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MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. 2969	Press
139-40	Mis.
Dated 7. 12	1870.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
7th December 1870.*

No. 139. Read the following letter from the Consulting Engineer for Irrigation and Canal Company, to the Secretary to Government, Public Works Department, dated Madras, 19th November 1870, No. 94 :—

I HAVE the honour to submit the following report on the progress made in the works of the Madras Irrigation and Canal Company during the quarter ended 31st March 1870.

2. *Expenditure during the quarter.*—The progress made during the quarter, as indicated by the expenditure, shows an improvement on that of the previous quarter, the expenditure being Rupees 3,44,364 against Rupees 2,33,912 in the quarter ended 31st December 1869.

3. *Soonkasala Anicut.*—Rupees 855-2-5 were expended on the anicut and head-works at Soonkasala, the details being :—

	RS.	A.	P.
Coping masonry	597	2	5
Groyne at Soonkasala	258	0	0

4. *Hindry Aqueduct.*—The expenditure on this work was Rupees 1,067-6-0, the items being :—

	RS.	A.	P.
Rubble stone-in-chunam	1,003	12	0
Cutstone work	48	0	0
Gravel for roadway	15	10	0

5. *1st Section, Main Canal.*—Rupees 14,831-0-8 were expended on the 1st Section of the Main Canal 1 to 17½ miles, the work done being :—

		RS.	A.	P.
Earthwork and embankment	Cubic yards 5,776	6,474	5	5
Revetment and shingling	Do. 15,731	4,005	1	3
One culvert		47	11	8
Masonry revetment, etc., at head-sluiice		72	9	8
Bridge, third class, at Nedajood, 12th mile		225	7	3
Do., do., Mungalpad, 14th do.		47	8	8
Three waste weirs		94	1	0
Self-acting sluice and repairs to culvert in the 2nd mile		3,405	14	11
Ferry boat		1	12	0
Special Superintendence and Sundries		456	8	10

6. *2nd Section.*—Rupees 1,185-3-9 were expended on the 2nd Section from the 18th to the 32nd mile, the items being :—

		RS.	A.	P.
Earthwork	Cubic yards 122	128	12	4
Canal walls	Do. 258	64	8	0
Bridge, second class, for Poodoor		12	5	2
Aqueduct at Kudrabagh		103	8	0
Scouring sluice No. 12		21	1	6
Masonry wall and puddling to stop the leakage in the 30th mile		555	6	2
Raising and strengthening the right bank between Kudrabagh Aqueduct and the slip in the 24th mile		105	15	4
Contingencies		193	11	3

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7. 3rd Section.—Rupees 3,281-12-4 were expended on the 3rd Section from the 33rd to the 43rd mile, the details being :—

			RS.	A.	P.
Excavation and embankment	... Cubic yards	7,259	1,348	12	4
Revetment	... Do.	30	11	2	6
Trimming and sloping banks	... Do.	283	56	9	7
Sultanpore Tunnel	... ..	...	6	2	0
Do. do. breach	... ..	...	302	5	2
Ullur Aqueduct and deepening bed of stream under Ullur					
Aqueduct	... ..	...	192	10	3
Muddigutla Jetty	... ..	...	165	0	0
Bridge, third class, at Sytanicotta	... ..	...	619	6	6
Do., do., at Muddigutla	... ..	...	1	4	0
Contingencies for earth and masonry works	... ..	...	578	8	0

8. 4th Section.—Rupees 899-2-7 were expended on the 4th Section or miles 44th to 60th of the canal, the particulars being :—

			RS.	A.	P.
Excavation and embankment	... ..	...	113	8	0
Bridge No. 2 at 60th mile	... ..	...	92	8	0
Two culverts	... ..	...	247	8	0
Contingencies	... ..	...	290	15	1
Stores and store charges	... ..	...	154	11	6

9. 5th Section.—Rupees 7,046-9-8 were expended on the 5th Section of the Main Canal, from the 61st to the 72nd mile, the items being :—

			RS.	A.	P.
Excavation and embankment	... Cubic yards	4,454	2,820	1	3
Aqueduct at Terragopilly	... ..	...	1,217	1	0
Three culverts	... ..	...	80	9	4
Scouring sluice and channel	... ..	...	319	8	3
Bridge on road from Mettacondal to Yerragoodoor	... ..	...	7	8	0
Bridge, 2nd class, at Pummalpaud	... ..	...	10	6	8
Do., do., at Jootoor	... ..	...	642	2	9
Do., do., at Terragopilly	... ..	...	1,411	1	2
Contingencies	... ..	...	538	3	3

10. 6th Section.—Rupees 51,912-2-8 were expended on the 6th Section or miles 73rd to 92nd, the items being :—

			RS.	A.	P.
Excavation and embankment	... Cubic yards	97,637	9,816	11	6
Revetment	... Do.	108	77	15	8
Catch-water drains	... Do.	779	880	6	4
Lock No. 2 with second-class bridge	... ..	...	2,998	4	1
Do. „ 2-A with do. do.	... ..	...	3,025	9	3
Do. „ 3 with one culvert	... ..	...	882	11	10
Do. „ 4 with culvert and roadway		...	4,847	14	6
Do. „ 5		...	4,058	13	6
Do. „ 6 with three culverts		...	1,400	8	4

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			RS.	A.	P.
Lock No. 7 with culvert and roadway		...	857	5	10
Do. „ 8 with second-class bridge		...	3,567	6	4
Do. „ 9	... ..	...	3,831	4	0
Do. „ 9-A with three culverts	... ..	...	1,443	11	8
Do. „ 10	... ..	...	5,895	1	4
Do. „ 11 with bridge second class	... ..	...	1,634	9	8
Do. „ 12	... ..	...	1,903	1	2
Four culverts	... ..	...	936	12	10
Bridge, second class, at Valapanoor	... ..	...	1,257	13	8
Aqueduct	... ..	...	1,186	0	0
Lock gates	... ..	...	67	9	6
Stores and Store Charges	... ..	...	26	12	10
Special Superintendence and Sundries	... ..	...	1,315	10	10

11. 7th Section.—Rupees 52,936-15-0 were expended on the 7th Section, miles 93rd to 113th, for :—

			RS.	A.	P.
Embankment and cutting	... Cubic yards	1,936	2,781	1	3
Anicut and head-works	... ..	...	10,700	7	8
Regulating lock	... ..	...	2,809	2	4
Two waste weirs	... ..	...	9,450	5	0
Bridge, second class, at 93rd mile	... ..	...	1,650	0	1
Do., do., at 96th do.	... ..	...	1,600	0	8
Do., do., at 98th do.	... ..	...	376	11	5
Do., do., at 102nd do.	... ..	...	332	5	10
Do., do., at 105th do.	... ..	...	742	3	6
Do., first-class, at 107th mile, Ayaloor	... ..	...	459	14	6
Do., third-class, at 108th do.	... ..	...	1,104	8	4
Do., second-class, at 110th do.	... ..	...	1,329	7	3
Do., first-class, at 112th do.	... ..	...	1,404	3	9
Ten culverts	... ..	...	14,679	12	4
Aqueduct No. 19	... ..	...	1	4	0
Do. „ 20	... ..	...	42	2	6
Calingulah and bridge	... ..	...	1,045	13	3
Lock gate	... ..	...	742	5	0
Stores and Store Charges	... ..	...	230	11	9
Contingencies	... ..	...	1,454	6	7

12. 8th Section.—Rupees 82,311-9-8 were expended on the 8th Section, miles 114th to 143rd, the items being :—

			RS.	A.	P.
Embankment and cutting	... Cubic yards	1,73,328	16,343	3	7
Waste weirs	... ..	...	5	4	0
Lock No. 1 at 115th mile		...	5,837	13	1
Do. „ 2 at 117th do.		...	5,792	4	4
Do. „ 3 at 118th do.		...	2,328	10	0
Do. „ 4 at 119th do.		...	9,059	6	4

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	RS.	A.	P.
Lock No. 5 at 121st mile ...	6,812	0	2
Do. „ 6 at 122nd do. ...	2,234	10	0
Do. „ 7 at 123rd do. ...	3,079	2	7
Do. „ 8 at 124th do. ...	686	10	8
Do. „ 9 at 125th do. ...	3,064	0	10
Do. „ 10 at 126th do. ...	3,337	13	1
Do. „ 10-A at 129th do. ...	1,210	13	10
Do. „ 11 at 132nd do. ...	990	3	10
Do. „ 12 at 136th do. ...	5,240	3	0
Do. „ 13 at 137th do. ...	1,446	3	2
Do. „ 14 at 140th do. ...	1,712	2	7
Do. „ 15 at 142nd do. ...	3,165	10	9
Do. „ 16 at 144th do. ...	4,084	12	4
One culvert ...	1,200	0	0
Bridge ...	4,340	7	11
Stores and Store Charges ...	10	9	0
Special Superintendence and Sundries ...	329	8	7
13. 9th Section.—Rupees 44,744-8-2 were expended on the 9th Section, or miles 144th to 178th of the canal, namely,—			
	RS.	A.	P.
Earthwork ... Cubic yards	47,375	35,339	12 5
Anicut across the Kundar at Rajoly ...	271	9	7
Head-sluice at do. ...	10	0	0
Aqueduct at Vaikalair, 149th mile ...	1,790	2	2
Do. at 150th do. ...	140	7	6
Do. at 153rd do. ...	33	10	8
Do. at 154th do. ...	74	8	7
Do. at 155th do. ...	20	8	0
Do. at 157th do. ...	221	0	9
Do. at 163rd do. ...	1,000	0	0
Lock at 169th mile 22 chains ...	3	2	0
Do. at 169th do. 60 do. ...	3	2	0
Do. at 170th do. 21 do. ...	3	2	0
Do. at 171st do. 60 do. ...	3	2	0
Do. at 172nd do. 50 do. ...	3	2	0
Do. at 174th do. 45 do. ...	3	2	0
Do. at 174th do. 74 do. ...	3	2	0
Do. at 176th do. 13 do. ...	3	2	0
Do. at 177th do. 72 do. ...	900	0	0
Three culverts ...	460	0	2
Public road bridge at 150th mile 31 chains ...	31	1	0
Do. do. at 158th do. 69 do. ...	1,292	12	0
Surplus weirs ...	44	9	0
Over-bridge at 152nd mile ...	2,371	8	0
Special Superintendence and Sundries ...	709	13	8
14. 10th Section.—Rupees 30,095-12-8 were expended on the 10th Section or miles 179th to 186th of the canal, the particulars being :—			

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	RS.	A.	P.
Excavation and embankment ... Cubic yards	1,09,208	2,2138	8 4
Head lock and bridge at Adimapully ...	1,057	0	0
Aqueduct at Punkul Wunkah ...	4,744	7	5
Two culverts ...	1,307	6	0
Bridge over scouring sluice channel under main road to Kurnool ...	83	0	0
Contingencies ...	765	6	11
15. <i>Adimapully Anicut.</i> —The expenditure on this work was Rs. 39,972-15-6.			
16. <i>Distribution Works.</i> —The expenditure on works of distribution was Rupees 2,221-6-7, of which Rupees 10 were expended on Kurnool Town Water Supply, Rupees 72-12-0 on the 2nd Section, Rupees 1,470-8-6 on the 3rd Section, Rupees 567-2-3 on the 4th Section, and Rupees 100-15-10 on the 9th Section.			
17. <i>Buildings.</i> —The expenditure on buildings was only Rupees 2-0-2, which on the office, store, and workshop at Kurnool.			
18. <i>Telegraph.</i> —Rupees 11,001-8-3 were expended on the Telegraph line from Poonkasala to Cuddapah.			
19. <i>Abstract of Expenditure.</i> —The following abstract shows the expenditure on all works from the commencement to the close of the quarter compared with the sanctioned estimates :—			

Proceedings of the Madras Government,

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Works.	Amount of Estimate.	Expenditure up to 31st Dec. 1869.	Cost during the quarter ended 31st March 1870.	Total Expenditure.	Add amount transferred to this from other works.	Deduct re-funds to this from other works.	Total Net Expenditure.	Amount.	
								Available.	Increase of Estimate.
<i>Main Supply.</i>									
Anicut and head-works at Kurnool	Rs. 3,01,080	Rs. 60,327	Rs.	Rs. 60,327	.....	.....	Rs. 60,327	Rs. 2,42,753	Rs.
Do. do. at Soonkasala	4,36,222	4,67,670	855	4,68,525	.....	.....	4,68,525	.....	32,303
Do. do. at Somaisweram	1,71,727	66,034	.....	66,034	.....	.....	66,034	1,05,693	.....
Do. do. at Adamapully	3,41,440	2,08,926	39,973	2,48,899	.....	.....	2,48,899	95,541	.....
Aqueduct across the River Hindry	2,76,250	2,75,245	1,067	2,76,312	.....	.....	2,76,312	.....	62
Canal for one mile from the head-sluice of the Kurnool Anicut	65,000	49,285	.....	49,285	.....	.....	49,285	15,715	.....
Main Canal, 1st Section, 17½ miles	10,81,917	10,69,374	14,832	10,84,206	.....	788	10,83,418	.....	1,471
Do., 2nd do., 18th to 32nd mile	18,16,370	19,41,118	1,185	19,42,303	.....	.....	19,42,303	.....	1,25,933
Do., 3rd do., 33rd to 43rd do.	9,75,790	8,94,023	3,282	8,97,305	.....	.....	8,97,305	78,485	.....
Do., 4th do., 44th to 60th do.	10,55,521	9,76,020	899	9,76,919	.....	.....	9,76,919	78,602	.....
Do., 5th do., 61st to 72nd do.	8,80,738	8,49,679	7,917	8,56,726	.....	.....	8,56,726	24,012	.....
Do., 6th do., 73rd to 92nd do.	7,61,927	6,84,849	51,913	7,36,762	.....	.....	7,36,762	25,165	.....
Do., 7th do., 93rd to 113th do.	7,46,583	5,29,526	52,837	5,82,463	.....	44	5,82,419	1,64,164	.....
Do., 8th do., 114th to 143rd do.	7,36,830	5,04,438	82,111	5,86,749	.....	617	5,86,132	1,50,698	.....
Do., 9th do., 144th to 178th do.	9,45,837	5,01,893	44,144	5,46,037	.....	.....	5,46,807	3,99,030	.....
Do., 10th do., 179th to 186th do.	2,55,610	71,340	30,495	1,01,435	.....	12	1,01,423	1,54,217	.....
Total...	108,53,902	91,49,747	3,31,140	94,80,887	170	1,461	94,79,596	15,34,075	1,59,769
<i>Distribution.</i>									
Branch channels and sluices of 1st Section	7,003	4,962	.....	4,962	.....	.....	4,962	2,041	.....
Distribution Works of 2nd do.	6,000	4,520	73	4,593	.....	.....	4,593	1,407	.....
Do. do. of 3rd do.	11,150	4,284	1,70	5,734	.....	.....	5,754	5,396	.....
Do. do. of 4th do.	28,923	17,229	167	17,796	.....	.....	17,796	11,133	.....
Constructing a bund across the canal in the 45th mile, 4th Section	76	73	.....	73	.....	.....	73	3	.....
Distribution Works of 5th do.	4,000	92	.....	92	.....	.....	92	3,908	.....
Do. do. of 6th do.	10,000	2,848	.....	2,848	.....	.....	2,848	7,152	.....
Do. do. of 9th do.	15,125	245	101	316	.....	.....	316	14,779	.....
Do. do. at Soonkasala	925	925	.....	925	.....	.....	925	.....	.....
Kurnool town water supply	1,699	1,403	10	1,413	.....	.....	1,413	286	.....
Total...	84,907	36,581	2,121	38,802	.....	.....	38,802	46,105	.....

<i>Buildings.</i>									
Central Hospital, with out-houses and compound wall, at Kurnool	5,050	4,781	.....	4,781	.....	.....	4,781	269	.....
Repairs to do. do. do.	68	60	.....	60	.....	.....	60	8	.....
Overseer's Hut at do. do. do.	1,245	.....	.....	.....	.....	.....	.....	1,245	39
Office, Store-house, and Workshop at Soonkasala.	5,947	5,986	.....	5,986	.....	.....	5,986	.....	.....
Powder Magazine, Store, and Station roads at Bowanassy	4,359	4,359	.....	4,359	.....	.....	4,359	.....	.....
Office, Store-room, and Artificers' shed at do. do. do.	7,298	7,523	.....	7,523	.....	.....	7,523	423	.....
Repairs to the above buildings at do. do. do.	618	.....	.....	.....	.....	.....	.....	.....	.....
Improvements of the road approaching to the above buildings and repairing culverts at do. do. do.	578	318	.....	318	.....	.....	318	260	.....
Converting the unfinished building intended for a Gun Powder Manufactory into a Hospital at do. do. do.	427	19	.....	19	.....	.....	19	408	.....
Office and Store building at Valapanoor in do. do. do.	1,970	5,141	.....	5,141	.....	.....	5,141	.....	3,171
Do. do. at Jupad in the Nagatoor Division.	4,123	4,782	.....	4,782	.....	.....	4,782	.....	659
Do. do. at Puggydial in do. do. do.	3,977	3,833	.....	3,833	.....	.....	3,833	144	.....
Do. do. at Chintagoonta in Kunder Division.	5,283	5,277	.....	5,277	.....	.....	5,277	6	.....
Do. and temporary Store-shed at Ayalore in do. do. do.	612	67	.....	67	.....	.....	67	575	.....
Quarters for Sub-Assistant Engineers and Assistant Surveyors in do. do. do.	1,236	561	.....	561	.....	.....	561	675	.....
Repairs to Anicut Office at Zorapore	327	308	.....	308	.....	.....	308	19	.....
Office, Store, and Workshop at Kurnool	30,612	14,389	2	14,391	.....	.....	14,391	16,221	.....
Iron and Brass Foundry at do. do. do.	15,328	15,168	.....	15,168	.....	.....	15,168	160	.....
Room for receiving and despatching stores at do. do. do.	4,765	4,923	.....	4,923	.....	.....	4,923	.....	158
Engineers' Bungalow at Dhoor	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total...	93,883	77,495	2	77,497	.....	.....	77,497	20,413	4,027
Line of Telegraph	49,440	36,505	11,001	47,506	.....	.....	47,506	1,934	.....
Grand Total...	1,10,82,132	93,00,328	3,44,364	96,44,692	170	1,461	96,43,401	16,02,527	1,63,796

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20. *Quarter's Expenditure.*—This statement shows that the expenditure of the quarter was Rupees 3,44,364, and the net total outlay, up to 31st March 1870, Rupees 96,43,401.

21. *Excess Expenditure.*—The subjoined statement shows the expenditure in excess of sanction at the end of the quarter to have been Rupees 1,63,796.

Works.	Excess expenditure up to 31st Dec. 1869.	Excess expenditure during the quarter ended 31st March 1870.	Total.	Add transferred to this from other works.	Deduct refunds.	Excess net expenditure 31st March 1870.
<i>Main Supply.</i>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Anicut and head-works at Soonkasala ...	31,443	855	32,303	...	...	32,303
Hindry Aqueduct... ..	...	62	62	...	...	62
Main Canal, 1st Section	...	2,259	2,259	...	...	2,259
Do., 2nd do.	1,24,748	1,185	1,25,933	...	788	1,25,145
Total... ..	1,56,196	4,361	1,60,557	...	788	1,59,769
<i>Buildings.</i>						
Office, Store-house, and Workshop at Soonkasala	39	...	39	...	...	39
Office and Store building at Valapanoor	3,171	...	3,171	...	...	3,171
Do. do. at Jupad	659	...	659	...	...	659
Engineers' Bungalow at Dhoor	158	...	158	...	...	158
Total... ..	4,027	...	4,027	...	...	4,027
Grand Total... ..	1,60,223	4,361	1,64,584	...	788	1,63,796

22. *Preparation of Revised Estimates.*—Supplemental estimate for the anicut and head-works at Soonkasala were sanctioned in Government Order No. 2,352, dated 29th September 1870, and that for the 2nd Section, Main Canal, has been submitted to Government for sanction with letter No. 73, dated 22nd September 1870, from this office.

The excess expenditure on the Hindry Aqueduct 1st Section, Main Canal, and station buildings at Soonkasala, will be sanctioned, being within 5 per cent. of the estimate.

A supplemental estimate for excess on Jupad buildings was returned to the Agent for explanation on 10th June 1870 and has not been received back.

Explanation has been asked for regarding excess expenditure on Engineers' Bungalow at Dhoor.

23. *Estimates submitted to Government during the quarter.*—The following estimates were received from the Agent and submitted to Government during the quarter :—

1. Revised design of constructing a self-acting sluice in the 1st Section	Rs. 10,800
2. Estimate for protecting walls to stop the leakage in the 26th and 29th miles of the 2nd Section	13,300
3. Estimate for a culvert No. 9 in the 6th do.	8,850
4. Revised estimate for a waste weir No. 9 in the 7th Section... ..	1,900
5. Do. do. for the earthworks of the 6th Section... ..	1,81,500
6. Do. do. for the reconstruction of the Jootoor Anicut	23,570

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24. *Estimates sanctioned.*—Of these the third and the last one received the sanction of Government during the quarter, and the rest were since sanctioned; also two other estimates which were previously submitted for a culvert No. 10 in the 1st Section, Rupees 2,229-12-10, and the anicut and head-works at Adimapully, Rupees 3,44,440, were sanctioned during the quarter.

25. *Cost of Establishments.*—The cost of Executive Permanent Establishment amounts for this quarter to 14.79 per cent. on the expenditure for construction; that of the temporary establishment to 1.36 per cent.; that of establishments engaged in investigations in Bellary and for reservoirs to 3.96 per cent.; and that of General Management to 7.26 per cent.

26. *Total cost of Establishments.*—The total cost of the permanent establishment was therefore 26.01, and of temporary establishments 1.36 per cent. on the expenditure.

No. 140. ORDER THEREON, 7th December 1870, No. 2,969.

IRRIGATION, No. 16.

ORDERED that this report be forwarded to the Home Government.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,

Secretary to Government.

To the Consulting Engineer for the Madras Irrigation and Canal Company.
,, the Agent and Manager for do. do.

Ed E. C. Shunker,

Govt. of [1870] Madras

PUBLIC WORKS.

To

THE CONSULTING ENGINEER FOR
THE MADRAS IRRIGATION AND
CANAL COMPANY.
&c., &c., &c.

Dated December 7th.

Recd.

Encl.

G. O., 7th December 1870, No. 2,903.

DECEMBER

Nos. 139-140

Works.—Passing orders on the report
on the progress of the Madras Irrigation
and Canal Company's works during the
quarter ended 31st March 1870.

Consulting Engineer's office
Irrigation and Canal Company
No. 94. Madras, 19 Nov/70

From, Colonel, [unclear]
[unclear] for [unclear]
The Secretary to Government
Public Works Department.

I have the honor to submit the follow-
ing report on the progress made in the
works of the Madras Irrigation and Canal Com-
pany during the quarter ended 31st March 1870.

2. The progress made during the quarter,
Expenditure as indicated by the [unclear]
during the quarter. Expenditure shows an
improvement on that of the previous quarter,
the expenditure being Rupees 344,364 against
Rupees 233,912 in the quarter ended 31st Decem-
ber 1869.

3. Rupees 855. 2-5 were expended on
Sontkāsala Sicut. the [unclear] and [unclear]
works at Sontkāsala
the details being
Coping masonry [unclear] 597-2-5
Grout at Sontkāsala [unclear] 258- [unclear]

4. The expenditure on this work was
Rupees 1067-6-0 the Hindry Aqueduct
items being:

Rubble stone in chunam Rs. 1003-12-0
Cut stone work 48-0-0
Gravel for roadway 15-10-0

5. Rupees 14031-0-0 were expended on
the 1st Section of the 1st Section Main Canal.
Main Canal 10 7/4 miles, the work done being:

Earthwork & embankment Rs. 5776-0-0
Pavement & shingling 5731-0-0
One culvert 47-11-8
Masonry pavement at 7th sluice 72-9-8
Bridge 3rd class at Medajoor 12 miles 225-7-3
do do Mangalpad 14 47-8-8
Three waste weirs 94-1-0
Selfacting sluice & repairs & culvert
in the 2nd miles 3405-14-11
Terry boat 1-12-0
Special superintendence & sundries 456-8-10

6. Rupees 1105-0-0 were expended on
the 2nd Section from 2nd Section
the 18th to the 32nd mile, the items being:

Earthwork Rs. 122-0-0
Canal walls 258-0-0
Bridge 2nd class for Podoor 12-5-2
Aqueduct at Kudrabagh 103-8-0
Scouring sluice at 12 21-1-6
Masonry wall & puddling & stop the
leakage in the 30 miles 555-6-2
Raising and strengthening the right bank
between Kudrabagh Aqueduct & the slip 105-15-4
Contingencies in the 24 miles 193-11-3

7. Rupees 3201-12-4 were expended on
3rd Section. The 3rd Section from the
33rd to the 43rd mile, the details being:

Excavation & embankment Rs. 7259-0-0
Pavement 30-0-0
Trimming & sloping banks 283-0-0
Sulphur stone tunnel 6-2-0
do do do breach 302-5-2
Ullur Aqueduct & deepening bed of
stream under Ullur Aqueduct 192-10-3
Muddigutta Satty 165-0-0
Bridge 3rd class at Sthanickotta 619-6-6
do do do Muddigutta 1-4-0
Contingencies for earth & masonry works 578-8-0

8. Rupees 899-2-7 were expended on
4th Section. The 4th Section or miles
44 to 60 of the Canal, the particulars being:

Excavation & embankment Rs. 113-0-0
Bridge 7th 2 at 60 mile 92-8-0
Two culverts 247-8-0
Contingencies 290-15-1
Stores & store charges 154-11-6

9. Rupees 7046-9-8 were expended on
5th Section. The 5th Section of the
Main Canal from the 61st to the 72nd mile, the
items being:

Excavation & embankment Rs. 4454-0-0
Aqueduct at Terragopilly 1217-1-0
Three culverts 80-9-4
Scouring sluice and channel 319-8-3
Bridge on road from Mettasondal to
Terragopilly 7-8-0
do 2nd class at Panulpad 10-6-8
do do do lookoor 642-2-9
do do do Terragopilly 1411-1-2
Contingencies 538-3-3

10. Papers 51912-250, were expended on the 6th Section or miles 6th Section.

73rd & 92nd, the items being:

Excavation & Embankment Cpt 97637 Rs.	9816-11-6
Regulating Lock	100
Catch water drains	779
Lock No 2 with 2 nd class bridge	2990-4-1
do - 2 nd with do	3025-9-3
do - 3 with one culvert	882-11-10
do - 4 with culvert & roadway	4847-14-6
do - 5	4058-13-6
do - 6 with 3 culverts	1400-8-4
do - 7 with culvert & roadway	857-5-10
do - 8 - 2 nd class bridge	3567-6-4
do - 9	3831-4-
do - 9 A - 3 culverts	1443-11-8
do - 10	5895-1-4
do - 11 - bridge 2 nd class	760429-8-
do - 12	1903-1-2
4 Culverts	936-12-20
Bridge - 2 nd class at Valapanoor	1257-13-8
Aqueduct	1186-
Soft gubs	67-9-6
Stores & Store charges	26-12-10
Special superintendence & sundries	1315-10-10

11. Papers 52936-15- were expended on the 7th Section, miles 7th Section.

93rd & 113th for:

Embankment & cutting Cpt 1936 Rs.	2781-1-3
Align & Headwork	10700-7-8
Regulating Lock	2809-2-4
2 Waste weirs	9450-5-
Bridge 2 nd class at 93 rd mile	1650-1-
do do - 96	1600-8-
do do - 98	376-11-5
do do - 102	332-5-10
do do - 105	742-3-6
do 1 st class - 107	459-14-6
do 3 rd - 108	1104-8-4
do 2 nd - 110	1329-7-3
do 1 st - 112	1404-3-9

10 culverts Rs. 14679-12-4
 Aqueduct No 19 " 1-4-"
 do - 20 " 42-2-6
 Culculah & Bridge " 1045-13-3
 Soft gubs " 742-5-"
 Stores and store charges " 230-11-9
 Contingencies " 1454-6-7

12. Papers 82311-9-8 were expended on 8th Section. The 8th Section miles 114-

& 143, the items being:

Embankment & cutting Cpt 175328 Rs.	16343-3-7
Waste weirs	5-4-
Lock No 1 at 113 miles	5837-13-1
do - 2 - 117	5792-4-4
do - 3 - 118	2328-10-
do - 4 - 119	9059-6-4
do - 5 - 121	6812-2
do - 6 - 122	2234-10-
do - 7 - 123	3879-2-7
do - 8 - 124	686-10-8
do - 9 - 125	3064-10-
do - 10 - 126	3337-13-1
do - 10 A - 129	1210-13-10
do - 11 - 132	990-3-10
do - 12 - 136	5240-3-
do - 13 - 137	1446-3-2
do - 14 - 140	1712-2-7
do - 15 - 142	3165-10-9
do - 16 - 144	4084-12-4
1 Culvert	1200-1-
Bridge	4340-7-11
Stores and store charges	10-9-
Special superintendence and sundries	329-8-7

13. Papers 44744-8-2 were expended 9th Section. on the 9th Section, or miles

144 to 178 of the Canal, viz:

Earthwork

Earthwork *Cy 17375 Rs 35339-12-5*
 Anicut across the Kunder at Rajoly *271-9-7*
 Head sluice at *18--8*
 Aqueduct at Vaitkalai *149 mile 1790-2-2*
 do *150 140-7-6*
 do *153 33-10-8*
 do *154 74-8-7*
 do *155 20-8*
 do *157 221--9*
 do *163 1000--*
 Lock at 169 mile 22 chains *3-2*
 do *169 60 3-2*
 do *170 21 3-2*
 do *171 60 3-2*
 do *172 50 3-2*
 do *174 45 3-2*
 do *174 74 3-2*
 do *176 13 3-2*
 do *177 72 900--*
 3 culverts *460--2*
 Public road bridge at 150 m. 31 chs *31-1--*
 do do *158 69 1292-12--*
 Excess wires *44-9--*
 Overbridge at 152nd mile *2371-8--*
 Special superintendence & sundries *709-13-8*

14. Rupees 30095-12-8 were expended
 on the 10th Section or miles 10th Section.

179th to 186th of the Canal, the particulars being:
 Excavation & embankment *Cy 109208 Rs 22138-8-4*
 Head lock & bridge at Adimappully *1057--*
 Aqueduct at Pankal Wunkah *4744-7-5*
 2 Culverts *1307-6*
 Bridge over seowing sluice channel
 under main road to Turnool *383--*
 Contingencies *765-6--*

15. The expenditure on this work was
 Rupees 39972-15-6. Adimappully Anicut.

16. The expenditure on works of distribution was Rupees 2221-6-7 of which Rupees 10-8-8 were expended on Turnool town water supply, Rupees 72-12-- on the 2nd Section, Rupees 1470-8-6 on the 3rd Section, Rupees 567-2-3 on the 4th Section and Rupees 100-15-10 on the 9th Section.

17. The expenditure on Buildings was only Rupees 2--2 which is on the office, store and workshop at Turnool.

18. Rupees 11001-8-3 were expended on Telegraph the Telegraph line from Sontkalala to Cuddapah.

19. The following abstract shows the Abstract of expenditure expenditure on all works from the commencement to the close of the quarter compared with the sanctioned estimates.

Amount

Amount Deduct

Expenditure

20. This statement shows that the expenditure of the quarter Quarters expenditure was Rupees 44,364 and the net total outlay up to 31st March 1870 Rupees 96,434.01.

21. The subjoined statement shows the expenditure in excess... Excess expenditure of sanction at the end of the quarter to have been Rupees 16,379.6.

Works	Excess expenditure up to 31 st March 1870	Excess expenditure during the quarter ending 31 st March 1870	Total	Excess not sanctioned from the quarter ending 31 st March 1870	Excess not sanctioned from the quarter ending 31 st March 1870
<u>Main Supply.</u>					
Amount & headworks at Soonkiala	31,448	835	32,303		32,303
Hindry Aqueduct		62	62		62
Main Canal - 1 st Section		2,259	2,259	788	1,471
do 2 nd do	12,474	1,185	12,593		12,593
<u>Total</u>	156,196	4,361	160,557	788	159,769
<u>Buildings.</u>					
Office, store house & workshop at Soonkiala	39		39		39
do & store building at Valupanoor	3,171		3,171		3,171
do do Cupid	659		659		659
Engineer's bungalow at Whoor	158		158		158
<u>Total</u>	4,027		4,027		4,027
<u>Grand Total</u>	160,223	4,361	164,584	788	163,796

Preparation

22. Supplemental estimate for the Amount Preparation of and head works at Soonkiala Revised estimates. were sanctioned in Government Order No. 2352 dated 29th September 1870, and that for the 2nd Section Main Canal has been submitted to Government for sanction with letter No. 73 dated 22nd September 1870 from this office. — The excess expenditure on the Hindry Aqueduct 1st Section Main Canal & station buildings at Soonkiala will be sanctioned being within 5 per cent of the estimate.

A supplemental estimate for excess on Cupid buildings was returned to the Agent for explanation on 10th June 1870 and has not been received.

Explanation has been asked for regarding excess expenditure on Engineer's bungalow at Whoor.

23. The following estimates were received from the — Estimates submitted to Govt during the Quarter Agent and submitted to Government during the quarter. —

Revised

1. Revised design of constructing a self-acting sluice in the 1st Section } Rs. 10000
2. Estimate for protecting walls to stop the leakage in the 26th & 29th miles of the 2nd Section } 13300
3. Estimate for a culvert N^o 9 in the 6th do } 8850
4. Revised estimate for a waste weir N^o 9 in the 7th section } 1900
5. - Do do for the earthworks of the 6th Section } 101500
6. - Do do for the reconstruction of the Cootor Ament- } 23570

24. Of these the third and the last one received the sanction of Government during the quarter, and the rest were since sanctioned, also two other estimates which were previously submitted for a culvert N^o 10 in the 1st Section Rs. 2229-12-10, and the Ament and Head works at Primapully Rs. 344,440 were sanctioned during the quarter.

25. The cost of Executive Permanent Establishment amounts for this quarter to 14.79 per cent on the expenditure for construction, that of the temporary establishment to 1.36 per cent, that

that of establishments engaged in investigations in Bellary and for reservoirs to 3.96 per cent, and that of General Management to 7.26 per cent.

26. The total cost of the Permanent Establishment was therefore 26.01, and of temporary establishments 1.36 per cent on the expenditure.

Have the honor to be,
Sir,
Your most obedient servant,
J. G. M. D. Cole
Engineer for B. C. Company

Ed. M. B. 12-2-78

1870 West
1894

1870 4767

the four: Aug 27/1870

to the Secretary to Govt.

W.C.D.

Oct 19

1870 25. { November 1870.

Submits report on

the property made in

the month of the 1870

during the quarter ended

31 March 1870

1870 2969-7 Dec 1870

Not in order

No the same agreement

Anders that the report be forwarded

No 2969

1870 13/10/70
1870 13/10/70
1870 13/10/70

62467

Govt. of 1870: Madras.

PUBLIC WORKS.

To *The Consulting Eng^r
for the Madras Irrigation
and Canal Company*

Dated.

Recd.

Per

G. O., 7 Dec 1870, No. 2969

Nos. 139-140

*Works. Passing orders on the
report on the progress of the Madras
Irrigation and Canal Company
work during the quarter ended
31st March 1870-*