

(1) Number of pages _____

(2) Date of repair 15-11-40

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. 2340	Press ~~Mis.~~
412-13	
Dated 17 7 1869.	

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
17th July 1869.*

No. 412. Read the following letter from the Consulting Engineer for Irrigation and Canal Company, to the Secretary to Government, Public Works Department, dated Madras, 1st July 1869, No. 39:—

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 1869.

2. The progress made during this quarter, which is on the whole the best quarter of the year for work, though, in the earlier part of it, labour is somewhat short in some divisions, is not, in my opinion, as good as might have been expected. The total value of work done was Rupees 3,69,211, and I should

have considered $4\frac{1}{2}$ to 5 lacs satisfactory. In the first and third sections the outlay fell considerably short of what was desirable. In the eighth section the total expenditure was Rupees 36,935, and double this amount would not have been too much; while on the first five locks, which are under separate superintendence, the work done was of the value of Rupees 1,485 only; and this represents only one-tenth or one twelfth of what might reasonably have been anticipated. In the ninth section Rupees 51,568 were spent, and I should say Rupees 25,000 a-month, or Rupees 75,000 for the quarter, might be considered fair progress. The progress of the distribution works was anything but satisfactory; Rupees 848 only having been expended. Rupees 25,000 to 30,000 would not have been at all an excessive outlay under the pressing need which exists for getting these works ready for the season of 1869-70.

3. The expenditure on the Soonkasala anicut and head works was Rupees 6,135-15-5, consisting of Rupees 6,134-3-5 for masonry and Rs. 1-12-0 for special superintendence and sundries.

4. Rupees 25,502-9-0 were expended on the first section; 1 to $17\frac{1}{2}$ miles of the main canal, the work done being—

	RS.	A.	P.
Earth-work and embankment cubic yards 60,554 ...	20,727	12	8
Revetment and shingling, " " 713 ...	245	11	11
Removing spoil, " " 3,993 ...	492	0	0
Two culverts ...	30	0	0
Masonry revetment, cubic yards 922 ...	396	13	6
Bridge, 2nd class, for Dudiya ...	104	14	0
Do., 2nd " Yedarur ...	254	9	3
Do., 3rd " Nidajur ...	58	9	0
Do., " " Mungalpad ...	43	0	0
Do., " " Nundialpad ...	48	0	2
Do. No. 1 ...	46	0	0
Waste weir ...	6	0	0
Temporary bridge ...	4	0	0
Puddling breach and repair to culvert No. 6 ...	2,033	14	0
Special superintendence ...	1,011	4	6

*Proceedings of the Madras Government, Public Works Department,
17th July 1869.*

5. The second section, from the 18th to the 32nd mile, shows an outlay of Rupees 31,969-11-5, the items being—

	RS.	A.	P.
Earth-work, cubic yards 29,241	24,459	2	5
Removing and reforming banks	540	9	2
Revetment and shingling	284	3	0
Canal walls, cubic yards 838	4,421	8	8
Bridge, 2nd class, for Poodoor	34	2	0
Three waste weirs	44	15	8
Aqueduct at Kadrabagh	277	14	0
Iron ferry boats	451	9	5
Contingencies	1,455	11	1

6. On the third section of the main canal, from 33rd to 43rd mile, there was an expenditure of Rupees 2,918-2-½, the details being—

	RS.	A.	P.
Earth-work and embankment	1,040	0	0
Masonry wall in banks, cubic yards 694	870	12	8
Bridge, 2nd class at Malyala	76	0	0
Ullur Aqueduct, cubic yards 605	105	6	9
Waste weir	78	7	6
Contingencies for earth and masonry works	747	7	1½

7. On the fourth section, or miles 44 to 60 of the canal, Rupees 14,318-0-6 were expended on—

	RS.	A.	P.
Excavation and embankment, cubic yards 22,756	6,964	11	11
Revetment and pitching	6,155	11	0
Bridge No. 2	83	10	8
Do. „ 3	3	0	0
Waste weir	31	8	0
Contingencies	1,079	6	11

8. On the fifth section of the main canal, from 61st to 72nd mile, there was an expenditure of Rupees 9,131-4-0, the items being—

	RS.	A.	P.
Excavation and embankments, cubic yards 7,081	2,071	9	8
Revetment and pitching	1,256	8	0
Catch-water drain	0	2	8
Aqueduct at Terogapilly	883	9	4
Five culverts	939	6	8
Scouring sluice and channel	8	8	0
Bridge, 2nd class	1,111	15	0
Do. „ at Jootoor	734	7	4
Removing spoil	45	0	0
Contingencies	2,080	1	4

9. On the sixth section, or miles 73 to 91 of the canal, Rupees 71,422-7-7 were expended on—

	RS.	A.	P.
Excavation and embankment, cubic yards 98,542	20,475	11	1
Catch-water drain	212	0	0

*Proceedings of the Madras Government, Public Works Department,
17th July 1869.*

	RS.	A.	P.
Three single culverts	2,013	14	4
Two double do.	2,298	4	0
Scouring sluice and channel	15	0	0
Lock No. 1	185	0	0
Do. „ 2	2,481	8	0
Do. „ 3	2,149	2	3
Do. „ 4	3,666	8	0
Do. „ 5	5,660	0	0
Do. „ 6	4,454	7	6
Do. „ 7	3,679	4	5
Do. „ 8	3,845	2	0
Do. „ 9	6,078	3	6
Do. „ 10	5,212	12	3
Do. „ 11	2,775	0	0
Do. „ 12	1,836	6	7
Valapanoor bridge	400	0	0
Special superintendence and sundries	3,984	3	8

10. The outlay on the seventh section, miles 92 to 114, amounted to Rupees 50,762-5-5, being for—

	RS.	A.	P.
Embankment and cutting, cubic yards 36,329	8,665	6	8
Anicut and head works	3,132	10	11
Aqueduct	8,832	4	0
Bridge at 93rd mile	1,445	4	6
Do. at 98th „	1,485	0	0
Do. at 112th „	280	14	4
Regulating lock at 92nd mile	498	9	10
Waste weir	140	4	3
Eleven culverts	21,611	4	5
Masonry works	41	6	7
Calingulah and bridge	1,555	2	5
Contingencies	3,074	1	6

11. The outlay on the eighth section, miles 115 to 143, was Rs. 36,935-2-9, the items being—

	RS.	A.	P.
Embankment and cutting, cubic yards 100,262	8,823	6	10
Lock at 115th mile	28	12	6
Do. at 117th „	22	6	5
Do. at 118th „	856	4	4
Do. at 119th „	355	2	0
Do. at 122nd „	222	12	10
Do. at 123rd „	2,284	4	10
Do. at 124th „	6,143	5	0
Do. at 125th „	1,645	2	10
Do. at 126th „	1,793	13	7

11th Section Rupees

*Proceedings of the Madras Government, Public Works Department,
17th July 1869.*

	RS.	A.	P.
Lock at 129th			
Do. at 132nd	3,672	2	2
Do. at 136th	3,052	1	3
Do. at 137th	788	2	7
Do. at 140th	3,287	9	8
Do. at 142nd	1,180	12	9
Do. at 144th	235	10	9
Bridge at 129th	190	6	2
Stores and store charges	15	3	4
Special superintendence and sundries	20	12	8
	2,316	14	3

12. On the ninth section, or miles 144 to 178 of the canal, Rs. 51,568-4-6 were expended on—

	RS.	A.	P.
Earth-work	10,916	7	9
Off-take channel at Rajoly	1,163	0	1
Anicut across the Kunder at Rajoly	2,101	0	7
Head-sluice at do.	1,468	15	7
Under do. at do.	718	10	7
Aqueduct in 144th mile	920	5	7
Do. in 145th do.	502	4	3
Do. in 149th do.	11,943	7	7
Do. in 150th do.	2,045	9	7
Do. in 153rd do.	133	3	8
Do. in 154th do.	729	4	3
Do. in 155th do.	141	2	8
Do. in 157th do.	150	0	0
Do. in 162nd do.	736	4	0
Do. in 163rd do.	1,955	2	6
Do. in 166th do.	1,000	0	0
Do. in 167th do.	3,000	0	0
Lock at 169th mile 22 chains	3,000	0	0
Do. do. 60 do.	2,000	0	0
Do. at 170th mile 21 do.	2	13	8
Four culverts	3,265	1	8
Public road bridge at 150th mile	1,296	10	10
Do. do. 152nd do.	667	7	0
Over bridge at 152nd do.	494	13	7
Masonry works	84	0	7
Special superintendence and sundries	1,132	6	6

13. On the tenth section, or miles 179 to 186 of the canal, Rupees 11,600-0-9 were expended on—

	RS.	A.	P.
Excavation and embankment, cubic yards 29,708	2,763	1	6
Aqueduct in 2nd mile	2,629	4	4
Do. in 6th do.	1,023	9	6

*Proceedings of the Madras Government, Public Works Department,
17th July 1869.*

	RS.	A.	P.
Two culverts	913	1	11
Bridge, 2nd class	1,058	9	8
Masonry works	1,966	4	0
Contingencies	1,246	1	10

14. The expenditure on the Adimapully anicut was Rupees 52,853-7-6.

15. The expenditure on works of distribution was Rupees 847-11-3, of which Rupees 44-8-0 were expended in the first section, Rupees 762-3-3 in the fourth section, Rupees 21-0-0 in the fifth section, and Rupees 20-0-0 on the works of the Kurnool town water supply.

16. The expenditure on buildings was Rupees 113-3-3, which was spent upon the Central Hospital with out-houses and compound wall at Kurnool.

17. Rupees 3,131-11-10 were expended on the telegraph line from Soonkasala to Cuddapah.

18. 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, Public Works Department,
17th July 1869.

Works.	Amount of Estimate.	Expenditure up to 31st December 1868.	Cost during the quarter ended 31st March 1869.	Total expenditure.	Add amount transferred to this from other works.	Deduct refunds to this from other works.	Total net expenditure.	Amount	
								Available.	Increase of estimate.
<i>Main Supply.</i>									
Ancient and new works at Kurnool ...	Rs. 3,03,080	Rs. 60,327	Rs. 6,126	Rs. 60,327	Rs. 1,887	Rs. 13,501	Rs. 60,327	Rs. 2,42,773	Rs. 25,635
Do. at Soonkasala ...	4,35,722	4,66,698	6,126	4,72,824	71,739	44	4,61,357	1,05,693	...
Do. at Somaswaram ...	1,71,727	71,739	5,853	71,739	89,707	20,732	1,10,439	1,90,061	...
Do. at Adimappally ...	3,00,500	36,854	...	89,707	...	...	2,75,208	...	...
Aqueduct across the river Hindry ...	2,46,029	2,75,208	...	2,75,208	...	...	49,285	...	...
Canal for one mile from the head sluice of the Kurnool anicut ...	65,000	49,285	...	49,285	...	...	10,15,470	15,715	...
South main canal, 1st section, 17 1/2 miles ...	10,60,657	9,89,967	25,563	10,15,470	2,520	3,023	10,14,967	45,630	...
Do. 2nd do., 18th to 32nd mile ...	18,00,150	18,33,810	31,970	18,65,780	4,669	5,599	18,64,850	82,181	64,700
Do. 3rd do., 3rd to 43rd do. ...	9,55,030	8,72,711	2,918	8,75,629	190	...	8,75,819	...	...
Do. 4th do., 44th to 60th do. ...	10,55,521	9,42,531	14,318	9,56,869	1,038	85	9,58,722	96,799	...
Do. 5th do., 61st to 72nd do. ...	7,29,965	7,97,312	9,131	8,06,443	3,525	10	8,09,958	...	79,993
Do. 6th do., 73rd to 1st do. ...	4,43,677	4,36,816	71,43	4,08,239	1,931	96	4,18,922	...	66,397
Do. 7th do., 92nd to 11th do. ...	4,82,743	3,68,618	50,763	4,19,111	510	999	4,34,919	61,821	...
Do. 8th do., 11th to 14th do. ...	7,36,830	2,91,860	36,935	3,28,795	6,543	419	3,34,919	4,01,911	...
Do. 9th do., 11th to 17th do. ...	9,45,837	1,94,499	51,563	2,46,067	54	237	2,45,884	6,99,953	...
Do. 10th do., 17th to 18th do. ...	1,94,330	21,025	11,600	35,625	...	...	35,625	1,58,765	...
Total ...	99,29,768	77,12,310	3,65,118	80,77,128	41,543	29,581	80,92,390	21,03,282	2,65,904
<i>Distribution.</i>									
Branch channel and sluices of 1st section ...	6,681	4,127	45	4,172	...	...	4,172	2,509	...
Distribution works of the 2nd section ...	6,000	4,483	...	4,483	...	...	4,483	1,517	...
Do. 3rd do. ...	9,320	4,284	...	4,284	...	...	4,284	5,036	...
Do. 4th do. ...	28,929	7,235	762	7,997	...	...	7,997	20,932	...
Constructing a bund across the canal in the 45th mile, 4th section ...	76	73	...	73	...	...	73	3	...
Distribution works of the 5th section ...	4,000	71	21	92	...	...	92	3,908	...
Do. 6th do. ...	10,000	2,818	...	2,818	...	...	2,818	7,152	...
Do. 7th do. ...	15,125	...	...	...	...	...	...	13,125	...
Do. 8th do. at Soonkasala ...	...	925	...	925	...	...	925	...	925
Kurnool town, water supply ...	1,699	1,383	20	1,403	...	...	1,403	...	...
Total ...	81,830	25,129	818	26,277	...	...	26,277	56,478	925

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Works.	Amount of Estimate.	Expenditure up to 31st December 1868.	Cost during the quarter ended 31st March 1869.	Total expenditure.	Add amount transferred to this from other works.	Deduct refunds to this from other works.	Total net expenditure.	Amount	
								Available.	Increase of estimate.
<i>Buildings.</i>									
Central Hospital with out-houses and compound wall at Kurnool ...	5,650	4,170	113	4,563	...	...	4,563	487	...
Repairs to ...	63	...	...	...	...	...	...	8	...
Overseer's hut at Kurnool ...	1,215	...	...	...	...	...	...	1,215	...
Office, store-house and workshop at Soonkasala ...	5,917	5,979	...	5,979	...	...	5,979	...	...
Powder Magazine, store, and station roads at Rowanassy ...	4,350	4,359	...	4,359	...	...	4,359	...	...
Office and store-room and Artificers' shed at do. ...	7,228	7,523	...	7,523	...	...	7,523	433	...
Repairing the above buildings at do. ...	578	318	...	318	...	...	318	200	...
Improvement of the road approaching to the above buildings and repairing culverts at do. ...	427	19	...	19	...	...	19	408	...
Converting the unfinished building intended for a Gun Powder Manufactory into a Hospital at Rowanassy ...	1,970	5,121	...	5,121	...	...	5,121	...	3,151
Office and store building at Valapanoor in the Rowanassy Division ...	4,123	4,776	...	4,776	...	...	4,776	...	653
Do. do. at Jural in the Nagatore Division ...	3,977	3,833	...	3,833	...	...	3,833	111	...
Do. do. at Puzaythil do. ...	5,283	5,259	...	5,259	...	...	5,259	24	...
Do. do. at Chintagootah in Kunder do. ...	642	67	...	67	...	...	67	575	...
Office and temporary store shed at Ayalore in do. ...	1,236	561	...	561	...	...	561	675	...
Quarters for Sub-Assistant Engineers and Assistant Surveyors at do. ...	327	308	...	308	...	...	308	19	...
Repairs to Anicut Office at Zorapore ...	30,612	14,279	...	14,279	...	...	14,279	16,333	...
Office, store and workshop at Kurnool ...	15,328	15,168	...	15,168	...	...	15,168	160	...
Room for receiving and despatching stores at do. ...	4,765	4,765	...	4,765	...	...	4,765	...	...
Engineer's bungalow at Dhcor ...	...	1,231	...	1,231	...	...	1,231	...	...
Office building at Donarad ...	...	55	...	55	...	...	55	...	...
Hospital building at do. ...	93,883	78,131	113	78,244	...	1,236	76,938	20,761	3,826
Line of Telegraph ...	49,440	21,813	3,132	24,945	10	...	24,955	24,485	...
Grand Total ...	1,01,54,921	78,37,683	3,62,211	82,06,894	44,553	39,867	82,30,550	22,05,066	2,70,665

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19. This statement shows that the expenditure of the quarter was Rupees 3,69,211, and the net total outlay up to 31st March 1869 Rupees 82,20,580.

20. The subjoined statement shows the expenditure, in excess of sanction, at the end of the quarter to have been Rupees 2,70,665 :—

Works.	Excess expenditure up to 31st December 1868.	Excess expenditure during the quarter 31st March 1869.	Total.	Add transferred to this from other works.	Deduct refunds.	Excess net expenditure 31st March 1869.
<i>Main Supply.</i>	RS.	RS.	RS.	RS.	RS.	RS.
Anicut and head works at Soonkasala ...						
Excess expenditure up to the last quarter... 39,646	30,976	6,136	37,112	1,887	13,364	25,635
Amount sanctioned during the quarter ... 8,670						
30,976						
Aqueduct across the river Hindry ...	29,179	.....	29,179	.....	.....	29,179
South main canal, 2nd section ...	33,660	31,970	65,630	4,669	5,599	64,700
Do. 5th do. ...						
Excess expenditure up to the last quarter... 83,767	67,347	9,131	76,478	3,525	10	79,993
Amount sanctioned during the quarter ... 16,420						
67,347						
Do. 6th do. ...	.....	64,562	64,562	1,931	96	66,397
	1,61,162	1,11,799	2,72,961	12,012	19,069	2,65,904
<i>Distribution.</i>						
Distribution at Soonkasala	925	.....	925	.....	.....	925
<i>Buildings.</i>						
Office, store-house and work-shop at Soonkasala ...	32	.....	32	.....	.....	32
Office and store building at Valapanoor ...	3,151	.....	3,151	.....	.....	3,151
Do. do. at Jupad ...	653	.....	653	.....	.....	653
	3,836	.....	3,836	.....	.....	3,836
	1,65,923	1,11,799	2,77,722	12,012	19,069	2,70,665

The excess on the Hindry aqueduct has been covered by the sanction given in Proceedings Madras Government, No. 1,662, of the 20th May last. Similarly the small unsanctioned item, Rupees 925, for distribution near Soonkasala has been passed in Government Order, No. 1,494, of the 7th May. It will be observed that the excess Rupees 64,700 on the second section is very considerable, and the Progress Report shows that the earth-works have cost upwards of 50,000 Rupees more than the estimate allowance, other large items of increase are Rupees 16,734 on revetment and shingling, Rupees 18,706 on rubble banks (core section walling) and

*Proceedings of the Madras Government, Public Works Department,
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Rupees 28,782 on plant depreciation. The principal item of decrease is on canal walls Rupees 42,000, but in this case the works appear to be incomplete, about 5,000 cubic yards less than the estimate provision having been as yet executed. No time should be lost in revising the estimate and affording such explanations as may be necessary. A part of the excess expenditure in this section has been covered by the sanctions, Rupees 14,260 and Rupees 1,960, given in the Orders of Government, Nos. 1,498 and 1,537, of the 8th and 11th May last respectively.

Revised estimates for the fifth section are under preparation, and from the Chief Engineer's report for April 1869, I learn that supplemental sanction required will be for about Rupees 1,32,529.

Revised estimates for the sixth section were submitted on the 26th June 1869. The items of excess under buildings are comparatively small, but they have been left unadjusted for too long.

21. The following estimates were received from the Agent and submitted to Government during the quarter—

	RS.
Estimate for the Groyne of the Soonkasala anicut ...	3,670
Do. for repairing the banks in the first section ...	6,800
Do. for a 2nd class bridge at Teroogapully, fifth section... ..	7,920
Revised estimates of masonry works of the seventh section	1,83,890

Of these the first three received the sanction of Government during the quarter, and the other has since been sanctioned, as also other two estimates which were previously submitted, viz. :—

Estimate for the repair of the breach in the north bank of the Soonkasala anicut	RS. 5,000
Estimate for a 2nd class bridge at Jootoor	8,500

22. The cost of Executive Permanent Establishment amounts, for this quarter, to 13.09 per cent. on the expenditure for Construction; that of the Temporary Establishment to 2.36 per cent.; that of Establishments engaged in investigations in Billary and for reservoirs to 4.05 per cent.; and that of General Management to 5.79 per cent.

The total cost of the Permanent Establishment was therefore 22.93, and of Temporary Establishments 2.36 per cent. on the expenditure.

ORDER THEREON, 17th July 1869, No. 2,340.
No. 413.

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 Madras Irrigation and Canal Company.
do. do.
do. do.
do. do.

Exd. E. C. Shunker.

the net been anticipated - In the 9th Section Rupees

Govt. of 1869 Madras.

PUBLIC WORKS.

To

THE CONSULTING ENGINEER FOR
THE MADRAS IRRIGATION AND CANAL
COMPANY.

&c., &c., &c.

Dated July, 17th

Recd.

G. O., 17th July 1869, No. 2,340.

JULY.

Nos. 412-413

Works (Madras Irrigation and Canal Company).—Passing orders on the letter from the Consulting Engineer, submitting his Report on the progress of the Company's works during the quarter ended 31st March 1869.

Consulting Engineer's Office
Irrigation Canal Company
Madras, 1st July 1869-

No. 39.
117
From Major, J. Mullins, H.C.
To The Secretary to Government
Department of Pub. Works.
Sir,

I have the honor 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 1869.—

2. The progress made during this quarter, which is on the whole the best quarter of the year for work, though in the earlier part of it, labor is somewhat short in some divisions, is not in my opinion as good as might have been expected. The total value of work done was Rupees 36,921, and I should have considered $4\frac{1}{2}$ to 5 lacs satisfactory. In the 1st and 3rd Sections the outlay fell considerably short of what was desirable. In the 8th Section the total expenditure was Rupees 36,935, and double this amount would not have been too much, while on the first five locks, which are under separate superintendence, the work done was of the value of Rupees 14,850 only, and this represents only $\frac{10}{100}$ or $\frac{1}{10}$ of what might reasonably have been anticipated. In the 7th Section Rupees 51,568 were spent and I should say Rupees 25,000 at

Value of work
outlay - remaining to
1st Section 22,550 = 45,690
3rd do 2918 = 82,181

month, or Rupees 75,000 for the quarter, might be considered fair progress - The progress of the distribution works was anything but satisfactory, Rupees 848 only having been expended - Rupees 25,000 to 30,000 would not have been at all an excessive outlay under the pressing need which exists for getting these works ready for the season of 1869-70.

3. The expenditure on the Sontkissata Shient and head works was Rupees 6,135-15-5, consisting of Rupees 6,134-3-5 for Masonry and Rupees 1-12-0 for special superintendence and sundries.

4. Rupees 25,502-9-0 were expended on the 1st Section 1 to 17 1/4 miles of the Main Canal, the work done being:

Earthwork & embankment Cub. yds 60,554	Rs. 20,727-12-8
Revetment & shingling	713 245-11-11
Removing spoil	3,993 492-0-0
Two culverts	30-0-0
Masonry revetment	922 396-13-6
Bridge 2 nd Class for Widiyala	104-14-0
Do 2 nd " " Yeduri	254-9-3
Do 3 rd " " Kidajur	58-9-0
Do 3 rd " " Mungalpad	43-0-0
Do 3 rd " " Mahadialpad	48-0-2
Do No 1	46-0-0
Waste weir	6-0-0
Temporary bridge	4-0-0
Pudding breach and repair to Culvert No 6	2,033-14-0
Special superintendence	1,011-4-6

5. The 2nd Section from 18 to the 32nd mile, shows an outlay of Rupees 31,969-11-5, the items being:

Earthwork	Cub. yds 29,244	Rs. 24,459-2-5
Removing & reforming banks		540-9-2
Revetment & shingling		284-3-0
Canal walls	838	4,421-8-8
Bridge 2 nd Class for Poodoor		34-2-0
3 Waste weirs		44-15-8
Aqueduct at Kadabach		277-14-0
Wagon ferry boats		151-9-5
Contingencies		

6. On the 3rd Section of the Main Canal, from 33rd to 43rd mile, there was an expenditure of Rupees 2,918-2-1/2, the details being:

Earthwork & embankment	Rs. 1,040-0-0
Masonry wall in banks Cub. yds 1,694	870-12-8
Bridge 2 nd Class at Maliyala	76-0-0
Ullis Aqueduct Cubic yards 608	105-6-9
Waste weir	78-7-6
Contingencies for Earth & Masonry work	747-7-1 1/2

7. On the 4th Section, or miles 44 to 60 of the Canal, Rupees 14,318-0-6 were expended on:

Excavation & embankment Cub. yds 22,736	Rs. 6,964-11-11
Revetment & pitching	4,027 6,155-11-0
Bridge No 2	83-10-8
Do No 3	3-0-0
Waste weir	31-8-0
Contingencies	1,079-6-11

8. On the 5th Section of the Main Canal from 61st to 72nd mile there was an expenditure of Rupees 9,131-4-0, the items being:

Excavation & embankments Cub. yds 7,081	Rs. 2,071-9-8
Revetment & pitching	803 1,256-8-0
Catch water drain	2-8-0
Aqueduct at Terzapilly	883-9-4
5 Culverts	939-6-8
Securing sluice & channel	8-8-0
Bridge 2 nd Class	1,111-15-0
Do Do at Cooroor	734-7-4
Removing spoil	45-0-0
Contingencies	2,080-1-4

9. On the 6th Section or miles 73rd to 91st of the Canal Rupees 71,422-7-7 were expended on:

Excavation & embankment Cub. yds 98,542	Rs. 20,475-11-1
Catch water drain	620 212-0-0
3 Single culverts	2,013-14-4
2 Double do	2,298-4-0
Securing sluice & channel	15-0-0

Vol. No 1

Port. at 1 st mile	Rs. 185-0-0
Do " 2	2481-8-0
Do " 3	2149-2-3
Do " 4	3666-8-0
Do " 5	5660-0-0
Do " 6	4454-7-6
Do " 7	3679-4-5
Do " 8	3845-2-0
Do " 9	6078-3-6
Do " 10	5212-12-3
Do " 11	2775-0-0
Do " 12	1836-6-7
Valapignoor Bridge	400-0-0
Special superintendence & sundries	3984-3-8

10. The outlay on the 7th Section, miles 92 to 114, amounted to Rupees 50762-5-5, being for:

Embankment & cutting Cul. 7 th 36329	Rs. 8665-6-8
Shunt & head works	3132-10-11
Aqueduct	8832-4-0
Bridge at 93 rd mile	1445-4-6
Do " 98 th	1485-0-0
Do " 112 th	280-14-4
Regulating Lock at 92 nd mile	498-9-10
Waste Weir	140-4-3
11 Culverts	21611-4-5
Masonry works	41-6-7
Cylindrical and Bridge	1555-2-5
Contingencies	3074-1-6

11. The outlay on the 8th Section, miles 115 to 143, was Rupees 36935-2-9, the items being:

Embankment & cutting Cul. 7 th 102262	Rs. 8823-6-10
Lock at 115 th mile	28-12-6
Do " 117 th	22-6-5
Do " 118 th	856-4-4
Do " 119 th	355-2-0
Do " 122 nd	222-12-10
Do " 123 rd	2284-4-10
Do " 124 th	6143-5-0
Do " 125 th	1645-2-10
Do " 126 th	1793-13-7
Do " 132 nd	3672-2-2
Do " 136 th	3652-1-3
Do " 137 th	788-2-7
Do " 140 th	5287-9-8
Do " 142 nd	1180-12-9
Do " 144 th	235-10-9
Bridge at 129 th	190-6-2
Shore & Shore charges	15-3-4
Special superintendence & sundries	2012-8
	2316-14-3

12. On the 9th Section or miles 144 to 178 of the Canal, Rupees 51568-4-6 were expended on:

Earthwork	Rs. 10916-7-9
Offtake channel at Rajoly	1163-0-1
Shunt across the kindas at Rajoly	2101-0-7
Head sluice	1468-15-7
Under-dam	718-10-7
Aqueduct in 144 th mile	920-5-7
Do " 145 th	502-4-3
Do " 149 th	4943-7-7
Do " 150 th	2045-9-7
Do " 153 th	133-3-8
Do " 154 th	729-4-3
Do " 155 th	141-2-8
Do " 157 th	150-0-0
Do " 162 nd	736-4-0
Do " 163 rd	1955-2-6
Do " 166 th	1000-0-0
Do " 167 th	3000-0-0
Lock at 169 th mile 22 chs.	2000-0-0
Do " 169 th " 60 "	2-13-8
Do " 170 th " 21 "	3265-1-8
4 Culverts	1296-10-10
Public road Bridge at 150 th mile	667-7-0
Do " 152 nd	494-13-7
Over bridge at 152 nd mile	84-0-7
Masonry works	1132-6-6
Special superintendence & sundries	

13. On the 10th Section or miles 179 to 186 of the Canal Rupees 11600-0-9 were expended on:

Excavation & Embankment Cul. 7 th 29708	Rs. 2763-1-6
Aqueduct in 2 nd mile	2629-4-4
Do " 6 th	1023-9-6
2 Culverts	913-1-11
Bridge 2 nd Class	1058-9-8
Masonry works	1966-4-0
Contingencies	1246-1-10

14. The expenditure on the Adimappully Shunt was Rupees 52853-7-6-

Works

17. Rupees 3131-11-10 were expended on the tele-
graph line from Sontakula to Cuddapah.

Works

Chadwick

Distribution.

Branch channel and sluices of 1 st Section	6681	4,127	45	4,172	"	"	4,172	2,509	"
Distribution works of the 2 nd	6,000	4,483	"	4,483	"	"	4,483	1,517	"
Do 3 rd	9,320	4,284	"	4,284	"	"	4,284	5,036	"
Do 4 th	28,929	7,235	762	7,997	"	"	7,997	20,932	"
Constructing a trunk across the Canal in the 4 th mile 4 th Section	76	73	"	73	"	"	73	3	"
Distribution works of the 5 th	4,000	71	21	92	"	"	92	3908	"
Do 6 th	10,000	2,848	"	2,848	"	"	2,848	7,152	"
Do 7 th	15,125	"	"	"	"	"	"	15,125	"
Turnout town water supply at Soontiala	"	925	"	925	"	"	925	"	925
Turnout town water supply	1,699	1,383	20	1,403	"	"	1,403	296	"
	81,830	25,429	848	26,277	"	"	26,277	56,478	925

Buildings.

Central Hospital with out houses & Compound wall at Turnout	5,050	4,450	113	4,563	"	"	4,563	4,07	"
Repairs to do	68	60	"	60	"	"	60	8	"
Overseers hut at Turnout	1,245	"	"	"	"	"	"	1,245	"
Office, Store house and Workshop at Soontiala	5,947	5,979	"	5,979	"	"	5,979	"	32
Under Magazine, Store & Station ponds at Soontiala	4,359	4,359	"	4,359	"	"	4,359	"	"
Office & Store room and Artificers shed at do	7,290	7,223	"	7,223	"	"	7,223	423	"
Repairing the stone building	165	"	"	"	"	"	"	"	"
Improvement of the road approaching the stone building	480	318	"	318	"	"	318	260	"
and repairing culverts at do	"	"	"	"	"	"	"	"	"

power manufacturing into a Hospital at Soontiala	4,275	19	19	408	"	"	408	"	"
Office & Store building at Valapattur in the 1 st Section	1,970	5,721	"	5,721	"	"	5,721	3,151	"
Do 2 nd in Chapra	4,123	4,776	"	4,776	"	"	4,776	653	"
Do 3 rd in Chapra	3,977	3,833	"	3,833	"	"	3,833	144	"
Do 4 th in Chapra	5,283	5,259	"	5,259	"	"	5,259	24	"
Office & Temporary Store shed at Chapra	642	67	"	67	"	"	67	575	"
Quarters for sub assistant Engineer & Assistant Surveyors at do	1,236	561	"	561	"	"	561	675	"
Repairs to Ancient Office at Chapra	327	308	"	308	"	"	308	19	"
Office, Store & Workshop at Turnout	30,612	14,279	"	14,279	"	"	14,279	16,333	"
Iron & Brass foundry	15,328	15,168	"	15,168	"	"	15,168	160	"
Room for receiving & despatching stores at do	4,765	4,765	"	4,765	"	"	4,765	"	"
Engineers' Bungalow at do	"	1,231	"	1,231	"	"	1,231	"	"
Office building at do	"	55	"	55	"	"	55	"	"
Hospital at do	"	"	"	"	"	"	"	"	"

Line of Telegraph.

93,883	78,131	113	78,244	"	1286	76,958	20,761	3836
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49,440	21,813	3132	24,945	10	"	24,955	24,485	"
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Grand Total 10,154,921 78,376,83 36,921 82,068,94 44,533 30867 82,205,80 22,050,06 27,066,5

She

19. This Statement shows that the expenditure of the quarter was Rupees 369211, and the net total outlay up to 31st March 1869 Rupees 8220580.-

The subjoined statement shows the expenditure in excess of sanction at the end of the quarter to have been Rupees 270665.-

Works.	Excess expenditure up to 31 st March 1869	Excess expenditure during the 2 nd Quarter (31 st March 1869)	Total	Adm. charges & this from other works.	Unsettled refunds.	Excess not yet sanctioned 31 st March 1869
<u>Main Supply.</u>						
Minist & headworks at Sookkasala						
Excess expenditure up to the last 2 nd 39646	30976	6136	37112	1887	13864	23633
Amount sanctioned during the 2 nd 8670						
30976						
Aqueduct across the River Hindry	29179		29179			29179
South Main Canal 2 nd Section	33660	31970	65630	4669	5599	62700
Do						
Excess expenditure up to the last 2 nd 63767	67347	9131	76478	3525	10	79993
Amount sanctioned during the 2 nd 16420						
67347						
Do						
Excess expenditure up to the last 2 nd 64562			64562	1931	96	66397
Amount sanctioned during the 2 nd 161162			111799	272961	12012	19069
272961						265404
<u>Distribution.</u>						
Distribution at Sookkasala						
Buildings	925		925			925
Office, Store house & Workshop at Sookkasala	32		32			32
Office & Store building at Valapanoor	3157		3157			3157
Do	653		653			653
Do	3836		3836			3836
165923			111799	277722	12012	19069
277722						270665

The excess on the Hindry Aqueduct has been covered by the sanction given in Proceedings Madras Government No. 1662 of the 20th May last. Similarly the small unsanctioned item Rupees 925 for Distribution near Sookkasala has been passed in Government Order No. 1494 of the 7th May. It will be observed that the excess Rupees 64700 on the 2nd Section is very considerable, and the Progress Report shows ^{that} the earthworks have cost upwards of 50000 Rupees more than the estimate allowance & other large items of increase are Rupees 16734 on reclamation and shingling, Rupees 18706 on Rubble banks (concrete Section walling) and Rupees 28782 on Plant Depreciation. The principal item of decrease is on Canal walls Rupees 42000, but in this case the works appear to be incomplete, about 5000 cubic yards less than the estimate provision having been as yet executed. No time should be lost in revising the estimate and affording such explanations as may be necessary. A part of the excess expenditure in this Section has been covered by the sanctions, Rupees 14260 and Rupees 1960, given in the orders of Government Nos. 1498 and 1537 of the 8th and 11th May last respectively. Revised estimates for the 5th Section are under preparation, and from the Chief Engineer's report for April 1869 I learn that supplemental sanction required will be for about Rupees 132529. Revised estimates for the 6th Section were submitted on the 26th June 1869.

The items of excess under Buildings are comparatively small, but they have been left unadjusted for too long.

The following estimates were received from the Agent and submitted to Government during the quarter:-

Estimate for the Croquet of the Soontiasala
Amount Rs 3,670

— Do for repairing the banks in the 1st Section - 6,800

— Do for a 2nd Class Bridge at Keroogapully
Bst Section 7,920

Revised estimates of masonry works of the 7th do - 18,880

Of these the first three received the sanction of Government during the quarter, and the other has since been sanctioned, as also other two estimates which were previously submitted, viz:

Estimate for the repair of the breach in the
North bank of the Soontiasala Amount Rs 5,000

— Do for a 2nd Class Bridge at Lookoor - 8,500

The cost of Executive Permanent Establishment amounts for this quarter to 13.09 per cent, on the expenditure for Construction; that of the Temporary Establishment to 2.36 per cent, that of Establishments engaged in investigations in Bellary and for reservoirs to 4.05 per cent, and that of General Management to 5.79 per cent.

The total cost of the Permanent Establishment was therefore 22.93, and of Temporary Establishments 2.36 per cent on the expenditure.

I have the honor to be

Your most obedient servant

Wm. Mullins Major, R.E.

Comeing to B.C.C.

To Mr 18/7/69
From The Comptroller for M.C. Co.
To The Secretary to Court. D.P.W.

Dated 1st } July 1869.
Recd. 6. }
No 39.

Submit report on the
progress made in the works
of the M.C. Co. during the
quarter ended 31 March 1869.

No 2340-17: July/69

With an order

Inspection

No 2340

Ordered that this report be for-
warded to the Home Govt.

Ad

For L. J. J. J.
17 July 1869

To The Comptroller for M.C. Co. 16
Manager for D.P.W.
Recd 12/19/7/69.

Cue 2790
Govt. of 1869; Minas.

PUBLIC WORKS.

To The Consulting Engineer for
the Minas Irrigation
and Canal Company

Dated

do. do. do.

Recd.

Per.

G. O. 17-July-1869, No. 2343

Nos. 412-418

Works (M. J. & Co.) Paying order
on the letter from the Com.
Eng. submitting his report
on the progress of the Company's
Works during the 24 ended
31st March 1869.