L. & M.
5,000-8-1-96.

Local & Munl. (1896) Department.

. MISCELLANEOUS.

G.O., No. 846 M.

DATED 15th May 1896

[Despatch Abstract.]

Kurnool Water-supply.

Approving the remarks and proposals of the Superintending Engineer, III Circle regarding the construction of certain masonry works at the head-works of the ---- and requesting with remarks, the Sanitary Engineer to prepare a revised estimate with reference to them.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

No 1

Rubble in surki mortar 1st class.

1¼ best building stone at as. 10 at quarry		0-12-6 ~~1-1-6~~
Govt. tax at As. 2 per cyd.		0-2-6
Carting 1½ miles each cart carrying ⅓rd Cyd. & making 4 trips a day. cost per day per cart as 12.		0-11-3
2 Parahs lime at 8 as. in Kurnool		1-0-0
Cartage about		0-2-2
2⅔ Parahs sand at 0-0.6 in Kurnool		0-1-4
Cartage about		0-0-4
1⅓ Parahs surki @ 0-8- in Kurnool		0-10-8
Cartage about		0-0-2
1 Stone cutter @ 0-2-0		0-2-0
1 Bricklayer @ 0-10-0		0-10-0
1 Mancooly @ 0-3-0		0-3-0
2 Women coolies @ 0-2-0		0-4-0
Grinding mortar		0-3-0
Cost of water about 1 as per cyd.		0-1-0
	~~5-12-11~~ 5-8-0	
Contingencies		0-1-1
Total per cyd.	~~5-8-0~~	5-14-0
or per 100 cft.	~~20-5-7~~	21-11-10

N.B. The proportion of lime, sand & bricks are those given in Office data and are assumed to be the best.

J. McR. Campbell Lieut. Col. R.E.

Supdg. Engineer, III Circle

№ 2

Concrete in Surki mortar, made with best stone ab quarries.

1 Cyd. stone ab quarry ab as 8			0 — 8 — 0
Govt. taxes as 2			0 — 2 — 0
Carting 1½ miles			0 — 9 — 0
Breaking			0 — 7 — 0
2 Parahs of lime ab as 8			1 — 0 — 0
Cartage ab about			0 — 0 — 2
2⅔ Parahs sand ab 0 — 0 — 6			0 — 1 — 4
Cartage about			0 — 0 — 4
1⅓ Parahs Surki ab as 8			0 — 10 — 8
Cartage about			0 — 0 — 2
3 Men coolies @ 0 — 3 — 0			0 — 9 — 0
2 Boy coolies @ 0 — 2 — 0			0 — 4 — 0
Cost of water			0 — 1 — 0
			4 — 13 — 8
Sundries			0 — 1 — 4
Total per cft.			4 — 12 — 5
			15 — 15 — 6
or per 100 cft.			17 — 9 — 2

J. Mc. Carmichael Lieut. Col. RE.
Supdtg. Engineer, III Circle.

No 3

Concrete from stone at site.

Value of stone - - - - - - - - - - - -	0 - 0 - 0
Breaking - - - - - - - - - - - - - -	0 - 7 - 6
Carting 2/3 mile at 10 trips a day - - -	0 - 3 - 7
Other items as given in other data for concrete -	2 - 10 - 8
Total	3 - 5 - 3
Sundries say - - -	0 - 1 - 9
Total	3 - 7 - 6
or per 100 cft - - - - - -	12 - 11 - 6

The value of the stone is nothing as there is sufficient in the Canal spoil bank for all the concrete required and compensation has to be paid.

J. McC. Campbell Lieut Col. R.E.

Supty: Engineer, III Circle.

[G. 74]

plans returned to S.E. Circle 22/5/96

NOTE FOR THE CHIEF SECRETARY.

The plan of the Kurnool waterworks is put up as requested. From this it appears that the engine & boiler house is on the canal bank, but that the settling reservoir is about 1,200 ft. from the bank, & the filter beds & service reservoir half way between them.

Although it is waterworks that are under construction, it does not follow that a supply of water will be available for construction work, except from the sources of supply i.e. the canal, until the water is not available until the works are complete.

W.W.P. 7.i.96

3/3880/Mar 95

P.S. 2/9177/95

No. 2635

Superintending Engineer's Office,
3RD CIRCLE.

Bellary 19th November 1895.

From Lt: Col: D. McNeil Campbell R.E.,
SUPERINTENDING ENGINEER,
IIIRD CIRCLE,

To
THE Chief Engineer,
P.W.D.,
Madras.

Sir,

Enclosures. 4
1 herewith returned
3 data sheets
4

I have the honour to informe you that in accordance with the instructio contained in your endorsement No: 3,990 dated 30th October 95 on order 12th October 9 No: 1640 Mis:, I proceeded to Kurnool on the 8th Instant, and personally investigated the matters referred to in connection with the Kurnool Water supply scheme and now report as follows.

Sites

2. Four different sites have been propos for the settling tank, filter beds & service reservoirs.

1st. On the East side of the canal near club house objected to by the Collector.

2nd. On West side of canal nearly opposi site No 1 objected to on account of the amount of rock cutting, and because it necessitate

Double

double pumping.

3rd Site last sanctioned and where work is already begun on high ground on West side of Canal and about ⅔ mile from it.

4th Site on East side of Canal called the Church site lately suggested by Mr Jones, but not approved by him.

The first two sites have been finally rejected by Government, so, it only remains to consider the others.

I have inspected all the sites and am of opinion that No: 3 is the best for the following reasons.

There will be very little rock cutting. Direct pumping will be avoided. There will be no fear of contamination, as the site is well away from all habitations and public thoroughfares. The objections to No: 4 site are. Rock is met with within 1' of the surface of ground which would render the works very expensive; the rock is very porous and as there are channels on all sides lining would still be required and though there

there might be a little saving by using some of the excavated stone for building, the wo would probably cost more than if built No: 3 site. In order to ascertain which wo be the more expensive scheme, it would necessary to work out that at No: 4 site detail, it is however likely that it would be more expensive than No: 3 as the excess on excavation would be Rs: 22,000 and th saving on piping will probably not cover so much.

The site is near a public road and contamination might result. Direct pump would be necessary; this objection is I think very great, and even if the works would be constructed cheaper on this site than on No: 3, I would still prefer the latter, and I have no hesitation in urging that No: 3 site be adopted.

Rates .3. No work of any magnitude having been carried out in Kurnool for many years renders it impossible to compare the tendered rate with work actually done. The absence of both the Exc: Engineer and the

the District Engineer made it difficult for me to obtain reliable information, but I have enquired as carefully as I could and have arrived at the conclusion that the rates allowed in the sanctioned estimate are generally far too low, while those tendered by Contractor Harry Chand are in some cases high.

Taking the estimate for the settling tank (the biggest work), the chief items on which there is a difference between estimated and tendered rates, are as follows:—

	Estimate Rs. a p	Tender Rate
1. Earth work in black cotton soil, rise 2 yds: lead 100 yds: per 1000 cft.	6-12-0	8-0-0
2. Earth work in hard white clay, rise 3 yds: lead 100 yds: per 1000 cft.	9-0-0	12-0-0
3. Excavating in rock, rise 5 yds: lead 100 yds: per 1000 cft.	20-5-6	20-0-0
4. Concrete in Sunki 100 cft.	10-0-0	20-0-0
5. Rubble hammer dressed in sunki 100 cft.	12-0-0	18-0-0

As regards item No:1, the tendered rate seems excessive; according to the Kurnool P.W.D. schedule, the rate works out to Rs: 6-6-9.

Item

estimate lately sanctioned for the Police prepared

Item No: 2. I have examined the site and consider the rate fair.

Item No: 3. The tender is less than the estimate rate, which latter, I consider is too low and I am convinced that the work cannot be done for less than Rs: 30.

Taking, therefore, all the items of excavation together, I think the tender may be accepted for though the first item is high, it must be remembered that the Contractor has to supply his own tools and provide shelter for work people.

Item No: 4. The cost of the concrete depends much on the nature of the stone to be used, if the best stone is to be quarried 1½ mile away, broken up and brought to site. I calculate that the cost (see data No: 2 attached) will be Rs: 15-15-6 ~~17-9-2~~, the tendered rate of Rs: 20 is, therefore, somewhat ~~not excessive~~, the rate of Rs: 10 allowed in the estimate is absurd and could, I imagine, only have been arrived at by taking, as an example, some petty work carried out near a field where stone could be picked up.

As

As the concrete is only for levelling up and will be subjected to very slight pressure, I consider that the stone in the Canal spoil bank only 2/3rds mile distance will be quite good enough, and this can be had for nothing, as compensation has to be paid for the bank and there is sufficient stone for all the concrete required: if this stone is used the Contractor will reduce his rate by Rs: 1-8-0 per 100 cft: bringing it to Rs: 18-8-0 per 100 cft: but I calculate the cost at Rs: ~~12-11-6~~ 12-8-0 (see data No: 3) so there is still a very large excess, and the work could be done cheaper departmentally, but as represented by the Contractor, there is an element of uncertainty in this item as a thin layer of concrete has to be laid over a large area of rough rock and he has agreed for an average of 6" depth, and it will probably be considerably more than that.

Item No: 5. The rate allowed for this description of work in the Kurnool Data is Rs: 10 which is absurdly low; in the Estimate prepared Tabily sanctioned for the Police Office at Kurnool, the rate given is Rs: 19- and does not include Surki. I have calculated the cost, see data Nos: 1 and 2 get the correct rate as Rs: 20-5-7, so that the Contractor's tender of Rs: 18 is very low. Surki is a material that seems hardly ever to have been used in Kurnool, and it is difficult to ascertain its exact cost; the Contractor has expressed his willingness to take off Rs: 3 per 100 cft: from the rate for masonry and concrete if it is omitted, and except in work under water or liable to be submerged soon after completion, I can see no objection in using it. The foregoing are the items on which there is the largest excess, but there are other items in some of the other estimate which require notice; these are: —

	Estimate	Tender
1. Arch work in Surki per 100 Cft:	30.	50.
2. Plastering with cement 3/4" thick	12.	20.
3. Puddling	1-8-2.	5.

In the first case, the arches as designed are only 1' thick and would, therefore, have practically to be of cut stone, as these are

are only 15' span and bear no weight except that of 1' of earth. I see no reason why they should not be of concrete or rubble 18" thick, if this can be done, the contractor would carry out the work for Rs: 40-8-0 per 100 cft. which seems fair.

Item No: 2. All the tenders for plastering with Portland cement are high, and considering the novelty of the work here, the difficulty of getting water, perhaps the rate may not be excessive. The rate entered in the estimate is for plastering on brickwork which is less than on rough stone. No mention is made of this sort of work in the Kurnool schedule, nor the Portland cement seem to have been used.

Item No: 3. — The estimate is far too low, and considering the distance that good earth will have to be got and the difficulty about water, I consider about Rs: 3-8-0 would be a fair rate.

In considering the tendered rates, it must be remembered that the work is a round one in these parts, that it is in a some what out of the way place, there being no road to it except a cart track over black cotton fields, and that water has to be brought 2/3 mile. Moreover, in a work of this magnitude, it is probable that the cost of materials such as stone, lime, &c will rise owing to the great demand. Before taking these drawbacks into account I think it is possible, though by no means certain, that under good supervision, the scheme might be carried out cheaper departmentally, but I do not recommend that this should be done as the Contractor has already done a good deal of excavation and has I believe bought Tools and made all arrangements for the prosecution of the work, and if it were taken from him now it might lead to complications, and there would certainly be considerable delay.

I therefore recommend that work at site No: 3 be continued by the present Contractor, and that he sign an agreement regarding the reduction of rate in cases where kunki is omitted, and in cases where rough stone or concrete arches are substituted for cut stone ones.

I have the honour to be

Sir,

Your most obdt: Servt:

J. W. Campbell Lt Col. R.E.

Superintending Engineer
III Circle.

13/11/95.

From Lt-Col D. McNeill Campbell R.E.
The Superintending Engineer,
IIIrd Circle,
Bellary.

To The Chief Engineer
S.W.P.
Madras

Dated 19th November 1895.
Received

Enclosures. 4 3

No. 2635

Subject.

Kumool Water Supply:-

Submitting a report on the construction of certain masonry works at the Head Works of the -

P.W. CURRENT No. 9177
Local & Municipal
CURRENT 3680 M

Recd: 21.11.95

Rec: 4

No 3758 Ca/29. November 1895

Forwarded to the Local and Municipal Deptt. with reference to G.O. No 1640 M. (Mis) dated 12th October 1895 and with an expression of concurrence in the remarks and proposals of the Supdtg. Engineer.

Col.
Secretary to Govt
P.W.D.

Copies
25/11/95

LOCAL AND MUNICIPAL DEPARTMENT.

Again G.O., ~~dated~~ No. 1640. M. dated ~~189~~, ~~No.~~ 12th October 1895.
Current No. 3680 M. of 1895, dated 29th November from the Public Works Dept.
Current No. of 189, dated from the

FOR ORDERS.

This is the only thing to do -
But what I want to have is the C.E.'s opinion of the conduct of the S.E. in misleading Govt in this way. To me, it seems deserving of very severe censure - But before that is viewed & expressed one ought to know the opinion of the highest professional authorities at our disposal.

The question of putting Contribution by Govt may stand over - at present I don't feel disposed to sanction it -

Could we not, by the way, effect a saving by omitting the settling reservoir on the

Please see the notes and orders in the Government order read above.

2. Under the circumstances stated, it is submitted that the Superintending Engineer's recommendations which are supported by the Chief Engineer, may be approved and the Sanitary Engineer requested to prepare a revised estimate with reference to the remarks of the Superintending Engineer.

3. The estimate originally prepared by the Sanitary Engineer in 1893 for the water-supply of Kurnool was Rs 2,05,550, and of this sum, the Government promised to pay the Municipal Council a grant of Rs 154,000 or three-fourths and to lend the balance of Rs 52,000. When the estimate was raised to Rs 2,22,440 in 1894, the Government sanctioned an additional

additional grant of Rs 12.670 and a further loan of Rs 4.220. A revised estimate amounting to Rs 2.39.380 was sanctioned in G.O. No 1082 M. dated 9th July 1895, but without any additional grant or loan from Provincial funds. If the estimate is again revised now, as proposed, it will amount to Rs 2.68.980, — 2.39.380 + 29.600, and if the Government make a further grant of Rs 35.070, so as to make up a total grant of Rs 2.01.740, being three-fourths of the total cost, the Council will have to borrow an additional sum of Rs 11.000, thus raising the total loan to Rs 67.200. For the repayment of this sum with interest at 4½ percent, the Council will have to provide a sinking fund of Rs 4.000. Adding to this the pumping and maintenance charges amounting to Rs 4.750 and deducting a saving of Rs 2.500, expected, in the contribution of Rs 3.500 now paid to Government for the present water-supply, the Council will have to find an additional sum of Rs 6.250 per annum. This can be met from the following sources: —

Tax on buildings and lands at

filtering beds or something? That might be asked.

One thing I can't understand — The works are said to be ⅔ of a mile from the canal & water to be wanting at the site. But my recollection of the plans is that the works were close to the canal; and the complaint of want of water seems to stand in the case of water works. Perhaps the C.E. will send further D.O. & first ask about this.

KJ
20/12/95

Rs.

at 7½ percent in 1895-96 Rs 8.700.

Deduct the tax on buildings and lands in the suburbs to which the new water-supply scheme is not to be extended 1.100

7.600

Water-tax @ 4 percent on the rent-value of buildings and lands $\frac{7600 \times 24}{15} = 4.050$

Increase expected from market and slaughter-house fees. 900

Do. — from cart-stand fees — 500

— Do. — from tax on buildings and lands. 600

— Do. — from tax on arts — — 100

— Do. — from current revenues — — 100

Rs 6250

As the budget for the current year is expected to close with a balance of Rs 700, after providing for a payment to Government of Rs 3.350 on account of the loan and Rs 3.500 for the present water-supply, even without taking credit for any income from the water-tax, there is no doubt that the Council will be able to meet this additional charge of Rs 6.250 per annum imposed on it by the execution of the new water-supply project, provided the Government contributes three-fourths of the total cost and lends the remainder, as originally promised. As the budget estimate of provincial grants and advances for 1896-97, however, provides for

for a total grant of Rs 1,79,580 and a total loan of Rs 59,850, ~~there~~, the Government has to provide for an additional grant of Rs 22,210, and a further loan of Rs 7,390, which can easily be met from Savings, (please see Budget Estimate para)

This increase of Rs 29605 is only on the masonry work. The rest of the estimate may have to be revised, but probably not to any great extent, as it consists of the cost of Engines, pumps, pipes etc, which the S.E. has probably estimated correctly - The S.E. further says in para 11 of his letter of 30.9.95 in P.O. 1640 M dt 22.10.95 that no extra expenditure is likely to be incurred until 1897-98.

W.S. 14.xii.95 Some one has made a muddle of this business. It is to be hoped that this will be the last of the revised estimates. If Govt. frees the extra money the Council appears to be in a position to reach the town

Sd 19/12/95

Kurnool Water-supply.

FOR ORDERS.

3680 M

W. M.

Note for Bde

With reference to the concluding portion of this Note dated 20/12/95, a book of plans is submitted from which it will be seen that it is only the boiler & Engine houses that are to cross the Canal, the filter beds are about 1800 feet and the settling tank about 3100 feet away from it. ~~In taking~~ The measurements have been taken from the nearest points of the filter beds and settling tank to the Canal.

Sd 30/1/96

There are several points in this matter which, on looking further into it, I don't understand - Please ask the C.E. to bring with his papers after Council next Monday. I shall want the plans which were enclosed to P.O. 1114 M dt 24.8.93 and 665 M dt 23.5.94 as well as those now sent -

WD 31/1/96.

1. I am sorry I say that I still fail to understand the matter. The passage at A speaks of "another revised Estimate which also amounted to Rs 2,22,440 - This was due to a further change of site ..... was sanctioned in G.O. No 1082 M dt 9.7.95"

2. But in that G.O. there is not, so far as I can make out, a word about any change of site, nor can I find out when the change of site was authorized.

3. The matter would be easier to understand, I may add, if the different sites were marked on the map of the town which is in the Engr. Dte case. The original site, as I suppose, is shown in the map on the East of the Canal with pipe leading from it into the town. Opposite this, on the W. of the Canal, is a red cross and a note in red ink "Site for head works suggested by the Collr. of Kurnool vide Sanitary Engr's letter No. dated " neither number nor date having been given, which is gross carelessness on the part of someone. But the site now selected is not shown on the map of the town, nor can I find anywhere any reason for its selection in preference to the other sites.

4. So far as I can see no orders have issued on C. No. 3680 M. I trust this last year's delay in the works is not, as I presume not, as in his letter in P.O. 1640 M dt 12.10.95, para 10, the San. Engr says he has accepted the responsibility of accepting the enhanced tenders - But there was no reason that orders should not have gone on C No. 3680 M because I wanted further info. as to the blame, if any, to be attached to the San. Engr

WD 17/4/96

Public Works Department.

Kurnool Water Supply.

Note for the Honorable Mr. Bliss.

A file of papers showing how the site selected by the Collector for the head works had to be abandoned, has been obtained from the Sanitary Engineer and is submitted for perusal.

2. The estimate based on the site selected by the Collector amounted to Rs. 2,22,440 and was sanctioned in G.O. No. 665 M., L & M, dated 28-5-94. When work was about to be started, the Assistant Sanitary Engineer at Kurnool reported to the Sanitary Engineer that a large amount of rock was met with, which would render it impossible to carry out the work for the sanctioned amount. After some correspondence between these two Officers a fresh site was selected, necessitating the preparation of another revised estimate, which also amounted to Rs. 2,22,440.

3. This estimate was submitted to Government through the President, Sanitary Board, and after full discussion was sanctioned in G.O. No. 1082M. L & M, dated 9-7-95.

4. Mr. R.E. Ellis in submitting the revised

revised estimate to the President, Sanitary Board, (see his letter No. 211 dated 28-1-95 printed at the head of G.O.No.1082 M.dated 9-7-95) quoted G.O.No.2380 L.dated 16-11-94. This G.O. has nothing to do directly with the Kurnool Water Supply. It is the order revising the constitution of the Sanitary Board and will be found in the file.

~~The Hon'ble Bliss C.I.E.~~

Kurnool Water Supply

14/2/96
W.

Cr

14.2.96

With plans in 2 two cases

9/5/12

21/4/96.

P. W. D.

Note for the Hon'ble Mr. H. W. Bliss, C.I.E.

Para 2 of my note dated 14th February 1896 explains the facts of the case, but there is no doubt that the order in the Local and Municipal Dept. No. 1082 M, dated 9 July 95, contains no reference to the change of site; this is due to the correspondence being printed in an incomplete form. The fact of the estimate having been sanctioned seems to me sufficient, but it is evident from the correspondence which should have been included in the proceedings of Govt. that the change of site was known to Government, vide office copies of papers bearing P. W. Current No. 1501. The signed copies of which are

The C.E. may have known, but not Govt., so far as I can see — However, it is useless to go into the matter further — A considerable mess may have been made somehow — That. ✕

✕ inside of file of G.O. 1082 M 9/7/95.

~~The Hon'ble Bliss C.I.E~~

in the Local & Municipal
Dept.
2. I have made notes on
the tracing in the larger tin
shewing the different
sites - When I inspected the
works in November last
they were in fair progress.
I do not know if any
delay has been caused
since owing to no order
having been passed on
Current No. 3630 M.

4/5/96

Correct
4.5.96.

~~The Hon'ble Bliss C.I.E~~

Thummal Water Supply

* is all that can be said -
Order had better now issue
on C No. 3630 M as above
noted

WS
6/5/96

Read 8/5/96

No. 138 D.

Government of Madras.

PUBLIC WORKS DEPARTMENT.

Endorsement

~~MEMORANDUM.~~

Dated Madras, 8th May 1896.

Read Local and Municipal Department Current No. 3680 M

Retransferred to the Local and Municipal Department with notes in original by the Public Works Joint Secretary and the Honourable Mr. Bliss, C.I.E.

D. W. Campbell Colonel R.E.
Joint Secretary to Govt
P.W.D.

To
The Local and Municipal Dept.,
with complete file.

[P. W. 41
2,000—6-3-96.]

1440 M.

From.

The P. W. D

No 138 D.

Dated 8-5-96.

Returns forming with the Notes in original by the joint Secy P. W. D & the Hon'ble Mr Bliss C.S.I. papers relating to the Kurnool Water Supply.

[G. / 24.]
1,000—15-11-95.

PARTMENT.

Papers to be read in proceedings :—

Again G.O., dated 189 , No.

Again G.O., ~~dated~~ 1640 M of 12th Oct. 1896, No.

Current No. 3680 M of 1895, dated 25th Nov., from P. W. D.

" " 1440 M " 1896, " 8th May, " P. W. D.

" " " 189 , " , "

ORDER. No. 846 Mins dt 15-5-96

The remarks & proposals in the Superintending Engineer's letter No. 2635 dt 19. 11. 95, which are concurred in by the Chief Engineer, are approved, & the Sanitary Engineer will be requested to prepare a revised estimate with reference to them. In doing this he should consider whether a ~~some~~ saving cannot be effected by omitting some portion of the proposed scheme, as for instance the settling reservoir or the filter beds, without seriously detracting from the utility of the waterworks.

2. Upon receipt of this revised estimate the question of the amount of the contribution to be made from Provincial funds will be again considered.

(from orders)

To
The Sanitary Engineer
& P. W. Department.

P.O. L.T.O. ✓
P.O. L.T.O.
Dispd 19/5/96

W.D.D
11-5-96

H.D
13/5/96

FROM ORDERS.

Curs. 3180 f 1440

C. S.

Plans sent separately

When given for copying ____
When copied ____
When examined ____
When signed ____
} 189.

READ AGAIN G.O., No. 189, DATED

CURRENT No.

ENCLOSURES TO C. No.

ORDER OF GOVERNMENT	A	A	A	A	A	A	A	
LETTER OF GOVERNMENT.								
STATEMENT WITH DITTO.								
PAPERS NOT FILED UP, BEING MEANT FOR DESPATCH IN ORIGINAL.								

N.B.—
A = Copy in full.
B = Not to be copied.
P = Copy abstract only.
Q = Copy heading only.