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(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. 1492	Press ~~Mis.~~
47-48	
Dated 2. 6.	1865.

Not to be folded or roughly handled

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*Proceedings of the Madras Government, Public Works Department,
2nd June 1865.*

No. 47. Read the following letter from Lieutenant-Colonel J. C. ANDERSON, R. E., Superintending Engineer, 2nd Division, to Colonel C. A. ORR, R. E., Secretary to Government, Department Public Works, dated Masulipatam, 15th April 1865, No. 6:—

SIR,

- 4 Abstract estimates.
- 1 Plan of masonry basin and conduit.
- 1 Plan of head sluice.
- 1 Do. of irrigation sluice.
- 1 Do. of bridge.
- 1 Do. of iron aqueduct.
- 1 Sketch to show the proposed arrangements to convey river across the Sultanagram swamp.

1. I have the honor to submit plans and estimates for a channel from Aukamurru lock to Sultanagram bridge; an aqueduct across the Sultanagram swamp; a temporary channel from thence to the edge of the Masulipatam Petta; and a permanent masonry conduit from the swamp to Robertson Petta, and a cistern at the latter place, amounting respectively to Rupees 14,000, 3,700, 12,010, 2,370, or in all Rupees 32,080.

2. These works were commenced on the authority conveyed in G. O. No. 3,495, dated 8th December 1864, and water has been supplied to the town since the beginning of the year.

3. The channel from Aukamurru to Sultanagram bridge, $3\frac{1}{2}$ miles in length, commands a considerable tract of waste land, at least 2,000 acres, which will probably be taken up for wet cultivation, and I would therefore propose to class it as an agricultural work. As it is "embanked" throughout, it has cost no more to give it sufficient width to carry the supply required for irrigation and for drinking purposes, than it would have done if adopted to the latter purpose only.

4. The iron aqueduct will be constructed by the Superintendent of the Government Workshop at Madras, by whom the estimate, less cost of setting up, has been prepared.

5. The temporary channel in continuation extends for three-quarters of a mile, and terminates in a tank which was cleared out for the purpose.

6. The masonry conduit from the bridge across the Sultanagram swamp will extend to the principal bazaar, a distance of one mile, or a quarter of a mile beyond the terminus of the temporary channel.

7. I have also prepared estimates for the construction of 3 miles and 40 yards of masonry conduit along the principal street leading from Robertson's Petta, but I postpone their submission, as apart from the difficulty of obtaining funds for execution, I should find it impossible to procure the necessary quantity of brick and lime, before next dry season. Moreover, the cessation of sickness in the town, since the weather has become hotter, would seem to render it probable that the temporary channel will answer the wants of the population sufficiently well till the rains commence in June. The supply in the wells will then improve, and continue to improve as the rainy season advances. At all events, the people cannot be worse off than they are now, while they may be better, and I think that the construction of masonry pipes beyond Robertson's Petta may be dispensed with, if not altogether, at least until Government can conveniently allot funds for their execution. I would, however, advocate the formation of a permanent conduit as far as Robertson's Petta, in order that the water which is brought into the town may be as free as possible from impurities.

8. If funds are available this work might be carried out during the rains, and be finished by next dry season. The wells will then again become brackish, though probably to a less extent than they are at present, and the people will be able to obtain a supply of Kistnawater at Robertson's Petta, much more conveniently than they can now from the temporary channel.

Proceedings of the Madras Government, Public Works Department,
2nd June 1865.

No. 48. ORDER THEREON, 2nd June 1865, No. 1,492.

CIVIL WORKS, No. 9.

1. The project to which this letter refers provides for the conveyance of water from the Aukamurru lock, across the Sultanagram swamp, to the town of Masulipatam. The object is twofold: to bring under irrigation about 2,000 acres of waste land, and to provide the town with a constant and ample supply of good drinking water.

2. The results of the late cyclone have shown clearly how essential it is to improve the water supply of Masulipatam; and the necessity was strongly urged by the President of the Sanitary Commission, and has been more than once recognized by Government. Partly to avoid delay in the prosecution of the work, and partly to provide employment for the sufferers from the cyclone, a sum of Rupees 13,800 was sanctioned* for expenditure during 1864-65, in anticipation of the submission of estimates.

3. With the letter recorded at the head of these Proceedings the Superintending Engineer submits the estimates in question. The works provided for have already been approved of by Government, and it only remains for them to sanction these estimates, amounting to Rupees 32,080. The funds required during the current year will be allotted in separate Proceedings.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Superintending Engineer, 2nd Division.
.. Accountant General.
.. Controller of Public Works Accounts.

Ed. S. T. Augustin.

ABSTRACT ESTIMATE No. of 18 64-65

Nistha District.

3

Work

Excavating a Channel from Aukamurru lock to Sultanagram Bridge and constructing masonry works on the same, head of the Channel at the head of the above 4 1/2 ft

Quantity.	Description of Charges.	Rate.	Amount.	Total.
	Excavating Channel.			
952 1/2	Cubic yards of earthwork	16	8929 6	
33,660	Square yards of surfacing	9	1577 13	
	Subsides & Contingencies		532 13	11040
	Constructing a sluice in the Masulipatam Canal			
	head at the head of the Channel.			
421	Cubic feet of concrete	3 12	17 48	
641 2/3	Do of brick in Channel	5 6	345 96	
150	Do of Archwork	4 3	39 136	
1145	Square feet of Plastering per 100 sq ft	3 4	37 35	
2 1/8	Cubic feet of gapee wood	2 4	4 12 6	
	through 1/2 inch up 5			
2	Shutters with arms complete	8	16	
34	Running of groove work	8	17	
2	Stone beams	1	2	
	Excavating foundations			
	and filling in			
	and other contingencies			
			10	
			24 105	575
	Constructing a Bridge across the Channel.			
83 1/3	Cubic feet of brick in Channel	5 6	447 148	
	Carried forward		447 148	11555

Quantity.	Description of Charges.	Rate.	Amount.	
	Brought forward		447 148	11555 ..
323 $\frac{3}{4}$ 1401	Culiv fish of Arch wood	" 43	86 ..	
	Square feet of Plastering with 2 Coats of Chuanam	3 4 "	45 86	
16 $\frac{1}{2}$	Running fish of Flatstone grooves	" 8 "	8 4 "	
23 $\frac{3}{8}$	Culiv fish of Yapee wood through cut fish up	2 4 "	5 56	
12 $\frac{45}{54}$	Culiv fish of rough stone Chuanam	2 8 "	32 14	
9	Culiv fish of wooden Planks with iron rings & complete	2 8 "	22 8 "	
5 $\frac{93}{108}$	Culiv fish of Metalley & causting foundations and raising Approaches In Saudier & Montague	1 6 "	8 " 10	
			15 " 2 "	
			34 52	
			705 " "	
2	Masonry Bridges similar to the above	705 " "	1410 ..	2115 " "
	Construction of Irrigation sheds for distributing water -			
26 13 $\frac{12}{27}$ 40 $\frac{27}{54}$ 25 $\frac{3}{4}$	Culiv fish of Concrete	" 22	3 84	
	of Brick in Chuanam	5 6 "	72 42	
	of Arch wood	" 43	10 128	
	Square ft. of Plastering for 700 sq ft.	2 4 "	5 127	
1	Culiv fish of Yapee beam up front of shutters	2 4 "	2 4 "	
1	Shutter complete		4 " "	
	Extra for Cutstone grooves		4 8 "	
	& causting foundations and filling in		1 8 "	
	Saudier & Montague		5 63	
			110 " "	
2	Sheds similar to the above	110 " "	220	330 " "
	Carried forward			14000

Particulars	Rate	Amount	Total
Brought forward			15000 ..
			5
Total Estimate Papers			14000 " "

Superintendent Engineer }
 Office Malakpattan }
 17th April 1865 }
 Dated 6th May 1865 }

Andrew }
 Superintendent Engineer }
 2nd Division }

Smith & Co. }
 Re }

Work

Constructing an Iron Aqueduct and Cisterns at the Belige across the Sultanag aron Swamp for supplying River water into the Town of Masulipatam

Quantity.	Description of Charges.	Rate.	Amount.	Total.
	Constructing an Iron Aqueduct -			
25809	th. of Iron work at 500	35 " "	1806 10 1	
	Punching 28448 holes -		60 " "	
	Making 28448 rivets -		180 " "	
2	Iron Hoop Purokes	30 " "	60 " "	
12	Files	" 8 " "	6 " "	
8	Pur Oil Coanuk	" 10 " "	5 " "	
16	th. of steel	" 8 " "	3 " "	
	Cooly hires		30 " "	
	Sundry Charges at 5 per Cent.		107 8 " "	
			2258 2 1	
	Boat hires		14 " "	
	Freight to Masulipatam		130 " "	
	Shipping Charges		25 " "	
			2427 2 1	
	Hire for fitting it up			
284 1/2	day of 1st th. per 26 days	12 " "	131 4 11	
284 1/2	day of 2nd th. per 26 days	7 " "	76 9 6	
284 1/2	day of 3rd th. per 26 days	4 " "	43 2 4	
284 1/2	day of 4th th. per 26 days	2 " "	21 14 2	
	Cooly hires for bringing and raising plates and helping		40 " "	
143	Purhat of Charcoal	" 6 " "	53 10 " "	
	Cooly hires		1 6 " "	
	Sundry and Contingencies		18 14 10	
	Carried forward		2814 9 10	

Abstract Estimate
No. of 18 64/65
His District
Constructing an Iron Aqueduct and Cisterns at the Belige across the Sultanag aron Swamp for supplying River water into the Town of Masulipatam

2258 2 1

Quantity.	Description of Charges.	Rate.	Amount.	Tota
	Brought forward.		2814 9 10	
	Landing Charges and Carriage to site of work		100 - -	
	Batta to workmen from Bezwasah for work		75 - -	
	Contingencies & sundries		210 62	
			3200 - -	
	Flooring to Cisterns &c.		500 - -	
	Total Estimate Paper		3700 - -	

Superintending Engineer's Office
 Madras
 17th April 1865
 Dated 6th May 1865

W. M. ...
 Superintending Engineer
 Madras

Work
 Constructing a Masonry Conduit from the Bridge
 in the Sultanagarum Swamp for supplying River
 water in to the Robertson Petta Basin at Masulipatam

Quantity.	Description of Charges.	Rate.	Amount.	Total.
	Cost for one Running yard			
4.08	Cubic ft. of Concrete	" 26	" 102	
16.71	Cubic ft. of Bricks	" 36	3 105	
	in Chuanam	" "	1 22	
37.8	Quantity of Plastering	" "	" "	
1 1/3	Cubic yards of Earth	" 16	" 21	
	work	" "	" 73	
	Superintendent's Office			0 " "
1800	Running yard of Masonry Conduit	6 " "		10800 " "
	Excavating a temporary Channel from the Bridge to near Robertson Petta			500 " "
10800	Cost of masonry and raising Road	1 " 675	" "	710 " "
	Superintendent's Office			2010 " "
Total Estimate Rs 12010				
Superintending Engineer Office Masulipatam				
17 April 1865				
Dated 6 May 1865				
Superintending Engineer (S.D. Dore)				

Abstract Estimate
 No. of 1864/65
 Krishna District
 Constructing a Masonry
 Conduit in the
 Sultanagarum
 Swamp for
 supplying River
 water in to the
 Basin at
 Masulipatam
 Rs 12010

Michigan District

13

Work

Work Constructing a Masonry Basin of 100 ft inside diameters in the Centre of Phertrow Petta for storing River waters -

Quantity.	Description of Charges.	Rate.	Amount.	Total.
2144.2	Calcu feet of Louvers	" 26	335 " 6	
5635.25	Do of Broken Chimney	" 36	1232 11 4	
478.3	Do of Gate and Casing	" 6 "	179 59	
8796	Square feet of ~~Plastering~~ per sq ft	3 " "	263 14 1	
1191	Calcu yards of earth work	" 16	111 10 6	
4	Shutters Complete	5 " "	20 " "	
	Sum of contingencies		227 5 10	
	Total Estimated Paper		2370 " "	

Superintendent's Engineer's Office
Manassas
17th April 1865
Desd 6th May 1865

Office }
 1. *Arthur*
via St. Louis
 Supervising Engineer
Edwin

Abstract Volume
No. of 1864/65
Ninth Section
Containing a History
and Description of the Bridge
in the Italian Gardens
at Hampton Court being
designed by Sir Christopher
Wren and is to the
Robertson & Co. the
Architects and Surveyors
of the Works at Hampton
Court Palace.

No. 6.

Superintendent
Maidenhead
15th April 1865

From Col. J. C. Anderson R.E.
Superintendent
To Colonel C. A. Orr R.E.
Secretary to Government
D.P.W.

Sir - I have the honor to submit
plans and estimates for a Channel
from Southampton Lock to Sultanagram
Bridge, an aqueduct across the Sulta-
gram Swamp, a temporary Channel
from thence to the Edge of the Maidenhead
Petta and a permanent Maidenhead
Conduit from the Swamp to Proberton
and the Cisterne at the latter place.
Costs amounting respectively to
Rs. 14,000. 3,700. 12,010. 2,370, or in all to
Rs. 32,080.

2 These works were commenced
on the Authority conveyed in G.O. No
3495 dated 8 December 1864 and water has been

Refers to estimate
for 1864/65
for the District
and includes a quantity
of 100 feet
inside diameter for
flowing water
in the Centre of Proberton
Petta, December 23/70.

Per 1864/65

supplied to the town since the beginning of the year.

3 The Channel from Antimurra to Sultanagran. Bridge $3\frac{1}{4}$ miles in length. Commands a considerable tract of waste land at least 2000 acres. which will probably be taken up for wet cultivation, and I would therefore propose to class it as an agricultural work. As it is "embanked" throughout, it has cost no more to give it sufficient width to carry the supply required for irrigation and for drinking purposes, than it would have done, if adapted to the latter purpose only.

4 The iron ageomet mill be constructed by the Superintendent of the Government Workshop at Maoras by whom the Estimate, & cost of setting up, has been prepared.

5 The temporary Channel in continuation extends for three quarters of a mile, and terminates in a tank

which was cleared out for the purpose.

6 The masonry Conduit from the Bridge across the Sultanagran & Sivianfi will extend to the principal Bazaar a distance of one mile or a quarter of a mile beyond the terminus of the temporary Channel.

7 I have also prepared Estimates for the construction of 3 miles or 40 yards of masonry Conduit along the principal street leading from Robertson Petta, but I postpone their submission, as a part from the difficulty of obtaining funds for execution. I should find it impossible to procure the necessary quantity of brick and lime, before next dry season. Moreover, the operation of sickness in the town, since the weather has become hotter, would seem to render it probable that the temporary Channel will answer the wants of the population sufficiently well till the rains commence in June, the supply in the wells will then improve

and continue to improve as the rainy
season advances. At all events,
the people cannot be worse off than
they are now, while they may be better,
and I think that the construction
of masonry pipes beyond
Robertson Pette may be dispensed with
if not altogether, at least until
Government can conveniently allot
funds for their execution. I would,
however, advocate the formation
of a permanent Conduit as far as
Robertson Pette in order that the
water which is brought into the town
may be as free as possible
from impurities.
If funds are available,
this work might be carried out
during the rains and be finished
by next dry season. The wells
will then again become brackish
though probably to a less extent
than they are at present and the
people will be able to obtain a
supply of better water at Robertson
Pette much more conveniently than

they can now, from the temporary
Channel. 19

I have the honor to be
Sir
Yours most obedt Servt
Arthur Collett
Supt Engineer.

Civil Works Public Works Dept

No. 1492

Proceedings of the Madras Government
Under date the 2nd June 1865

Read the following

From the Superintending Engineer
2nd Div.

Submits Plans and Estimates
for a channel from Ankamurra
Lock ^{to Sultanpatti bridge} and Aqueduct across the
Sultanpatti Swamp and a Tem-
porary Channel from Ponce to Masu-
lipatam Patta and a permanent Conduit
from the Swamp to Robertson's Patta &
Cistern at the latter place amounting to
Rs 32080.

(Here enter 6th May 1865)

The project to which
this letter refers provides
for the conveyance of
water from the Ankamurra
lock, across the Sultan-
patti swamp, to the
town of Masulipatam -
The object is two fold: to
bring under irrigation
about 2000 acres of
waste land, and to pro-
vide the town with a

Wm

10-8-80/54 of 129-118
24/11/80/54 455-409
1st May - 113-4

10/11/80/54 of 129-118
24/11/80/54 455-409
1st May - 113-4

10/11/80/54 of 129-118
24/11/80/54 455-409
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10/11/80/54 of 129-118
24/11/80/54 455-409
1st May - 113-4

10/11/80/54 of 129-118
24/11/80/54 455-409
1st May - 113-4

10/11/80/54 of 129-118
24/11/80/54 455-409
1st May - 113-4

constant and ample supply
of good drinking water.

2. The results of the
late cyclone have shown
clearly how essential it is
to improve the water supply
of Manipal, and the
necessity was strongly urged
by the President of the
Sanitary Commission,
and has been more than
once recognized by Govt.
Partly to avoid delay in
the prosecution of the work,
and partly to provide em-
ployment for the sufferers
from the cyclone, a sum
of Rupees 13,800 was sanc-
tioned for expenditure
during 1864/65, in anticipation
of

GO No 791 7/21 March/65

23
of the submission of es-
timates.

With the letter recorded
at the head of these Pro-
ceedings the Superintending
Engineer submits the estimates
in question. The works -
provided for have already
been approved of by Govt.,
and it only remains for
them to sanction these
estimates, amounting to
Rupees 32,080. The funds
required during the Cur-
rent year will be allotted
in separate Proceedings.

To
The Supg Eng^r 2nd Divⁿ ~~1865~~
Secy to Govt. - ✓
Controller - ✓

23

C.B.

Recd 3rd June.

J. P. 1865-84
 Pr. of South for the
 J. P. 1892
 Pr. of the Atlantic Sea
 J. P. 1865

The estimate
 amounting to \$2
 22080 for building
 for the consequence
 of water from the
 Blue Mountain for
 a capital Delta
 and many during
 to the County of the
 with the same - an
 amount.

1865/1865

No 47. 48.