

(8)

Q. G. 599-730-1-80.

From,
The Suptg. Engineer,
2nd Circle.

To,
The Chief Engineer,
P.W. D.

Dated 7th July 1886.

Desp. d. 10th — do —.

Recd: 15-7-86

No. 561 No.

No. 2567 C of 23-7-86

Encls. 2

T. Rajeswararayudu - Clerk.
Requesting that — may be
exempted from passing the
Middle School Examination and
be allowed to draw the maximum
pay of his Grade viz: Rs 30, only.

Q-17-7-86 R. 22-7-86

No. 748. No.

From

The Superintending Engineer
2nd Circle

To

The Chief Engineer
Public Works Department

Sir

In reply to your Memo No 2567 C of the 23rd
July 1886, I have the honor to inform you, that the Clerk
T. Rajeswararayudu holds the post of Clerk IV class
3rd Grade, but being an unpassed candidate can only
draw Rs 19-8-0 per month. No objection has been
apparently raised to his drawing this pay by
the Examiner, so he has been allowed as an
old Government servant to remain in the N. Sub.
Divisional Office, Kistna Eastern Division

This was in
order & can be
noticed in
passing final
orders.

I have the honor to be
Sir

Your Most Obedt. Servant

Ever & truly

Major M. S.
Offg. Superintending Engineer 2nd Circle

RN 301

5-8-86

No 2659 C of 4th August 1886
" 2567 C of 23.7.86
" 1869 W of 29.7.80
" 579. " 30.1.80

For favor of remarks.

5/8/86

A. K.

No 335-

9-8-86

To W.

T. Rajeswararoydu is one of those whose services were dispensed with on reduction of Establishment effected in 1880. On reappointment, his pay at Rs. 19-8-0 against sanctioned post of (Clerk IV. Class 3rd. Grade) Rs.

20 - 30 was admitted by this Office under para 2, of G.O. No. 1809 W. dated 29th. July 1880.

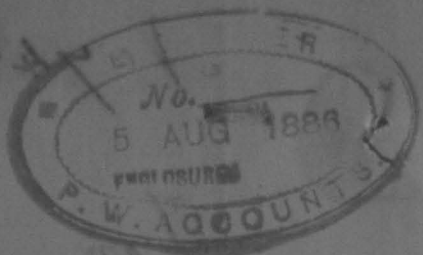
Not directly in continuation of para 4!

Encl. 7-8

2/8

6.10.8.86

P.W.C. No 3943 7/4 24/86



From,

The Suptg. Engineer,
2nd Circle.

To,

The Chief Engineer,
P.W. D.

Dated 28th July 1886.

Despd 30th - do -

Recd 9.8.86

No. 748. H.S.

T. Rajeswararoydu -
Clerk - Reporting the
appointment held by -
with certain information.

Encl. 706
1/1/88

Educational Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following

Memorandum of the Public Works Department, No 530 D, dated 12th August 1886, regarding the exemption of T. Rajeswararoydu, Clerk, District Eastern Division from the Middle School Examination.

Order, 21st September 1886. No 606 Dis
As recommended by the Super-
intending Engineer, T. Rajeswa-
-roydu will be permitted to
draw the maximum pay of his
grade, viz Rs (thirty) 30-

/ True Extract /

By Carew.

Under Secretary

To

The Public Works Department, (with
enclosures)