

(1) Number of pages _____

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(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.	3545	Press
B.P. No.		Mis.
Dated	15 - 12 -	1875
		195

Original

Not to be folded or roughly handled

No 192 Supg Engrs office Chingleput
Guindy 15th April 1875

From

The Superintending Engineer
Chingleput

To

The Executive Engineer
Chingleput Range

Sir,

I acknowledge receipt of your letter
as per margin enclosing estimates for the roads
named in the margin. I have the honor to observe
that they are still in my opinion, insufficiently
drawn out.

2. It does not matter whether the water
passes the road by a slope or a bridge. The
Point required is information as to the capacity
of the work for the object required - for this it
is necessary to know the fall of stream near the
point of crossing.

3. From this and the area of the watering
may be deduced the velocity & arrangement
made for a proper crossing; in many cases it
will be advisable to reduce the velocity by
altering the section of the stream above, and
constructing the slope in such a way that
with greater length and less depth and

No 3420 of 30 March 75
" 3422 of 1st April 75
" 30 of 6th April 75

Road from 4 1/2 mile
stone on G.S. Road to
Tetry via Oolamallur
Road from Chingleput to
Road from Tetry to
Tetry

consequently less velocity the water may be passing in the same time.

4. If this is properly done, very great saving in all fair soils will be made in cost as no apron or retaining wall will be required, and a metalled road will suffice.

5. In Tinnervelly, heavy pavements were laid for the road way many years ago which were almost impassable when the metal and gravel which could not combine with it were washed off. By lengthening the slopes and increasing the waterway I was able to dispense with the blocks of stone and I believe the roads are in very good order, though they run through black cotton soil and are traversed by a very large number of carts daily.

6. A little arrangement of the outfall below it and considerable lengthening of the slope (say 3000 feet) of Maylay Malarige would I believe have enabled you to dispense with very much of the stone used. have lowered the depth of water and facilitated the passage of the traffic.

7. I cannot pass without remark the alteration in your original report of December/74.

* in the statement
of acres, discharge &c.

From that it appeared there was a discharge over this slope of 6522 cuft per second with a depth of 5ft giving a velocity of 7ft per second. - the discharge is now given as the same depth is increased to 6 feet and velocity reduced to 5 feet per second. - increase of depth &c. generally entails increase of velocity - of the anomaly in this instance you have given no explanation.

8. A great deal of paper and writing might have been saved in your report on the road from Tinnervelly to Treepuramattoot by the omission of the comparison with the previous estimate which had not been sanctioned - and by one description for all the road slopes which appear to differ only in point of length.

9. If a little of the time spent on this had been employed in making a tracing of Mr Maitland's survey and marking on it the works which you now propose instead of those signed by him, the plan submitted would have borne a less slovenly appearance than it now does.

lengthened to
Tinnervelly road

10. In carrying your comparative statement I find that you have omitted from your

R. L. Louny
Executive Engineer

1 True copy 1

Br 7096. / 75.

No. 200

Supt. Cargo office Chinglepat
Guindy 1st April 1875

From

The Superintending Engineer
Chongleput

J.

The Executive Engineers
Chongchut Range

Encls serials ~~1-10~~ 1-10

1 Survey plan
sheet 3

1 cross section

1. Plan good slopes

1 — of Bridges

2. Calculated plans

1 Detailed Road closure

1. Abstract Estimate

specification report

for road

1 sheet of area of

Catchment basin.

1. Estimate for ref.
debt interest

2. $d_1 = 100$ calengulah

1. Specification report

do-

Referring to your No. 6 dated 8th Inst
I have the honor to observe that I have
only lately discovered how carelessly the road
estimates in this district have been prepared
and have had no previous occasion of commenting
upon the matter. I am responsible for the correct-
ness of the estimate and must insist on
information, which will enable me to judge
of the sufficiency of the means of discharge.
In report page 435 Circular Order book
para 1 officers are required to report the
fall per mile in bed of "river or channel &c."
I do not understand how you can possibly
calculate the discharge by merely seeing the
section of the flood. unless you know all
the circumstances of its passage and are sure
that there is nothing to hinder it and thereby
cause greater depth and less velocity. the
only reason, that I cannot imagine for

the extra-ordinary change in your statements regarding Mylag Madage in the Chengput and Triפור road.

2. I regret the oversight by which the estimate for a calingula in Malapadu tank was detained in my office awaiting that for its repair. From the information now submitted I am quite satisfied that as proposed in your para 4 the whole charge of the slope should be paid by the road. but it must be as I originally instructed you a slope and not a weir, with its base (road way) level with F. I. and of such a length that it can discharge the drainage of the catchment basin with a small depth and low velocity and without rising walls. The soil being bad a retaining wall on lower side and apron will be required.

3. In the statement accompanying the road estimate the catchment area is said to be 10.50 sq. miles. in the tank report 6 sq. miles. The farmers with Colonel Dickens formula would nearly agree with the discharge as given in the concluding para of your tank report. but at any rate

some attempt must be made to reconcile the statements.

4. In road reports the slope is to discharge 2877 cubic feet per second. in the tank report their discharge is said to be 3406 $\sqrt{4.70}$ ft. as the Manimungalam tank is I presume to be put in order we must provide in the proper place for passing the whole quantity which we cannot dispose of in the tank.

5. I shall be obliged, therefore by your examining the supply and discharge of all Manimungalam and the other tanks in the series above. Pillypattam was I believe breached if so any calculations based on the discharge of its calingulas is clearly erroneous, and yet on it depends the sufficiency of your slopes No 13 & 24 and possibly 21-22-23. I observe that each of No 13 & 24 you have provided for 5.38 sq. miles of drainage between the road Pillypattam tank and its 2 surplus channels.

6. I am of opinion that if sufficient length is given to ensure the passage of water with small depth & low velocity that pavements are not required. a good metalled road ought to pass water flowing with

a velocity of 2 or even 3 feet per second.
See Table IV Standard: Hydraulics this
will very considerably reduce your estimate.

7. The alternative plan and estimate were
never sanctioned and only complicated
matters. There never was any doubt
but that slopes are cheaper than bridges
and better suited to the circumstances
of the District and have been used by
me for the last 20 years. Had my instructions
given to you in 1873 on this road been attended
to there would not have been so much delay.

8. I request early attention to the points
now set down in writing and trust that
I shall have the corrected estimate with
full information by May 15 cancelling
all previous papers.

9. I am glad to hear that there
is some prospect of my shortly receiving
the estimate for the road from Vondaloo
to Pad dafay, which from your expression
of 12th February I had hoped to see in
a few days after.

I have &c
(Signed) J. J. Jelloherly Col R.E.
Supt. Engineer
Chingleput

(True copy)

M. 2026/75
2/75

R. L. Henry
Executive Engineer

No 243

No 3 Range office

28th April 1875

Chingleput

From

The Executive Engineer
Chingleput Range

To
The Superintending Engineer
Chingleput

Sir,

Referring to your letters No 192 &
200 on the several estimates which have
been prepared for the roads in this Range
in which letters the subjects are so mingled
that I find it impossible to answer one letter
separate from the other, I have the honor
to deny any intention whatever of questioning
your authority and only regret that you did
not
sooner inform me what information you require.

2. The report given at page 435 of Circular
order Book which you quote is headed "Report
to accompany all estimates for Bridges" and as
there is not a Bridge proposed to be built
on any of the roads for which I forwarded
estimates I did not consider I was called
upon to furnish such a report particularly
as I did send you sections of each stream

to be crossed by the road shewing the ordinary and extra-ordinary flood lines on each and as I gave road slopes for crossing these in each instance with an area greater than the section on the highest flood line I had thought that under the circumstances this was ample information but as before said had you only asked earlier for a statement shewing the fall per mile velocity and discharge of the streams in question I would have furnished it. It was not until the estimates had been previously returned for various reasons some of them twice and some three times that in your letter No 3386 of 5 January 1875 again returning them. I was ordered to forward the statement in question.

3. I must again repeat what ^{has} ~~was~~ already been stated in my letter No 3422 of 30 March as a proof of the sufficiency of the area of openings given by me to the crossings that the slopes, ~~and~~ ^{road} of the Surpore Road which were all nearly completed when you passed down the road on the 17 October 1874 had not been in any way injured by the unprecedented floods which occurred later in that month they surely could not have been more effectually tested.

4. The change you mention as having occurred in my statements regarding Mylay Madargoo on the Chingleput to Surpore road allow me to say more apparent than real. It is true I originally stated the depth of the flood of 25 of October on the floor of the road slope incorrectly stating it to be 5' instead of 6' as I had been misinformed but having corrected this you objected that as the depth was greater the velocity must also be greater - this I had said was not so, and I submit that I was right in saying that a greater depth does not always shew a greater velocity. In this case the quantity of water to be passed is known as accurately as any thing of the kind can be known - this quantity is 6500 cubic feet per second and I think I am right in saying that taking the area of slope opening as say 1500 sq. ft in one case & 1250 sq. feet in the other that having each of the same quantity to discharge the velocity must be greater through the latter than through the former.

5. In para 3 of your No 192 you are pleased to say in many cases it will be

advisable to reduce the velocity by altering the section of the stream, alone to have any useful effect on the velocity - the section would require to be altered for a considerable distance above the crossing and this would be a very expensive proceeding in the case of large streams with deep steep banks which are the only sections that could be so acted upon effectually. I submit that this instead of decreasing the cost would add to it very considerably.

6. I may add that I have as is shown in my specifications in every case where it could be done with advantage increased the length of road slope with the object of decreasing the depth passing over it in floods.

7. In para 6 of No 192 you remark that a little arrangement of the out fall below it and considerable lengthening of the slope (say 3000 ft) of Mylay Inaboo-goo would you believe have enabled us to dispense with very much of the stone used. Having more than once inspected the spot in question you must have forgotten that there is barely sufficient length for the road slope of 260'. The bend of

the Mylay Tank is immediately above the east end of the slope and the bend of Veralapa-hum Tank abuts on its western extremity this bend must be revetted to prevent the water from the slope washing it away.

8. Such floods as those of October last do not occur often perhaps once in 10 years if so often & so in ordinary floods only a couple of feet of so much will pass, there need be no interruption of the Traffic except at wide intervals of time and then for only a few hours.

9. You have in the letters under reply and frequently in previous communications of the same tenor objected to the pavements proposed by me for road slopes you also state that no aprons or retaining walls are required as in para 4 of letter 192 I would refer you to Jackson's Hydraulics with which the Civil Engineering College papers on Hydraulics agree in which it is stated that a velocity of 3.33 ft per second is sufficient to remove pebbles $1\frac{1}{2}$ " diameter these are larger than ordinary met 4 feet per second removes heavy shingles $4\frac{1}{2}$ " soft rocks & brick - a reference to the statement

of discharges velocities &c which accompanies each estimate will shew that there are few of the streams on these roads that have a less velocity than the former figure and that all the important ones have a velocity equal to, if not greater than the last mentioned i.e. sufficient to remove soft rock with those figures, before me I thought it better to leave the beds of the road slopes crossing such streams and, as for altering the sections of the streams I have said above that I much doubt if this could be done to any purpose. If done at all, it must be at comparatively greater cost.

10. In para 8 of your letter under reply (192) you observe that a great deal of paper and writing might have been saved in my report on the road from Travellara to Streperumattoor by the omission of the comparison with the previous estimate which had not been sanctioned. I have felt all along that there might have been great saving of paper time and writing but you had

6
called for those reports & comparisons in the case of the other roads and I feared to omit them in the case of this dreading that this would be again returned an account of such omission.

11. In para 9 you suggest that if a little of the time spent on this had been employed in making a tracing of Mr. Maitland's survey and marking on it the work I now propose instead of those signed by him, the plan submitted would have borne a less slovenly appearance. I really am unable to comprehend how I could shew on the tracing of a survey plan the work I propose, those are clearly laid down in the sheets of plans which I have forwarded which I regret you should consider slovenly.

12. In para 10 of the same letter you return to the Trepur Road and observe that in the revised estimate you find that I omit all mention of the portion of the road from Thalumbakum to Covelong for which the sum of Rs 134.00 was granted. I omitted this

as I was informed that it had been given up and my having failed to give credit for this sum in computing what the saving would be is so evidently an oversight that I am sure you will not require any further explanation particularly as there is still a saving on the actual amount sanctioned for the road from Chingleput to Turupoor, it is true, only amounting to Rs 2800 instead of Rs 16520. But had the original intention of bridging the road been carried out as at one time you seemed to think should be done. I have only to mention that the Bridge for Mylly alone would have cost at least Rs 10000 to show that this could not have been done for the whole amount of the revised estimate.

13. The amount allowed for metalling was also not nearly sufficient in fact there is this difference between the two estimates one (the revised) is an exact estimate of what the work of making the road will cost the other (the original) was

was not in any way an estimate for what was required to be done. I therefore am of opinion that more than the larger amount will have been saved eventually.

14. With reference to your remarks in para 12 respecting the difference between the amounts shown as cost of work done in the Comparative Statement which accompanied the estimate for this road and the expenditure on it shown in my Progress Report up to the end of the official year 1874-75 the former being Rs 9296 the latter Rs 10640. You will remember that you gave your personal instructions and orders respecting the preparation of this Comparative Statement to Sargent Lord and as he had the advantage of repeated instructions from you on this head I naturally thought he understood what was required and I did not interfere in the matter fearing to clash with your orders. On questioning Mr Lord as to the reason of the discrepancy he informs me that his statement only shows the ex-

-penditure

up to the end of August last but ^{as} the Overseer's statement was forwarded before the end of the year in any case there must have been a difference between his totals and those of the Progress Report as the only expenditure on work in the original estimate was Rs 625 -- for clearing jungle paid for in the time of my predecessor I had thought that a comparative statement was not required & therefore did not prepare one.

15. I regret much that you should have found it necessary to take the trouble of having another comparative statement made out in your office but I really cannot see in what I am to blame for the other being incorrect and not according to your wishes seeing you gave me no orders or instructions respecting it.

16. I also regret that you should deem it necessary to express the opinion you do of the estimates in question. I

have certainly tried to make as complete and as correct as I could.

17. In para 11 you express your intention of laying my explanation before the Local Fund Board should this reach you in time, as there is little probability that

this letter will now reach soon enough to enable you to carry out this intention. I

will send a copy of it to the Vice President I will also send the Vice President copies of my letters as per margin which are necessary to explain matters connected with the estimates and which I have requested you to send up to Government with the estimates but as I do not see them mentioned in the list given in the margin of your letters & therefore suppose they have been overlooked by your office people. I will request the Vice President to forward these documents to Government.

18. I will make the estimate for the road from Padapay to Vendelore

No 2044 of 5
Dm. 74
" 3422 of 30
Dm. 1075

and the road slope & escape for Malapaden
Tank which is treated of in para 2-3-4

of your letter No 200 of the 15th April
the subject of another letter in which I
hope to be able to convince you that in
this case also I am blamed without cause

I have &c

/Signed/ R J Lowry

Executive Engineer

For copy of

R J Lowry

Executive Engineer

No 244

No 3 Range office

Chingleput

29th April 1875

From

The Executive Engineer

Chingleput Range

To

The Vice President

Local Fund Board.

Sir,

I have the honor to forward a copy
of my letter No 243 of the 28th Instant to the
Supg. Engineer offering explanation concerning
the road estimates which I learn from his

No 192 & 200 letters as per margin have been forwarded to the
27/5-4-75 Local Fund Board.

My reason for troubling you with this
letter is that in one of those letters the Supg.
Engineer expresses ^{an} intention to forward my ex-
planation should it reach him in time
as this letter was not written until last
night there will not be time for him to carry
out his intention I think under those circum-
stances in order that the Government &

the Board and Local Fund Board
should have as much information as possible
before them as to the cause of the delay. I
may venture to ask you to forward this
letter & the others which accompany it when
sending up the estimates.

I have &c

Signed / R J Lowry
Executive Engineer

/ True copy /

R J Lowry
Executive Engineer

No 1454

No 36 Range office

4th September 1874

Chengput

From

The Executive Engineer
Chengput Range

To The District Engineer
Chengput

Sir,

With reference to the question put in your
letter No 1814 of 21 ult^o respecting the portion
of Trepow road at and near Mylay tank
as to how it had been made passable for traffic
I have the honor to state in reply that the
embankment is now practicable for carts & mules
having passed over it on the 4th instant. The
large quantity of water which here passes the
road in heavy rains is allowed to cross a
paved and metalled horizontal surface 250' x 18'
with slopes of 1 in 30 above the ground line.
I hope to have the whole of this portion of the
road which is the most difficult metalled
and completed before the end of the current
month.

2. A revised Estimate is being prepared
for the whole road which I hope to be able
to submit before the end of the month, this

will show a very considerable saving on the
Original Estimate but will cover the cost
of making a thoroughly good road that will
be practicable at all seasons

I have the

[Signed] R J Lowry
Executive Engineer

/ True copy /

R. Lowry
Executive Engineer

Extract from the Proceedings of the Members
of the Local Fund Board Chengelpet
Circle at their meeting dated 29th October 1874

x x x x x

7 "Read letter from the President
dated 21st October 1874 No. 464 forward-
ing copy of a letter from the Executive Engineer
regarding the repairs executed on the Tarpur
Road near Mailay.

* my letter No.
14549 the 7
Sept. 74.

"The Board are perfectly satisfied with
the manner in which Mr Lowry has carried
out their wishes in exercising rigid economy in the
construction of the line, consistent with opening
it up as a good cart track before the end of
the year. They regret now to hear from him
that all work not strictly in conformity with
the estimate has been stopped under the orders
of the District Engineer. They resolve therefore
that the Government be addressed in view to
procuring immediate sanction to the work
being proceeded with in accordance with their
instructions which are in fact embodied in
what has already been done and in the

"revised estimate which, Mr Lowry informs
"them, is now ready for submission".

Signed / C. J. Crook

Vice President

/ True extract /

R. Lowry

Exec. Engineer

No 3 Range office
5th November 1874

No 2044

From

The Executive Engineer
Chengleput Range

To

The Superintending Engineer
Chengleput

Sir,

Reforwarding the revised estimate for
the road from the 4th mile of Trunk Road
No II to Tetty, with the papers as per margin
returned with your letter No 541 dated the 20th
May 1874 in which you call upon me to report
on each case of deviation from the sanctioned plan
who made & who authorized the deviation & the
reason why no report had been made in the 2
years I have been in the Range as to the utter
insufficiency of the original estimate, I have the
honor to point out that up to the time I took over
charge of the Range from Mr Leggatt the sum
of Rs 26553 had been spent from a total of
Rs 38200 leaving only a balance of Rs 11647
to be expended of this there has since been spent

Encs. 6.

1 Plan

2 Old Estimate

1 do - do -

1 do - do -

1 Comparative

Statement

Rs 8167 leaving a balance of the sanctioned amount of Rs 3480 still unexpended.

2. I have since then been trying to economise by substituting road slopes as in the case of that for the crossing of the Ostramallero waste Channel near Nelvay which cost the sum of Rs 1089 and for which a bridge of 5 arches of 30' span had been estimated in the original estimate to cost Rs 4560 but which would be more likely to cost Rs 6000 and then would not have afforded sufficient waterway. The Bridge built over the Booskathoray stream in the 1st mile from Trunk Road No II. which has three openings of 24' each having cost Rs 1105 in excess of the estimated amount the cost being Rs 3615 instead of as estimated Rs 2510.

3. You ask for my authority for these deviations and my answer is that when I gave orders for them I fully expected to have had a revised estimate for the road before you previous to any work being done. My first call for a revised estimate was made on Mr. Sub. Engineer Ottoman when he was Sub. Divisional officer in charge of Madranticum on the 19th October

1872 before any expenditure had taken place as there was nothing done upon the road until the month of March 1873.

I need hardly point out the cause of delay at that time as you are aware there were 500 Tanks and other Irrigation works in the Range the repairs of which were either in progress or for which estimates had to be prepared. I again called upon Mr. Lasky on the 22nd May 1873 who had as you know succeeded Mr. Ottoman. I have since made repeated calls until April 1874 when the revised estimate was forwarded to you for approval and returned for further revision on May the 23rd 1874 and by me forwarded to the Supervisor on the 10th of August 1874, it having been meantime mislaid and overlooked in my office. It has since been in Mr. Lasky's hands, repeatedly asked for by me there were, as you know, many calls on the Supervisor during the period since he received it back - making out the plans and estimates for the repair and improvement of the Tanks on the new system. These he deemed of more importance than the road and hence the delay.

I mention all this to shew that the works differing from those originally estimated which have been in progress since I have had charge were not carried on without your sanction intentionally. I always expected to receive the revised estimate from day to day and then place matters in a clear manner before you; to have reported the deviations without a revised estimate would have been a most unsatisfactory way of moving in the matter. You will be good enough to bear in mind that money was sanctioned in the Budget in the two last official years for this work, which if not expended would have necessitated the submission of explanations and caused still greater dissatisfaction with this Department.

It has long been evident that the original estimate was utterly insufficient to meet the cost of making the road through such very difficult country, which for a distance of 8 miles is in rice cultivation and although from its direction nearly due east and west it would be naturally thought to run parallel to the drainage of the country it is not so, in fact it crosses the flow of the water for the whole distance from the Trunk

16
Since this was written two roads were given a discharge of cult. per. second were found to be required for the discharge of the Borkhatney Ma- ddaogoo in addition to the openings of the Bridge Trunk Road to Ootramallore 12 miles there being in that distance two very considerable streams, the Borkhatney and the Melway Ma ddaogoo, requiring for their discharge 1 bridge of 3 openings of 24' and another of 5 openings of 30' for which a horizontal road slope of 180' in length has been substituted. 48 road slopes of different lengths and 40 Culverts of sizes.

The country being subject to inundation from the water shed above after heavy rains made it necessary in order that it should be practicable in wet weather to raise it above the wet lands it passes through and as the raising had not been provided in the original estimate the additional cost of earthwork required to effect this is Rs 3691. The turfing for the sides of the road will also be correspondingly greater in quantity costing an excess of Rs 794.

Mr. Raskey following the original estimate names the material used for coating the road metalling, but in fact only gravel has been or is proposed to be used, as it is however proposed to increase the thickness from $2\frac{1}{4}$ inches (which is what was allowed in the original)

estimate) to $4\frac{1}{2}$ for the road generally and to 6 where the soil is exceptionally bad, the cost for this item will be Rs 4487 in excess of the sum allowed for it in the Original estimate.

The Compensation allowed in the Original estimate for the lands taken up for the Road was Rs 1800 this actually amounts to Rs 4000 leaving a balance of Rs 2200 to be added to the total on this account.

For Sundries the percentage allowed in the Estimate was $2\frac{1}{2}$ amounting to Rs 469 but the rate at which expenditure took place under my predecessor was 15 per cent resulting in an excess of Rs 3639 on this account, this I am not responsible for as the proportion of Sundries to expenditure since I have had the Charge of the work has not exceeded 5 per cent.

16 Culverts of $1\frac{1}{2}$ It appears from the Original estimate that 24 barrel drains were estimated for to cost Rs 25 each, these were altered by my predecessor to ordinary culverts of the same span, 16 were built previous to my taking over the Charge which cost Rs 54 each. The excess on this item is Rs 864.

37 culverts of 3 span. These were estimated originally to cost Rs 120 each but the 16 that were constructed by my predecessor cost Rs 145 each, a reference to the revised estimate will show that the rates in the latter estimate are very low indeed and the original estimate must have been very much too low - 21 of these including the 16 sanctioned above have already been constructed & 16 are still required the excess on the whole 37 will be Rs 2845.

2 culverts of 2 Vents of 6 span each. These were originally estimated at Rs 370 each they were found to cost 422 Rs each and this at very low rates as will be seen by the revised estimate, the excess on this item is Rs 948.

Bridge of 3 openings of 24 The excess on this bridge which was completed in my predecessor's time is Rs 1105, this was owing to low rates in the Original estimate being much too low.

2 culverts of 3 Vents of 6 span These were estimated to cost Rs 478 each but there was only one built which cost Rs 515, the excess Rs 37 was in this case as in those before mentioned owing to the rates in the Original estimate being

so low that the work could not be done without increasing them as only one Bridge instead of 2 was found necessary - there is a saving of Rs 441 on this item.

The 48 road slopes with horizontal paved and metalled water courses for the crossing are intended to supersede the 42 road dams of the old estimate and give 6 new crossings where they were found to be required by the water breaking the road, the excess on this item will be Rs 1338.

New stone Revetment in Cotramallare town is Rs 225.

The items of the Original estimate on which there is shown to be a saving are as follows.

See Comparative statement.

Earthwork	Rs 1591
Surfing	1196
Clearing Jungle	264
Gravelling	2173
Planting Nurseries	1800
37 Road slopes of which only 15 were constructed leaving 22 unbuilt hence the saving	990
24 Barrel drains	600
2 Tunnels of 3 Vents only one of which has been built hence a saving	478
7 Tunnels of 6 opening each of which only 5 were built	380
1 Bridge of 5 openings of 30' span each	4560
Repairing Bridges	100
	14132

The Total excess is as follows:—

Earthwork	Rs 3691
Surfing	1392
Metalling	6660
Removing Rocks	265
Like stones	5
Compensation for lands	2200
Cuttings	3218
Road Dam 10 yds long	105
5 Road Dams of 15 yds long	60
24 Barrel drains 1 1/2 feet opening	2845
21 Tunnels of 1 Vent of 3 feet span	948
2 Tunnels of 2 Vents of 6 feet span	864
16 Small culverts 1 1/2' opening	150
Do 1 Vent of 6' span	37
2 Culverts of 3 Vents 6' span	1105
1 Bridge of 5 openings of 24' span	228
12 Barrel drains 10 feet long	220
Loose stone mverts 45' long	1118
Do 20	
Nebruy Maddoozoo slope with stone pavement to the bed	1169
5 Trooping slopes to water courses	"
New stone Revetment to protect houses in the side drains of Cotramallare Road	225
	26445

Deduct savings as shown in the other page
Total excess Proper 14132
12313

19
It will be clear from the above that the only case in which the sanctioned estimate has been departed from is the road slope costing Rs 1109 which has been substituted for a Bridge estimated at Rs 4951 but which would certainly have cost more than Rs 6000 other would not have afforded enough waterway. I will not say that in addition to this there may not have been a few cubic yards of earthwork executed and perhaps some gravel put on which the original estimate did not provide but if so the quantity was very trifling and the work was done under the impression that the revised estimate would be sanctioned before the work would be paid for.

Your letter quoted above has drawn forth this very lengthy report which I request you will be good enough to forward to Government with the estimate when submitted for sanction.

I would point out that there is a difference between the amount of the original estimate herewith forwarded and the amount sanctioned in G. O. No 360 of the 14 March 1890 on the proceedings of the Board of Revenue No 25 of the 4 February 1890 of Rs 2330.

The amounts being Rs 35870 and Rs 38200 respectively. I have not after much search been able to find the revised estimate alluded to in the G. O. quoted above.

I have the
/Signed/ R. J. Lowry
Executive Engineer

/True copy/

R. J. Lowry
Executive Engineer

Statement of Work done in the Chingleput Range in the last 3 years

21

Year	No of letters forwarded	No of Irrigation Estimates submitted	No of Irrigation works in progress	No of Buildings in progress	No of miles of road for which Estimate submitted	No of miles of Class Road repaired	No of miles of Road repaired	No of new buildings constructed	No of new Bridges constructed	No of Bridges repaired	No of miles Reinstated	Miscellaneous Estimate submitted
1872/73 1850	466	346	8	8	80	212	3	0	0	0	11	20
1873/74 2990	99	376	8	8	80	212	4	0	0	0	14	58
1874/75 3440	227	224	8	57	80	212	1	1	18	14	68	

W. S. Range Officer
Camp Salabakuram
near Coimbatore
26th October 1875

R. L. Sanyal
Executive Engineer

Ag. Range Office
Camp Lakotukim
near Longueville
26th October 1875.

The Executive Engineer
Chimney Range

Major General G. W. Walker P.E.
Secretary to Government
Public Works Department

Dear Sir,

I have the honor to offer the explanation called for in L.O. No. 1586 dated the 5th June 1875 on Colonel S. J. Moherly's letter noted in margin in which I am accused of having caused the delay to which the animadversions of the Local Fund Board are in a great measure due.

measure due.

2. I would respectfully point out that the Superintending Engineer's letter is very vague and confused, and that this makes it a difficult matter to reply to it in a satisfactory manner. I will try to do so to the best of my ability and, with this

gratias

Pr. 7096/
8/25.

object in view will take up his charges in the order in which they are made.

3. The road from the Southern trunk road to Tetay was mentioned in the year 1870 and 7 miles of it had been opened to traffic in the time of my predecessor. The amount of the Original Estimate was 38200, of which sum Rs 26553 had been spent before it took over charge, leaving Rs 11647, of this Rs 8167 were expended under my superintendence, and a balance of Rs 3483 still remains. It will be seen by the correspondence as I margin that shortly after I joined the Range I called upon Mr. Sub Engineer Ottomian then Sub Divisional Officer in charge of the station in which this road is situated for a revised Estimate, and Comparative Statement, but owing to press of work caused by the Cyclone of May 1872 and the floods later in that year, no one could be spared for this work and, altho I afterwards

Rs 544 of 19
added 72.

pressed Mr. Supervisor Laskey in the memo per margin to expedite the preparation of the Estimate for 1873. It was not until the 25th of April 1874 that I could get the papers prepared, they were then forwarded to the Supg. Engineer and having since been three times returned by him were finally submitted in March 1875.

4. On perusal of my letter No. 2044 of the 5th of November 1874 Copy of which is appended, will show how earnestly I tried to explain the cause of delay, although in para 12 of the Supg. Engineers letter he says I do not in any of a very large number of letters attempt to explain this action.

5. In paras 21 & 22 of the letter under reply it is said that the amount of the revised estimate for this road is 50640 or Rs 12440 in excess of the Original Estimate, that a great deal of this excess was incurred by Mr. Leggate and that I disapprove

"any responsibility even for not having brought it to notice" - leaving it to be understood that this excess of Rs 12,440 had been spent - which is not the case, as will be seen by what is said in para 3 of this letter, there is still a balance Rs 3,483 remaining of the amount originally sanctioned and, not a rupee of the excess has yet been expended. I neither made out the original estimate nor spent the greater part of the money and I declined to be held responsible except for that over which I had control; the correspondence will show that I sent in a revised estimate as soon as I possibly could do so.

Press of work and a very weak establishment in the same way prevented me getting the plans and Estimate prepared for the road from Chingleput to Serupur, as soon as I had hoped to have done, on examining the line marked out for this road I found that the waterway allowed in the original plans and Estimates

This, the Road
M. S. S. S.
which is
the same as
the original
plans and Estimates

The Road from Serupur to Chingleput
as far as Padajog, from Chingleput
to Serupur, and the road
from Serupur to Chingleput

was altogether insufficient, so much so that in one case where a bridge of 5 openings of 6' each estimated to cost Rs 905, was allowed for the passage of the Selay Buddoogoo with a discharge of 6522 cubic feet per second; a bridge of 20 openings 12' each which would have cost about Rs 10000 would have been necessary. I prepared plans and Estimates for bridging the roads but finding that they would cost about Rs 35000 while the original estimate for masonry works was Rs 15000, I suggested to the Superintending Engineer that road slopes should be substituted. The preparation of the plans and Estimates for these Bridges took up a good deal of time and is one cause of delay - It must be remembered that I had no extra establishment for the preparation of either of these road schemes, nor for three others set up at the same time, with the exception of a Surveyor on Rs 15

9 months and 6 Lacars for Surveying
the latter costing Rs 135.

7 In para 17 the Supy Engineer
points out an omission in my report
in having failed to notice that the
branch to Kalambakam estimated
to cost Rs 14720 had been omitted
from the revised Estimate and that
the saving is only Rs 2800 instead
of Rs 16520. While acknowledging
this oversight I would beg to bring
to notice that it is seldom that
any saving at all can be shown on
a revised Estimate and that in
this case had the original intention
of bridging the road been carried
out the amount of the Estimate
would have been at least doubled.

8 In the 10 para of the letter
under reply it is said that I for-
warded papers concerning those
roads on the 5 of November 1874 which
were quite unintelligible. I have only
to say in reply that the estimates
have never been altered in a single

item since then, it is true there have
been some alterations made in the
form of Comparative statement and
a list of areas of Catchment basins
and discharges have been added,
according to orders received from
the Supy Engineer when sending back
the Estimates from time to time, but
as there were no bridges proposed on
any of the lines of road, unless a culvert
or two of small dimensions can be so
called and as in each instance I
sent up sections of the streams to be
crossed with the flood lines of 1872
and 1874 marked thereon, as well as
plans and sections of road slopes
suitable for discharging such floods,
with an allowance of one third excess
opening, I thought I had done all that
was necessary for safety, the Supy
Engineer it appeared thought otherwise
and delayed the estimates in consequence.
Had he in the first instance told me
what he required in the way of in-
formation I would have supplied
it, but, I only received his instructions

to supply them in his letter No 3285 of 15th
December 1874.

9 The Bridge over Bookathoray stream
mentioned in para 14 as a case in which
I notably omitted to provide sufficient
waterway, is situated in the first of
the 7 miles of the road from Southern
trunk road to Jetry, which are mention-
ed in para 3 of this letter as having
been completed and opened to traffic
before I joined the Range. In the
Cyclone of May 1872 the approaches to
this Bridge were breached, as they were
again in the floods of last year.
When going over this road with the
Supt Engineer after the Cyclone, I
suggested it would be well to put
in a road slope in each approach
to supplement the waterway of the
Bridge. His reply to this proposal was
that as Cyclones only occurred at very
long intervals of time, he considered
it would be more economical to let
them do their worst and repair the
damage after they had passed, than
provide the expensive masonry works

necessary to discharge such floods.

10 In paras 5-8-9-18 and 19 I am
accused of corresponding irregularly
with the President and Vice Presidents
of the Local Fund Board.

The letter alluded to in para 6
Copy of which is printed in the Proceed-
ings was written by me to the Supt
Engineer, as will be seen by the heading
of the letter.

The letter mentioned in para 7
as alluded to in the proceedings of the
Local Fund Board published in the
District Gazette 12th December 1874, was
also addressed to the Supt Engineer,
by whom a copy must have been
sent to the President and by him
forwarded to the Local Fund Board.
This letter noted in the margin of
which a copy is appended ~~and~~ as
its perusal will show ^{has} nothing whatever
to do with the construction of the roads
or the preparation of the Estimate for its
but, was in reply to a letter No 1814
of the 21 August from the Supt Engineer

No 11,56 of the
7th Sept 1874

asking how I proposed to repair the
old track near Maylay.

" It will be evident from this that
all that is said in para 9 about this
letter being written during his march
along the road is on the 17 & 19 October.
and with a view to anticipate his
action is entirely without foundation.
The only letter ever addressed
by me direct to either the President
or Vice President on the subject of these
Estimates was my No. 244 of the 29th
April 1875 to the Vice President forward-
ing a copy of my reply to most in-
disparaging remarks made by the
Super Engineer in his letters as per margin.
respecting my conduct in connection
with the preparation of the road Estimates.
as I only received these letters on the 19th
of April and the L.S. Board meeting took place on the 29th of that
month, there would not have been time
for me to have forwarded my reply
thru the Super Engineer. I therefore
sent a copy of my letter to the Vice
President to be forwarded to Govt.

21
with the Estimates, I had informed
the Super Engineer of my intention to do
this, & copies of the correspondence
herein alluded to are appended.

13 Before leaving this subject
I would beg to call the attention of
Government to the remark in para 9
of the letter under reply, in which
Colonel Stokerly says I have taken
advantage of my position to make a
statement which he can only call
untrue. I respectfully request that
Govt. will be pleased to call upon
Colonel Stokerly to say what statement
he alludes to, and to make good his
charge, if in truth this language is
most unwarranted.

14 Another point requiring
to be noticed in Col. Stokerly's letter
is the reason he gives for doubting
my data viz. my having asserted
that 5' instead of 6' in depth passed
over the road slope at Maylay. I gave
the former depth from information
furnished me, the latter I ascertained

to be the correct depth when in the spot
and, as the quantity to be discharged,
the slope to discharge it and, in fact,
everything except the velocity remain-
ed the same I do not see there is
much cause to doubt my data on
this account. one thing is evident
that had Colonel Doherty any more
important reason to allege for his
doubts, he would scarcely have
given this as a example of my in-
accuracy.

12. I take the liberty of appending
a statement of the work done in this
Range in the last 3 years since I have
had charge of it and, if you will be
pleased to take into consideration
that the Range as now constituted
is made up of No 3 & 4 Ranges together
with part of what used to be the
East Coast Canal range that my
office establishment is within the
addition of a draftsman, numerically
the same as was Mr Leggett when
he was in charge of No 4 Range which
consisted of the headmontain
being one of the three now included

in the Range when all this is taken into
consideration, I cannot believe that
Government will have the opinion of
me which it is evident Col. Doherty's
letter was intended to give. It is hard
necessary for me to call attention
to the extreme animus betrayed
therein.

16. I would in conclusion beg
to point out, that the Estimates for
those roads are not the only ones kept
back by the Superintending Engineer.
I will not lengthen out this letter
by attempting to give a list of such,
but, will select the following from
very numerous instances.

17. All the Estimates sanctioned
in the G. O. as per margin were sent
up by me complete,
1818 13 Oct 74
1819 6 Jul 75
1820 7 Mar 76
1821 18 Aug 74
but, in every instance
only the Estimates for
the repairs to the tank bunds were
submitted to Government, by the Sup^g
Engineer keeping back those for the
escapes and sluices as is evident

by the remarks thereof of the Chief
Engineer for Appropriation, stating that
the Estimates ought to be sent up complete.
Already 202 Appropriation Estimates amount-
ing to Rs. 129,646 have been forwarded
by me to the Superintendent in the
current year, of which only 40 amount-
ing to Rs. 23,170 have been sanctioned.

18. The Estimates for maintaining
the Southern trunk roads, forwarded
to the Superintendent in the month of
May last, for which funds were allotted
in the Local Fund Budget for this year
and, which were prepared in a similar
manner to those sanctioned for similar
work in the last two years, have not
yet been sent to the Local Fund
Board for sanction altho 7 months
of the official year have passed
and the season for doing such work
is fast passing away.

I have the honor to be
Sir

Yours most obedt. Servt.

R. Brown

Executive Engineer

Chingleput Range

From

The Executive Engineer
No 3 of Chingleput Range

To

Major General
G. W. Walker C.B.E.
Secretary to Government
Public Works Department

Dated 26 }
Recd } October 1875

No 1697
Enclosures 8

Affords explanation
as to his proceedings
regarding the delay in
submitting road estimates

Mr 9096/75
4/11/75

No 3224

Chingleput Supg Engrs Office
Guindy 3rd November 1875

From

The Superintending Engineer
Chingleput District.

To

The Secretary to Government
Department Public Works.

Enc: 9

1 Letter from the
Executive Engineer
Chingleput Range
to Secretary to Govt
P.W. Dept. No 1697
of 26 Oct 1875
with 8 Enclosures.

I have the honor to forward a
letter in original with its enclosures from
Mr Lowry as a reply to G.O No 1586 of

5th June

2 As regards the final para I beg
to report that work was commenced on all
the roads some years since, I believe from
famine funds when it was proposed to
resume operations on the first. Mr Lowry
stated that the estimate was not suitable
and revised it.

3 On the 3^d I undertook the ex-
amination myself, and it has been com-
pleted by Mr Donaghue whose estimate
I hope to submit very shortly.

4 On the 2^d of the roads mentioned

in G. O. No. 1586, and on the road from Chingleput to Tirupurur regular Estimates were sanctioned before I joined the District. On the Petry road much work was done before Mr. Lowry took charge under Mr. Leggatt's Superintendence, neither he nor Mr. Lowry appears to have considered themselves bound by the Estimates. Mr. Lowry did not report the deviation made by Mr. Leggatt, and made others himself on both the roads.

5 After making some, and while making others, he ordered the revised estimate to be prepared. For the delay in making this he has sent explanation but I submit that he has nowhere attempted to explain his conduct in making the alterations without report, or permission; in para 4 he quotes his No. 2044 written

5th November or a fortnight after I had stopped all work not sanctioned. In this even now he writes as if I complained of the delay in submitting the papers, whereas I have distinctly reported regarding his action in executing work without authority.

6 In para 8 Mr. Lowry asserts that no change was made in the estimates. He overlooks my assertion para 17 that I had to draw up a fresh Comparative Statement by supplying me with information regarding the areas drained, and the velocity with which the streams carried off the rain fall, he enabled me to form some opinion as to the sufficiency of the works which he proposed, instead of those sanctioned which he condemned. Mr. Lowry does not appear to realize the difficulty of accepting data as to discharge of water in which velocity varies inversely to, instead of directly as, the depth. See para 14.

7 In para 9 Mr. Lowry defends his conduct as to the Bookathory Slopes. but even now they are calculated only for the actual area drained above them, and no allowance is made for possible spill from the Palar, which may occur at "very long intervals of time" and against which I thought it too expensive to provide by large masonry works.

8 The statement which I considered untrue is in the final para of the proceedings of the Local Fund Board quoted by me, as passed on a letter from the President dated 21st October forwarding copy of a letter from the Executive Engineer. I was on the road on the 17th and 19th October and the Overseer who accompanied me said that he had not yet drawn up the estimate, and therefore could not enable me to examine the proposals on the ground.

9 As regards para 17 I beg to explain that Mr Lowry had copies of the original letters and explanation of the misunderstanding as follows.

10 The estimates for new works mentioned by him were not sent to the Chief Engineer for Irrigation because their amount was within my power to sanction, and therefore were retained by me under the authority of Memo No 282 of 17th April 1874 from the Chief Engineer for Irrigation, copy of which was sent to Mr Lowry on the 2^d May.

11 I do not understand what this has to do with the subject of Mr Lowry's disregard of departmental regulations. but thinking it more satisfactory reply at once to save further reference.

12 It appears that 177 irrigation estimates have been received from the Chingleput Range during the current year: of these one only, and that incomplete, is in my office the rest have been either returned for correction or sent to the Collector, or to the Chief Engineer for Irrigation. very little delay occurs in my office.

13 Two estimates for remodelling the Southern road were received by me on the 5th May, and returned on the 19th with a call for information as to the necessity for the work, the date of last metalling, data for it, specification, and grounds for classing it as new work.

14 On 17th July one of these estimates for the portion of the road south of

the Palar was received and on the 28th September the second estimate was received and again returned on the 2^d October for want of the above information; it is still in Mr Lowry's hands. I would ask the Government to remark on his para 18.

15. I beg to point out that the revised estimates for the roads to Tetty and from Chingleput to Tirapoor sent by me in April last have not yet been sanctioned and consequently work is stopped much to the dissatisfaction of the Local Fund Board.

I have the honor to be

Sir

Your most obedient servant

H. H. B. Colonel R.E.

Superintending Engineer

No. 3545

Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 15th Dec/75

Read the following:—

From
The Superintending Engineer,
Chingleput } (No. 3224 of 3 Nov/75)

This correspondence will be recorded with reference to G.O. No. 3397 of 30 Nov.

2. It would appear from para 18 of Mr. Lavy's letter and from paras 13 and 14 of Colonel Moberly's that 2 estimates for work for which funds have been allotted in the Local Fund Budget of 1875/76 are still, from some misunderstanding between the District Engineer and his late Range Officer, unsubmitted to the Local Fund Board. The Cont.

29/11/75 No. 15-16.
-5- June - 19-130.
-30- Nov - 3397.

S. St. 1875 Ref. at Madras

At 28-9-96

The Chief of Engineers
Chingleput Dist.

By Mr. Secy. to Govt.
P. M. S. S. S.

Dated 3rd Dec. 1875
G.O. No. 3224

Enclosed to the Secy. regarding the delay attributed to him in the submission of a revised estimate for the construction of a road from (Southern) Munnar Road to Ootacamund and other matters and things.

Li 4-12-75

[Handwritten signature]

lmm

допд-б-1-75

No SE work

marked as 15.0000

1096
 * 686
 Govt. of Madras.
 PUBLIC WORKS.

To
 Supg. Ry.
 Chingleput

Date
 Issued
 Recd.
 Enc.

G. O. 15 Dec 1877. No. 3545

Recd. 27/12

For the Secretary
 regarding the delay in the
 submission of the estimate for a
 road from Southern Railway
 road to Chingleput
 Int. recorded -