1. Number of Piece 2711
2. Date of Receipt 9.3.88
3. Initials of Reg. Clerk

M.R.O. 1—82 400—24-11-86

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 571 Press Mis.

Dated 12 18 88

Not to be folded or roughly handled

No. 1. Read the following letter from Major E. LAWFORD, Officiating Chief Engineer; to the Secretary to Government, dated 20th September 1858, No. 3837.

SIR,

With reference to Extract Minutes Consultation of the 1st July 1858, No. 1243 and to the letters from the Secretary to the Government of India, under dates the 11th April 1857 and 2nd June 1858, Nos. 1677 and 2564, calling for explanations of the excess of expenditure on certain works in the Godavery Division for which Bills had been passed by this Government, I have the honor to forward letters from the District Engineer under dates the 7th April and 28th August 1858, Nos. 229 and 142, together with the enclosures of the latter a statement shewing in a Tabular Form the works referred to, and the causes of the increase of their cost over their respective estimates.

1 Letter from District Engineer of Godavery Division No. 229 of 7th April 1858.
1 Do. Do. Do. No. 142 of 28th August 1858.
1 Statement.
3 Bills.

2. In the first letter, after explaining that, owing to his not having been in the District when the works were performed and to all the Officers employed on them having left, he had no personal acquaintance with the causes which influenced their cost, and could obtain no reliable information from any of those who had had charge of them, Captain Rundall endeavours to show that, though many of the estimates individually have been greatly exceeded, the aggregate expenditure in working out the one great project of which they formed separate parts, was trifling. He lays stress upon the expediency, in his opinion and in that of Colonel A. T. Cotton, who projected the scheme, of allowing the utmost latitude to the Officer in charge of the execution of so extensive an undertaking as that to which the works belonged, and he concludes by stating that, after all the excess has been more apparent than real as the estimates were all framed on very insufficient data and the works have all been constructed as cheaply as they could have been.

3. This explanation being deemed wholly unsatisfactory, the District Engineer was called upon for more, and was furnished with a form, which he was requested to fill up with the information in detail required by the Government of India.

Extract Proceedings No. 2262 of 27th July 1858.

4. This he has now done and in the prescribed statement and in his letter of the 28th August which accompanied it, Captain Rundall has separately entered into as full and clear explanations of the causes of increase or decrease in each work as could be expected, considering his want of personal knowledge of their actual execution, the absence of all those who could give him information, and the derangement into which the accounts of the District had fallen. It is I think more creditable to Captain Rundall that he has been successful in accounting in a satisfactory manner for the particulars of the outlay at all, than surprising that he has failed to show it in the exact form and detail required.

5. The amount of the estimates having been Rupees 5,33,056, and the actual expenditure Rupees 5,35,721 the apparent increase of outlay on the works in the aggregate, considered as one project, is Rupees 2665 but a number estimated to cost Rupees 57,670 not having been performed, as specified in a statement appended to the District Engineer's letter, although included in the sanction, the real excess is Rupees 60,335 or a little more than 12¼ per cent.

6. The information given by the District Engineer under the heading of each estimate is so full that I need only draw attention to it, and state in a general manner, that although the instances where expenditure had been increased in consequence of alterations of design during the progress of operations are not unfrequent, the result of experience, and of the exertions that have been made for the adjustment of the accounts, leaves no doubt of the Chief causes of excess in all cases having been the totally insufficient rates on which the cost of materials were calculated, and the difficulty met with almost universally within the Delta of getting down foundations without excessive and most costly baling, for which no apparatus, nor improved appliances of any kind had been provided.

posed of long and hard cut stone was laid and the rough stone apron enlarged. A similar explanation as regards increase of strength given to the work, is applicable to the 3rd Item as well as the general insufficiency of the data.

No. IV.—New cut at Valagathodoo.

10. The reason of excess of this work is entirely owing to the excessively bad soil in which the excavation was obliged to be carried. It is discribed by Colonel F. Cotton as semi-fluid, and hence it entailed a much larger section being made than was originally contemplated. It has since been the source of much trouble.

No V.—Thosseepoody branch channel North of Thoolea Bagah.

11. The original intention was to irrigate the lands of the village of Thoseepoody by a branch from the Cocanada Canal (or Toolea Bagah) but on reconsideration it appeared more advisable to carry the water from the Samulcottah Canal, and expend the money in widening the latter. The excess in the expenditure arose apparently from performing a larger amount of excavation at a somewhat increased rate on account of the difference in the soil. This excavation of the Samulcottah Canal was all needed and must have been done at any rate.

No. VI.—Thoolea Bagah South branch channel.

12. The excess on this work is comparatively small and the only reason that I can find is that the additional excavation performed was required to complete the channels, the estimates for these branch channels have not been made in detail, but a general average of the quantity required has been assumed, so that there will generally be a difference on the quantity excavated either one way or the other.

No. VII.—Widening Head of Thoolea Bagah, &c.

13. The cause of excess in this work is that the estimate had provided only for the excavation of the channel itself, but in excavation advantage was taken to cut off bad bends, and to ease the curves, and above all it was necessary to remove the bank which had been thrown up from previous excavations, and which entailed considerable additional work.

No. VIII.—Alauvcor Lock.

14. The excess in this case is owing mainly to the inadequacy of the estimate. The rate at which the Masonry has been constructed is such as I find it now necessary to allow in similar works. There was also an alteration made in building the foundations solid instead of on wells, the nature of the soil rendering this change necessary. Colonel F. Cotton has recorded his opinion that these Locks on the Coringa Canal have been executed as cheaply as it was possible to do them.

No. IX.—Widening channel at Alauvoor.

15. The excess in this case is mainly due to the item for compensation which had to be paid for the crop on the ground which had to be removed. There was also a small additional quantity of earthwork amounting in value to Rupees 382 found necessary.

No. X.—Alauvoor Calingula.

16. The reason of excess in this work is owing to the insufficiency of the data, as a very small increased quantity of materials has been consumed. In the item for excavation and sundries, I expect the accounts were not kept quite distinct from those of the Lock. As the two works are generally built simultaneously, the contingencies after cannot be exactly apportioned, hence the cost in Masonry differs. The average cost of both works would amount to Rupees 3-15-4 instead of Rupees 3-14-6, in the one, and Rupees 4-2-8 in the other.

No. XI.—Munjair Lock.

No. XII.—Do. Calingula.

17. The principal items of excess on these set of works, are the Masonry and Baling. The accounts of the two works have not been clearly separated, but the average cost of Rubble Masonry has been Rupees 3-11-9. Of cut stone Rupees 10-6 against 3 and 6 Rupees respectively estimated. The cost of the Rubble Masonry is much cheaper than can be executed now, while

that of the cut stone a little dearer than what I find is the actual cost for cutting the Quoin work to Locks at the present time. The cost of Baling is a heavy item, but this was unavoidable under the circumstances. The lower sill of the Lock is laid 3 feet below low water spring tides. The bottom of the foundation 9 feet below that point. The soil consisted of the blue clay very troublesome to excavate and to keep dry. So that the cost of Baling is always excessive, and the contingencies numerous. The stone had to be sent round by Cocanada and across the Bay, and as this could only be done in fair weather, the execution of the work was prolonged and the expense of Baling increased.

No. XIII and XIV.—Lock at Vellah.
Calingula at Do.

18. In these works there appears to have been no excess in the materials used, but only in the cost of the different kinds of work. The Rubble Masonry, having cost Rupees 3-8-10 per cubic yard against 2-8 the sum allowed in the estimate. This last was altogether too low. The cost of Baling was likewise very heavy in this locality also the time of construction was prolonged, by the difficulty experienced in keeping up the supply of stone from Dowlaiseram.

19. The item of sundries appears to have been charged to this work by mistake instead of to the head provided for that purpose in the estimate.

No XV.—Yanam Bank Channel.

20. As far as I can ascertain regarding this work, the estimate appears to have been framed on the supposition that it would be only necessary to connect the Pits from which the earth had been excavated to form the river embankment, as this channel runs close under and parallel to it along its whole course. To make it a Navigable channel however required more work, and especially at the parts adjoining the two Locks, where the water stands above the surface of the ground. I believe however that when this estimate was framed, the proposal for building the Locks had not been considered but on these works being subsequently sanctioned the extra earthwork required was charged to the Original estimate. Out of the excess of Rupees 8,223 Rupees 2,662-7 was paid for compensation for Crops which had to be removed and for other Sundries and Superintendence for which special provision had not been made in the Original estimate. For the sum expended the Canal as far as the earthwork is concerned has been made a good line of Navigation.

No. XVI.—Culvert under channel where it crosses Attraya Calwa.

21. The excess in this work falls below 5 per cent.

No. XVIII, and XIX.—Mudekee branch Channel.
Moolustanum Do.

22. An alteration in the distribution of the Irrigation having been made, the original quantity of work estimated for was not required, and hence the saving in these works.

No. XX.—Drainage Channels.

23. The accounts shew that 1,45,270 cubic yards were excavated against 84,480 estimated as the Aqueducts by which these Drainage channels were conveyed under the Main Canal, were much enlarged I conclude it was found necessary to increase the section of the channel leading to and from them.

No. XXI and XXII.—Nulloor and Kaulair Aqueducts.

24. Both these works have been executed on a larger scale than was originally estimated for. The foundation had to be laid very deep as the crown of the arches were on a level with the bed of the Main Canal which they crossed. The expense in Baling was very considerable. The cost of the work itself as it stands is I consider cheap. The masonry only averaging Rupees 3-2-4½ per cubic yard.

No. XXIII and XXIV.—Calingula at Gollapolum and Chintapilly.

25. These works were subsequently not found necessary, and therefore not executed.

No. XXV.—Lock at Cawlaiswarem.

26. The cost of this only exceeds the estimate by 5 per cent.

No. XXVI.—Calingula at Cowlaiswaram.

27. The excess in this work has occurred in the item of Loose stone for the Apron, the estimated quantity for which was not sufficient.

No. XXVII.—Culverts at Cowlaiswaram.

28. As these works had to be built on a low level below the canal, the cost of Baling was much enhanced, and contributed principally to the excess over the estimate.

No. XXVIII.—Spare Calingula at Cowlaiswaram.

29. It was not found necessary to execute this work to the extent originally intended, a spare waste weir of rough stone having been found to answer the purpose required.

30. The item for general sundries was entered in this Bill in order to provide a share in the cost of the general Plant of the District, which had been used in the construction of the works, and which was fairly chargeable to them.

No. I.—Clearing out Apparow Channel.

No. II.—Embankment of Wyairoo.

31. In the second Project contained in the Statement, the first work shews a saving of Rupees 400-13, and in the 2nd of Rupees 2,298-5. This was owing I conclude to the work not being at the time required so urgently.

No. III.—Nundanum Lock.

No. IV.—Chettypett Calingulx.

32. In the 3rd work the excess is very trifling, while in the fourth the excess occurs entirely in the earth-work which was inadequately estimated for. The work was built with Brick-work instead of Rubble Masonry, as the former were at the time found to be cheapest. The work itself is exceedingly cheap.

No. V.—Kukurapurroo Channel.

33. This work has been executed below the Estimate.

No. VI.—Mookamala Lock.

34. The excess in this occurred in the cost of the Public masonry, which had been under estimated. The increased amount of brick-work appears to have been caused by the enlargement of the side culvert. The masonry could not in my opinion have been executed for less, as work in that neighbourhood now costs above that rate.

No. VII.—Mookamala Calingala.

35. The excess in this work occurs in the shutters and in the additional quantity of stone found requisite for the losse Apron.

No VIII.—Yellamachelly Channel.

36. The excess in this work is under 2 per cent.

No. IX.—Clearing out Gostaureddy.

37. This work was finished below the Estimate.

No. X.—Clearing out Venkiah Channel.

38. The work performed under this estimate was not merely confined to clearing out the channel, but involved the raising of very high embankments as the water at the Lock stands 6 feet above the country. The earth with which these embankments were formed was very bad and they had to be made considerably stronger in consequence. For 2 years subsequently they required constant watching and strengthening, hence the excess over the estimate.

No. XI.—Permasilla Lock.

No. XII.—Permasilla Calingula.

39. From what I can learn respecting these works great difficulty was experienced in the transport of materials to them and the expense in consequence much increased. While in progress, severe floods in both the Godavery and the Kistnah were experienced, which broke over

the country and the site of this Lock being at the junction of the two Deltas suffered greatly in consequence.

40. The difficulty and cost of Baling was greatly increased, and the usual contingencies greatly multiplied. It is a double Lock 200 feet long overcoming a fall of 18 feet. The cost of these two works, even had there been no difficulties to contend with, is moderate, but considering the unforeseen contingencies which did occur they are positively cheap.

41. Brick work was substituted for Rubble masonry in the work to the Lock which accounts for the excess in this particular item.

42. In the set of works embodied in the 3rd project called the Collair Drainage, the first work has only been exceeded by a very trifling sum.

43. The reason of excess in the 2nd arises as far as I have been able to ascertain from its having been found requisite to excavate the channel to a larger section and for a greater distance than originally contemplated.

44. The 3rd work in which almost the whole excess on the project has been occasioned seems to have been in the first place under-estimated altogether, and in the second, to have been carried on under very great difficulties. The site of the work itself being very difficult of access, rendered the transport of materials very expensive, a large excavation had to be made and embankment thrown up to enable the stone and lime boats to get at all near the site.

45. The material had then to be carried some distance by hand and so the cost of the masonry was greatly increased. The rough stone Apron was also strengthened, and the item of Baling was heavy as the foundations had to be laid below low water mark.

46. In conclusion, I would beg with reference to the remark in para. 3, to annex a Statement shewing the works left unexecuted in the respective estimates.

47. Of these, works to the amount of Rupees 12,546-12-10, marginally noted were, (on account of improved arrangements) found not to be required. Of the amount of Rs. 14,692 for Sluices and Sundries which *appear* to have been unexecuted at least one half has *actually* been performed but the cost been charged in the bills for individual works, instead of to the item of Sundries, hence one cause of increase in those works.

48. Of the two remaining items the Neelapilly Lock and Bridges the first is not one of such great importance at present, while the latter have been provided for in the general estimate for the whole District submitted in my letter of the 27th February last No. 947.

WORKS NOT REQUIRED.

	Rs.	A.	P.
Calingula at Gollapalem	1,100	0	0
Do. at Chintapilly	1 654	12	1
Aqueduct at Ramachendrapoorum	2,828	1	7
Branch across Tokee drain	443	12	0
Do. do.	840	15	8
Branch Channel from Madekey	770	0	0
Oopoomilly Aqueduct	4,909	3	6
	12 546	12	10

WORKS PARTIALLY EXECUTED BUT NOT CHARGED ON THEIR PROPER HEAD.

Sluices and Sundries	4,000	0	0
Do. do.	7,392	0	0
Do. do.	3 300	0	0
	14 692	0	0

WORKS NOT DONE BUT REQUIRING EVENTUALLY TO BE EXECUTED.

	Rs.	A.	P.
Neelapilly Lock	12,253	3	10
Bridges	11,057	11	0
Sluices	6,000	0	0
	29,310	14	10

49 Hence the actual state of the matter stands as follows.

Expenditure.

	Rs.	A.	P.
On Eastern Delta Project	3,03,524	0	0
On Western do. do.	1,60,659	0	0
On Collair Drainage	71,538	0	0
Total Expenditure	5,35,721	0	0

Brought forward Rupees			5,35,721 0 0
Estimate.			
For Eastern Delta Project.	2,89,645 0 0		
For do. Western do..	1,77,351 0 0		
Collair Drainage...	66,060 0 0		
Total Estimate...			5,33,056 0 0
Excess.			2,665 0 0
* Add for works left undone but which may be required eventually as shewn above...			29,310 14 0
Actual excess had all the works been constructed...			31,975 14 0

50. This sum on the total amount of money sanctioned is only a trifle less than 6 per cent, while the absolute excess in *outlay* of *money* beyond the amount positively sanctioned for expenditure is but 2,665, or as stated before only about half per cent.

51. I trust, these explanations will not only appear to you satisfactory but that you will take into consideration that the works were constructed before I was appointed to the District and that of all the Executive Officers who Superintended them, but one is now present in the District.

52. The original Bills are returned by Banghy.

Statement shewing the work unexecuted.

	Rs.	A.	P.	Rs.	A.	P.
Eastern Delta.						
Sluices and Sundries..	4,000	0	0			
Calingula at Gollapalem.	1,100	0	0			
Calingula at Chintapilly...	1,654	12	1			
Aqueduct near Ramachendrapoor.	2,828	1	7			
Sluices and Sundries...	7,392	4	0			
Bank across the Takee main drain.	443	12	0			
Sluices and Sundries..	840	15	8			
Branch channel from Madakee to Thoolea Bagah...	770	0	0			
Oopoomilly Aqueduct...	4,909	3	6			
Neelapilly Lock...	12,253	3	10			
Sluices and Sundries.	3,300	0	0			
Bridges.	11,057	11	0			
				50,549	15	8
Western Delta.						
Escape in the branch channel at Mookamalah.	498	12	0			
Improving Muddoor channel or old Aparon channel.	492	1	4			
5 Bridges &c., ...	360	0	0			
Excavating channel and embanking Excess channel to Suttwada Mudoogoo.	2,067	1	4			
Calingula...	945	15	9			
Excavating channel from Suttwada Mudoogoo to Ralinghy.	2,756	4	0			
				7,120	2	5
Total Company Rupees.....				57,670	2	1

No. 2. ORDER THEREON, No. 2577; dated 1st December 1858.

Resolved that the above letter and its enclosures be forwarded to the Government of India and their sanction solicited to the Bills referred to by the Officiating Chief Engineer.

2. In para. 2 of Extract Minutes Consultation 15th May 1857, No. 940 the Government, cancelled the sanction they had previously given to a Bill No. 13 for Rupees 11,839-4 as not being within their competence to sanction. No allusion is made to this Bill, and it is presumed the accounts will remain unadjusted to the above amount.

(Signed) W. H. BAYLEY,
Acting Secretary to Government.

No. 3. Ordered in consequence that the following letter be despatched.

From W. H. BAYLEY, Esq., Acting Secretary to the Government of Fort Saint George; to Major R. STRACHEY, Officiating Secretary to the Government of India, D. P. W., dated 1st December 1858, No. 2578.

SIR,

With reference to your letters of the 11th April 1857, No. 1677, and 2nd June 1858, No. 2564, communicating the instructions of his Lordship the Governor General in Council, for cancelling the sanctions beyond the authorized limit, accorded by this Government to certain Bills in excess of the estimates, and desiring the submission of these Bills to the Government of India in accordance with the Rules, together with explanation, I am directed by the Madras Government to forward the accompanying communication from the Officiating Chief Engineer, giving cover to two letters from the District Engineer of the Godavery Division, and the Statements of expenditure called in question, with a table of the works referred to, shewing the causes of increase in each case.

Dated 20th September 1858, No. 3837 with enclosures.

2. It will be observed that the delay in attending to the wishes of the Government of India at an earlier date, is owing to the difficulty experienced in obtaining information relative to the excess, as all the Officers employed on these particular works, have left the Division; and with reference to this difficulty, Colonel Lawford thinks it more creditable to Captain Rundall that he has been successful at all in satisfactorily accounting for the particulars of the outlay, than surprising that he has failed to shew it in the exact form and detail required. Colonel Lawford points out that the amount of the estimates was 5,33,056 Rupees, and the actual expenditure 5,35,721 Rupees, so that the apparent increase of outlay on the works in the aggregate, considered as one project, is only 2,665 Rupees; but that as a number of works estimated to cost 57,670 Rupees was not executed as particularized in the District Engineer's Statement, the real excess is 60,335 Rupees, or more than 12½ per cent.

3. The chief causes of excess in all the cases, it is concluded by the Officiating Chief Engineer, consist in the totally insufficient rates on which the cost of materials were calculated, and the difficulty of executing foundations without excessive and expensive baling, for which no apparatus had been provided. And he explains this by saying, that the desire to give the earliest effect to the Annicut led to the hurried preparation of designs and estimates for its subsidiary works before proper data could be obtained, on which to determine the prices of materials and the cost of water transit; and that mistakes arose in consequence, which led to change of plan and increase of expenditure, but which the importance and urgency of the object he hopes will excuse.

4. Under the above explanation, I am directed to solicit the sanction of the Government of India to the three undermentioned Bills, now transmitted.

		Rs.	A.	P.
No. 1.	Excavating Irrigating channels and constructing Locks, Calingulahs &c., in Eastern Delta, Rajahmundry District....	1,72,321	3	0
2.	Do do in the Western Delta.....	1,09,769	13	0
7.	Colair drainage works in the District of Masulipatam.....	45,703	10	0

5. I am desired to take this opportunity of mentioning that a question was raised by the Officiating Chief Engineer,* in respect to the power of this Government to sanction excess of expenditure over estimate, under Rule I§ communicated, with the letter from the Government of India, dated 1st August 1856, No. 3605. Colonel Lawford seemed to think that this Government were competent to sanction excess over estimate to such an extent as would, added to the amount of the estimate, fall within 27,500 Rupees; and the same in respect to original and supplemental estimates. This however is clearly an error; and he has been informed accordingly. The view the Government have taken of Rules I and II,

* From Chief Engineer, 24th September 1858, No. 3994. Extract Minutes Consultation 23rd November 1858, No. 2493.

§ Page 371, Grant's C. O. B.

and on which they have acted, is this. In all cases of estimates within the competency of this Government, they are at liberty to sanction excess over estimate, or any supplemental estimate, provided the amount does not exceed 2,500 Rupees; and in all cases of estimates beyond their competence, but which have been sanctioned by the Government of India, they are at liberty to sanction either excess or a supplemental amount up to one-tenth of the original estimate, *e. g.* if the amount of the original estimate be 90,000 Rupees, this Government may sanction additional expenditure up to 9,000 Rupees.

11

Confdl Office of Public Works

Fort St George 20th September 1858

From

Lieutenant Colonel Chief Engineer

To

The Secretary to Government

Public Works Department

Returned

Returned to the Office

Obligingly by return of Post

Copy of Letter No 229 of 22 August 58

Copy of Statement

3 Bills.

With reference to Extract

Minute of Consultation of the 7th July 1858 No 1243

Minute from the Secretary to the Government

Minute of the 3rd instant, 354 and 355, calling for explanations

with regard to Expenditure on certain Works in

the Salem Division for which Bills had been

passed by this Government, I have the honor to forward

herewith Letters from the District Engineer

under date the 22nd April and 28th August 1858

No 229 and 242, together with the enclosures of the

latter, a Statement, showing in a tabular Form

the Works executed, and the causes of the increase

of Cost over their respective Estimates.

In the first Letter, after explaining

the reasons why this had not been done

when the Works were performed and to all the

Officers

Officers employed on them having [illegible] no personal acquaintance with [illegible] influenced their cost, and could obtain [illegible] information from any of those who [illegible] of them, Captain Rundall endeavours to show that, though [illegible] have been greatly exceeded, the aggregate expenditure in working out the one general project of which they formed separate [illegible] on Widening the large streets upon the expediency, in his opinion and in that of Colonel A. T. Cotton, who [illegible] the scheme, of allowing the contract [illegible] to the Officer in charge of the execution [illegible] an undertaking [illegible] and he concludes [illegible] stating that, after all, the excess has been more apparent than real, as the Estimates were all framed on very insufficient data and the works have still been constructed as cheaply as they could have been.

3 This explanation being deemed wholly unsatisfactory the District Engineer was called upon for more, and was furnished with a form, which he was requested to fill up with the information in detail required by the Government of India.

4 This he has now done and in the prescribed

Ex. Ltr. No. 2262 of 27 July 58.

prescribed statement and in his letter of the 28th August which accompanied it, Captain Rundall has separately entered into as full and clear explanations of the causes of increase or decrease in each work as could be expected, considering his want of personal knowledge of their actual execution, the absence of all those who could give him information, and the derangement in which the accounts of the [illegible] have fallen. It is I think more creditable to Captain Rundall that he has been successful in accounting in a satisfactory manner for the particulars of the outlay at all, than to [illegible] that he has failed to show it in [illegible] he has failed to show it in the exact form and detail required.

5 The amount of the Estimates having been Rupees 5,33,956 and the actual expenditure Rupees 5,35,721 the apparent increase of outlay on the works in the aggregate, considered as one prospective Rupees 1,765, but a number Estimates not [illegible] Rupees 5,76,670 not having been performed as specified in a statement appended to the District Engineers letter, although included in the connection, the real excess is Rupees 60,335 or a little more than 12½ per cent.

6 The information given by the District Engineer

Engineer under the heading of each Estimate is so full that I need only draw attention to it, and state in a general manner, that although the instances where expenditure had been increased in consequence of alterations of design during the progress of operations are not unfrequent the result of experience, and of the exertions that have been made for the adjustment of the accounts, leaves no doubt of the chief causes of excess in all cases having been the totally insufficient rates on which the cost of materials were calculated, and the difficulty met with almost universally within the Delta of getting down foundations without excessive and most costly baling, for which no apparatus nor improved appliances of any kind had been provided.

7. To give the earliest and most extensive effect to the Ancient Bund being the primary consideration, designs and Estimates for the subsidiary works were hurried forward before data had been found by which to determine the prices of materials, in the larger quantities required for carrying on numerous works simultaneously, and before the cost of transport by the imperfect water communication

that

No. 2577- Pub.

61

ascertained was ascertained, and [illegible] which led to the [illegible] and increase of [illegible] upon the Government of [illegible] to obtain the extreme [illegible] and economy of the object to be [illegible] and expended.

I have the honor to be

Sir

Your most Obedient Servt

R. Sanford Major

Supdg Civil Engineer

No. 346

To

The Secretary to Government

P.W.D.

187

W. 2577 Plan

E. from the Mo. of Ctry. under date the 1st Decr 55
Read the follg. letter from the Offg. Chief Engr

Engr / H.C. 23 Sept 58.
R. 3537/1

No. 296. Resolved that the above letter & the enclosures be forwarded to the Govt of India & that the Directors solicited to the Order required by the Offg Chief Engineer in Dept of Dr. G. 15 Decr 1857 No 940 the Govt cancelled the Sanctions they had previously given to a Bill for Rs 11,829.4 or not being within the competence to Sanctions. No allusion is made to this Bill and it is presumed the Accounts will be examined & adjusted in the usual manner

10 Copies to the Offg Chief Engr Dated 2?

W H B

2196

Copies to the Offg Chief Engr Dated 2?

Copies to the Offg Chief Engr Dated 2?

Examined & Passed for Payment
A. Pigot Lieut
Offg Dy Asst Qr Mr Genl
Dec 1858

Copies to the Offg Chief Engr Dated 2?

Public Works Dept.

No. 2578

17

Major R. Strachey,
Offg. Secy. to Govt. of India

Sir,

With reference to your letters of the 11th April 1857, No. 1677, and 2d June 1858, No. 2564, communicating the instructions of his lordship the Govr. General in Council for cancelling the sanctions before granted limiting the authorized limit, and directing this Govt. to certain bills in excess of the estimates, and desiring the submission of these bills to the Govt. of India in accordance with the Rules, together with explanations, I am directed by the Madras Govt. to forward the accompanying communications from the Offg. Chief Engr. giving cover to two letters from the District Engr. of the Godavery Div. and the statements of expenditure called in question, with a table of the works referred to, shewing

Public Works Dept.
No. 15 Camp, 30th Decr. 1858

No. 2577.

Colonel Collinson, Chief Engr.
Dept. of Irrigation, &c.

Transmitted Office Copy of
Offg. Secy. Govt. No. 210 Public
Letter No. 2578 dated 30th Decr.
1858 containing Statements
of Excess Expenditure in the
Godavery District for 1857-58.

Requesting to be favored with
such explanation as you may
deem necessary to enable the
Govt. to comply with the
orders contained in the
Govt. Letter No. 2564 dated
2d June 1858.

No. 1042.

From Chief Engr. & Secy. to Govt.
Offg. Secy. to Govt. No. 210 Public
Dated 15th Jany. 1859
Rec'd 17th Jany. 1859

Govt. No. 2578 Public Works Dept. 30th Decr. 1858

Copy of letter from the Offg. Chief Engr. & Secy. to Govt. No. 1042 dated 15th January 1859.

Transmitting Statements of Excess Expenditure in the Godavery District for 1857-58.

Requesting to be favored with such explanation as may be deemed necessary to enable the Govt. to comply with the orders contained in the Govt. Letter No. 2564 dated 2d June 1858.

Read in Consultation 21st January 1859.

No. 210

From Offg. Secy. to Govt.
To Offg. Chief Engr. & Secy.
Dated 30th Decr. 1858
Rec'd 17th Jany. 1859

Forwarding Statements of Excess Expenditure in the Godavery District for 1857-58.

Requesting to be favored with such explanation as may be deemed necessary to enable the Govt. to comply with the orders contained in the Govt. Letter No. 2564 dated 2d June 1858.

No. 1042.

From Chief Engr. & Secy. to Govt.
Offg. Secy. to Govt. No. 210 Public
Dated 15th Jany. 1859
Rec'd 17th Jany. 1859

Read 17th Nov. 1820

Read it & Ltr No. 3817 ante enclosures.

the causes of increase in each case.

It will be observed that the delay in attending to the wishes of the Govt of India at an earlier date, is owing to the difficulty experienced in obtaining information relative to the excess, as all the officers employed on these particular works, have left the Division, and with reference to this difficulty, Col Crawford thinks it more credible to Capt Rundall that he has been successful at all in satisfactorily accounting for the particulars of the outlay, than surprising that he has failed to show it in the exact forms and detail required. Col Crawford points out that the amount of the estimates was 5,33,050 Rs, and the actual expenditure 5,35,721 Rs, so that the apparent increase of outlay on the works on the aggregate considered as one project, is only 2665 Rs, but that as a number of works estimated to cost 57,670 Rs

was not executed as particularized in the District Engrs statement, the real excess is 60,335 Rs, or more than 12½ per cent.

The chief causes of excess in all the cases, it is concluded by the Offg Chief Engr, consist in the totally insufficient rates on which the cost of materials were calculated, and the difficulty of executing foundations without excessive and expensive baling, for which no apparatus had been provided. And he explains this by saying, that the desire to give the earliest effect to the sanctioned to the hurried preparation of designs and estimates for its subsidiary works before proper data could be obtained, on which to determine the prices of materials and the cost of water transit; and that mistakes are in consequence, which led to change of plan and increase of expenditure, but which the importance and urgency of

the Govt he hopes will expend.

Under the above explanation, I am directed to solicit the sanction of the Govt of India to the three undermentioned Bills, now transmitted.

		Rs.	A.	P.
No 1.	Excavating Irrigating Channels and constructing locks, Calingulahs &c in Eastern Delta, Rajahmundry District	1,72,321.	3.	0
2.	- do - do - in the Western Delta	1,09,769.	13.	0
3.	Colair drainage works in the District of Masulipatam	45,703.	10.	0

I am desired to take this opportunity of mentioning that a question was raised by the Officiating Chief Engr*, in respect to the power of this Govt to sanction excess of expenditure over estimate, under Rule* I communicated with the letter from the Govt of India dated 1st August 1856, No 3605. Col Sandford seemed to think that this Govt were competent to sanction excess over estimate to such an extent as would added to the amount of the estimate, fall within 2,500 Rs; and

*From Chief Engr 24th Sept 1858, No 3994. E. M. C. 23rd Nov — 21,93

*Page 371, Grants C.O.B.

~~C.~~

the same in respect to original and supplemental estimates. This however is clearly an error, and he has been informed accordingly. The view the Govt have taken of Rules I and II, and on which they have acted, is this. In all cases of estimates within the competency of this Govt, they are at liberty to sanction excess over estimate, or any supplemental estimate, provided the amount does not exceed 2,500 Rs; and in all cases of estimates beyond their competency, but which have been sanctioned by the Govt of India, they are at liberty to sanction either excess or a supplemental amount up to one tenth of the original estimate, e.g. if the amount of the original estimate be 90,000 Rs, this Govt may sanction additional expenditure up to 9000 Rs.

W. H. D

Fort St. George
1st Decr 1858

Public Works 1858 Dept.
Genl. Dept.

No 2578.

To The Offg Secretary to the
Government of India.
Dated 10th December 58.

From — Do — 13th June 59.
No 1734 in 6 Sub. July.

Soliciting the sanction of the Govt of India to certain Bills & excess of Expenditure incurred on certain works in Rajahmundry and Masulipatam

No 3.

17 Nov 1820