1. Number of [illegible]
2. [illegible] of repair.
3. [illegible] References.

M.R.O. 1—82 400—21-11-80

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

Con 23 R-5

G.O. No. 2362	Press Mis.
2233	
Dated 4-12-	18 85

Not to be folded or roughly handled

Fort Saint George, Public Works Consultation of 23rd December 1857.

No. 32. Read the following Report from Major E. LAWFOBD, Superintending Engineer Southern Circle; to H. FORBES, Esq., Acting Secretary to Government, dated 17th November 1857, No. 5283.

Report on a revised estimate for constructing a road from Yercaud on the Sherveroy Hills to Mullapooram Railway station Rupees 44,000.

Iu June last, I visited the road under construction by Lieutenant Gahagan and soon saw reason to concur in that Officer's opinions as to the insufficiency of the sanctioned* estimate of Rupees 24,600 partly on account of inadequate allowance originally made for the difficulties of the work, and partly owing to some mistakes in the early operations.

* Extract Minutes Consultation dated 30th October 1855 No. 742.

2. I accompanied Lieutenant Gahagan over the whole line, and decided on the necessity of a revised estimate being made which amounts, as I calculated it would, to 44,000 Rupees, so that deducting the amount already sanctioned the sum for which sanction has now to be requested is Rupees 19,400.

3. The amount already expended up to the end of September 1857 is Rupees 19,481.

4. But although the sum now proposed for expenditure will suffice for making a Cart road at a gradient not exceeding 1 in 25 for the greatest part of the distance there is a portion about 2 miles on which wheeled carriages cannot be used, not on account of the steepness of inclination but from the sharpness of the Zigzags necessary for carrying the line up the face of the hill from Addyverum to Moolary. This portion therefore must remain a bullock line, until it is worth while to incur the expense of carrying the line along the West side of the Valley, which would require an outlay of probably twice as much as the present estimate.

5. The Government should therefore distinctly understand that by the proposed outlay of Rupees 44,000 there will not be a complete Cart road formed from Yercaud to Mullapooram and that such a communication is not feasible except at a very much greater expense.

5. With this exception I consider that Lieutenant Gahagan's estimate will provide sufficiently for the communication between the Coffee estates on the hills and the Railway, but it is impossible to calculate on the effects of a stoppage of the work while in progress and the lapse of another season will probably occasion considerable loss and increase of expenditure.

7. The rates are now sufficient and moderate, but workmen will not be found easily if liable to be suddenly thrown out of employ.

8. I do not know whether it is intended to carry on this road at once to completion, but if such is the case the additional amount Rupees (19,400) nineteen thousand and four hundred, should be entered in the Budget of 1858-59.

Letter from Lieutenant T. E. GAHAGAN, District Engineer of Salem; to Colonel C. E. FABER, Chief Engineer, dated Salem, 21st October 1857, No. 416.

SIR,

1 General Estimate (Rupees 44,000.)
1 Abstract of do.
1 Report to accompany do.
7 Plans of Bridges.
7 Estimates for do.
(With Reports annexed.)
1 Copy of estimate, (Rupees 24,600.) already sanctioned.

In reply to Extract from your Proceedings, No. 1909 of the 9th July 1857, I have the honor to forward the accompanying estimate, amounting to Rupees 44,000, for constructing a road from Yercaud on the Sherveroy Hills, to the Railway Station at Mullapooram, together with a copy of the estimate, amounting to Rupees 24,600; which has already been sanctioned for constructing a Cart road on the same line.

Southern Circle D. P. W.

SALEM DISTRICT.

Yercaud and Mullapooram road.

1 Revised Estimate for constructing a Cart road from Yercaud on the Sherveroy Hills to the Railway station at Mullapooram; a distance of 19 miles, 5 furlongs, and 98 yards.

2. Amount of estimate Rupees (44,000) forty-four thousand; comprising the following items.

							Rs.	A.	P.
14335⅚	Cubic yards	Earthwork at annas	1½	per	Cubic yards	.....	1,343	15	9
27,271½	do.	do.	„ 2	do.		.....	3,408	15	0
63,270	do.	do.	„ 2½	do.		.....	9,885	15	0
4,162⅔	do.	Gravelling	„ 2	do.		.....	520	5	4
3,597⅓	do.	do.	„ 2½	do.		.....	562	1	4
6,906½	do.	do.	„ 3	do.		.....	1,294	15	6
3,244	do.	Rough stone work	„ 6	do.		.....	1,216	8	0
12,392¾	do.	do.	„ 8	do.		.....	6,196	6	0
1 Bridge of 1 arch of 12 feet span...							478	8	0
1	do.	do.	12	do.	... ...		686	13	4
1	do.	do.	20	do.	... ...		610	13	4
1	do.	do.	49	do.	... ...		2,672	13	4
1	do.	do.	40	do.	... ...		1,309	10	8
1	do.	do.	12	do.	... ...		577	4	0
1	do.	do.	7½	do.	... ...		333	8	0
49 Culverts and road tunnels; from 1 vent of 6′×10′ to 1 vent of (1) [2]							2,800	0	0
28 Road dams varying in length from 20 yards to 4 yards.							533	8	0
Blasting and removing rock for 19 miles 5 feet and 29 yards at various rates from 25 Rs. to 1000 Rs. per mile.....							4,387	15	4
Clearing Jungle for the same distance at various rates from 25 Rupees to 150 Rupees per mile.....							1,280	1	4
						Total Company's Rupees...	40,130	1	3
Sundries (including Superintendance, Tools, Milestones &c.,) at 9¼ per cent (nearly).....							3,869	14	9
						Grand Total Company's Rupees...	44,000	0	0

3. The top surface of the road for about 7 miles has already been made 8 yards wide, of the remaining 12, it is proposed to make 10 only 6 yards wide; and for 2 more* merely to repair and improve the existing bullock track, 9 feet in width. For nearly ⅔rd of its whole length, the road will pass along steep and rocky hillsides and, consequently there will not be any heavy embankments. A great deal of heavy stone-work will be required, especially in the 5th 6th 14th 15th 16th and 17th miles from Mullapooram.

* The Zigzags up the Ghaut.

4. The particulars of the Bridges are given in the Reports (B to H,) which accompanying the estimates for those works.

5. An estimate, amounting to Rupees 24,600, for the construction of this road was framed in 1854-55 by Lieutenant Puckle, and countersigned by Lieutenant Wilkieson, Acting Civil Engineer of the 5th Division. This estimate was sanctioned by Government on the 30th of October 1855; and entered in the Budget of 1856-57 (No. 341 of Statement No. 2.)

6. The trace for the road was also made by the 2 Officers mentioned in the last para.; on a separate estimate of Rupees 10,000 (sanctioned by Government on the 2nd July 1853.)

7. The construction of the road was commenced by Lieutenant Puckle on the 1st of May 1856; when I had been in charge of the District for about 6 months. On the 7th of June, work was stopped by order of Government, and not resumed until the 1st of January 1857. In the interval, Lieutenant Puckle left the District, and I had plenty of time to overhaul both

trace and Estimate—parts of the trace, it may be as well to state, were not new to me; as I had been employed in June and July 1852, under Captain Smythe, in surveying for the proposed road.

8. After going over the trace several times, and personally superintending the work for 2 months (January and February), I reported to the Chief Engineer my conviction that serious mistakes had been made in the trace and Estimate, and that the road could not possibly be made for less than 40,000 Rupees.

9. In June I had the honour of accompanying Major Lawford along the whole line; and took the opportunity of pointing out to him what I considered mistakes in Lieutenant Puckle's trace, as well as the alterations, which I either had made or intended making.

10. In the annexed rough Sketch (No. 1) of the Vypaudee Valley (between Mullapooram and the top of the Ghaut at Moolary), the red dotted line shows the sanctioned trace, running in the old native style along the bottom of the valley to the foot of a steep hill, and then ascending by a succession of wearying Zigzags—the green dotted line shows, how, were money no object* a road could be taken to the top of the Hills on a really scientific principle, and with an easy gradient all the way. Between Mallapoorum and Moolary (a distance of 11 miles) the sanction trace is, on the whole, undoubtedly the cheapest and easiest line—though bad and difficult enough in all conscience. At Moolary commences an expensive mistake; a smooth and easy run of 3 miles† (up to Nagalore)—of which the first 2 were cleared and made 12 feet wide, and the 3rd was made 18 feet wide throughout, in the days of Captains Smythe and Ouchterlony—have been abandoned for a line, shorter by about half a mile, but passing over some very difficult and dangerous ground, to construct a road on which would cost at least twice as much as to follow the old line. Between Nagalore and Taylor's Huts (a distance of 2 miles) the trace requires only a few trifling modifications. Between Taylor's Huts and Ichingaud (a distance, by the shortest route, of 1 mile) the trace is altogether incorrect and unscientific in the annexed sketch, No. 2, the red dotted line shows the trace; going up and down steep gradients, and winding round rockey and specipitous spurs, without any apparent necessity or reason for such a course; except, perhaps, to avoid some blasting at Prospect Point (Ichingaud), where are two large rocks, looking much more formidable than they are in reality. The green dotted line shows the route which I have taken, and by which, with a 20 feet cutting at A. and some blasting at B., the road will be carried over the Hill to Ichingaud. Between that point and Yercaud the trace takes the only feasible line.

* 2 tremendous ravines would have to be crossed, and bridging these would cost nearly half a lac of Rupees.

† Skirting the best building sites on the Hills.

11. The sanctioned estimate is altogether insufficient; owing, partly, to the amount of work (of every kind) actually to be done being considerably in excess of the amount allowed for, especially in the items of rough stonework (for walls), jungle clearing, and removing rock‡—and, partly, from the extraordinary rise, which has taken place since the estimate was framed, in the rates and prices of labour, materials and tools, coolies, who, two years ago, worked willingly for 2 annas, now grumble at 2½ on a great part of the work, indeed, I have been giving 3 annas per diem to each man, and shall have to give 3½ on the Ghaut, for Bricklayers and Wudders we have to bid against the Railway, which is nearer their villages and offers regular employment to all good workmen. Mamooties and pick-axes, which in 54-55 cost 14 annas and 1 Rupee 2 annas respectively, are now with difficulty procured for 1 Rupee 4 annas and 1 Rupee 8 annas. The prices of Chunam and other materials have risen from 20 to 30 per cent. So that, putting the incorrectness of the estimate out of the question, work, which in 54-55 could have been done for Rupees 24,600 would now cost more than 30,000.

‡ The waterway allowed for several of the jungle streams is also. very insufficient.

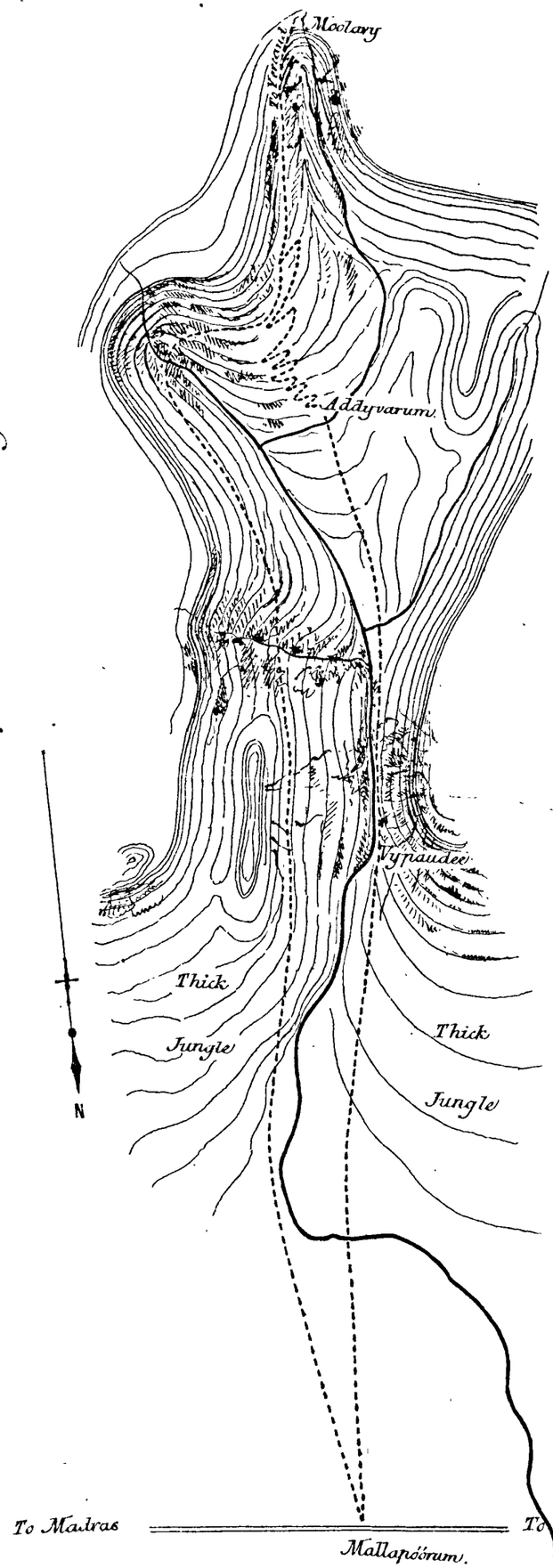
T. E G.

T. E. GAHAGAN, Lieutenant, *Engineers,*
District Engineer of Salem.

Salem, October 10th 1857.

N°. 1.

Mallapódrum to Móolary.



Scale 2 Miles

TRANSFR BY T DEAT LITE BY J. DUMPHY GOVT LITE PRESS CENTRAL OFFICE OF P.W. FORT St GEORGE.

[Sig.d] V.C. Gahagan Lieu.t
District Engineer
Salem

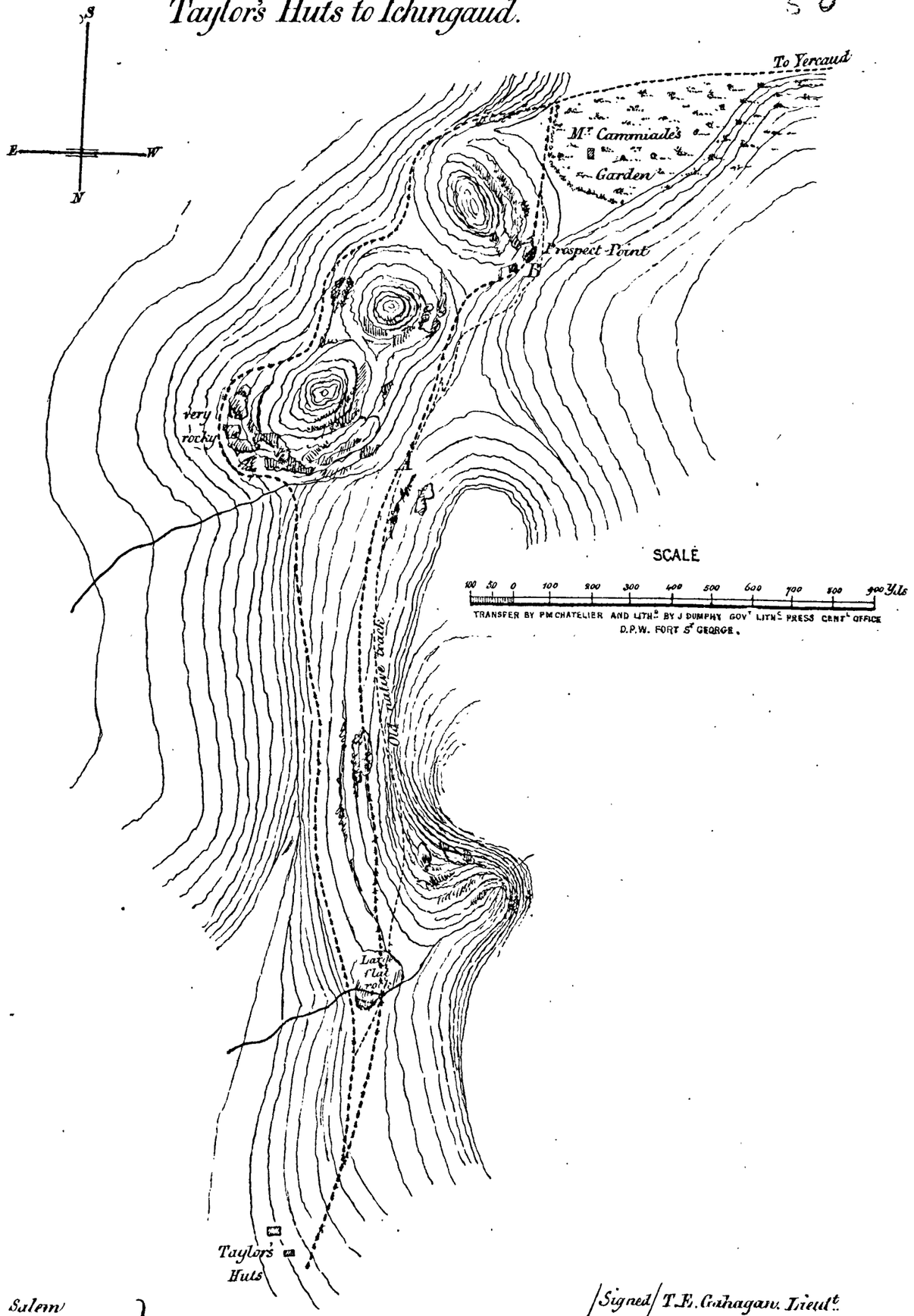
[Signed] H. A. Brett.
Collector.

Salem
October 10th 1857.

N°. 2

Taylor's Huts to Ichingaud.

52



TRANSFER BY PM CHATELIER AND LITH.o BY J DUMPHY GOVT LITHC PRESS CENTL OFFICE D.P.W. FORT St GEORGE.

Salem
October 10th 1857.

[Signed] H.A. Brett.
Collector.

[Signed] T.E. Gahagan. Lieut.t
District Engineer
of Salem.

No. 33. ORDER THEREON, No. 2342; dated 18th December 1857.

With this report, the Chief Engineer forwards a revised estimate for constructing a road from Yercaud on the Sherveroy Hills, to the Mullapooram Railway station in the Salem District. The estimate amounts to Rupees 44,000 from which being deducted the sum already authorized* for this road viz., Rupees 24,600; there remains Rupees 19,400, for which the Government resolve to solicit the sanction of the Government of India, as required by No. 1 of the rules communicated with Colonel Baker's letter of the 1st August 1856, No. 3605.

* Extract Minutes Consultation 30th Oct. 1855, No. 742.

2. The additional outlay now applied for, it is observed, is recommended for entry in the Budget of 1858-59; and the Government request the attention of Major Lawford and of the Chief Engineer to the remarks made in para. 1 of the orders of the 1st Instant No. 2225, as to the terms in which recommendations for sanction should be made, when forwarding Supplemental or revised estimates to Government.

(Signed) H. FORBES,
Acting Secretary to Government.

No. 34. Ordered in consequence that the following letter be despatched.

From H. FORBES, Esq., Acting Secretary to the Government of Fort St. George; to Captain H. YULE. Officiating Secretary to the Government of India, D. P. W., dated 18th December 1857, No. 2343.

SIR,

The Budget of 1857-58 contained an item* for constructing a road from Yercaud on the Sherveroy Hills to the Railway Station at Mullapooram in the Salem District, a distance of 19 miles 5 Fur. and 98 yards, which was sanctioned by this Government on the 30th of October 1855, at an estimated cost of Rupees 24,600.

* No. 375 of Statement No. 2.

2. The Chief Engineer has now forwarded a revised estimate amounting to Rupees 44,000 for this road, together with a communication from the District Engineer, explaining the circumstances which render so large an outlay necessary. The District Engineer states that the quantity of work of every description, to be done, is considerably in excess of that allowed for in the original estimate, especially in the items of rough stone work, jungle clearing, and removing rock, and that the water-way allowed for several of the jungle streams was very insufficient. Another fact mentioned by the District Engineer, and on which he lays some stress, is the extraordinary rise which he states has taken place since the first estimate was framed, in the rates of labor and prices of materials and tools, in consequence of the Railway operations in the neighbourhood. Major Lawford, the Superintending Engineer of the Southern Circle, who has recently inspected the road, expresses his conviction that it cannot be made for less than the amount now stated by the District Engineer to be necessary. He reports that a sum of Rupees 19,481 had already been expended on the Line, and observes that "it is impossible to calculate on the effects of a stoppage of the work while in progress, and that the lapse of another season would probably occasion considerable loss and increase of expenditure."

3. The Right Honorable the Governor in Council considers it of much importance that this road on which so large an outlay has already been incurred, should be continued without interruption, and a good communication thus opened between the Sherveroy Hills and the Railway, both for the accommodation of Travellers and for the transport of the Coffee which is the staple produce of the Hills. The revised estimate submitted by the Chief Engineer, a copy of which accompanies, amounts as stated above, to Rupees 44,000, from which being deducted Rupees 24,600 the amount authorized by this Government, there remain Rupees 19,400 now requiring sanction; but as the sum is in excess of that which this Government can authorize under No. 1 of the Rules communicated with Colonel Baker's letter of the 1st August 1856, No. 3605, I am directed to solicit that the sanction of the Government of India may be accorded to the outlay at an early date.

No. 5283.

Report on a revised Estimate for constructing a Road from Yercaud in the Sherveroy Hills to Mallapooram Railway Station Rupees 44,000.

Public Roads.

Ft. St. Geo. Cons. 30th Oct. 1855. No. 742

In June last, I visited the Road under construction by Lieut. Gahagan and some days after in consequence of that Officer's opinions as to the insufficiency of the sanctioned estimate of Rupees 24,600 partly on account of inadequate allowance originally made for the difficulties of the work, and partly owing to some mistakes in the early operations

2. I accompanied Lieut. Gahagan over the whole line, and decided on the necessity of a revised estimate being made, which amounts as I calculated it would to 44,000 Rupees so that deducting the amount already sanctioned the sum for which sanction has now to be requested is Rupees 19,402.-

3. The amount already expended

expended up to the end of September 1857 is Rupees 19.481-

4. But although the sum now proposed for expenditure will suffice for making a Cart Road at a gradient not exceeding 1 in 25 for the greatest part of the distance there is a portion about 2 miles on which wheeled Carriages cannot be used, not on account of the steepness of inclination but from the sharpness of the Bends necessary for carrying the line up the face of the hill from Adyperiim to Moolary. This portion therefore must remain a bullock line, until it is worth while to incur the expense of carrying the line along the head of the Valley: which would require an outlay of probably twice as much as the present estimate.-

5. The Government should therefore distinctly understand that by the proposed outlay of Rupees 44000 there will not be a complete Cart Road formed from Gercaud to Mallapooram and that such a communication is not feasible except at a very much greater expense.-

6. With this exception I consider that Sr. Gabagan's estimate will provide sufficiently for the communication between the Coffee estates on the Hills and the Railway, but it is impossible to calculate on the effects of a stoppage of the work while in progress and the lapse of another season will probably occasion considerable loss and increase of expenditure.-

7. The rates are now sufficient and moderate, but workmen will not be found easily if liable to be suddenly thrown out of employ.-

8. I do not know whether it is intended to carry on this Road at once to completion, but if such is the case the additional amount Rupees 19,400/ Nineteen thousand and four hundred, should be entered in the Budget of 1858/59.-

Central Office of P.W.
Fort St. George 17th Nov. 57

C. Lawford
Supdg Supt. Salem Circle

To
The Chief Engineer &c &c &c

Lieut

List of accompanying Papers.

1. Letter B. 416 of 21st Oct. 54 from Dr Surgy Salem.
1. Plans of proposed bridges &c.
1. Abstract Estt. B. 416 of 30.
1. Report A accompany D.

Comr 30th Oct 55 No 41-44.
— 5 July — " — " — 25 & 26 —

Public Works 1857 Dept
Dte Comr 22d Dec.
No 2309.

From
The Chief Engineer
To The Secretary to Govt
Pwd

Date 17th
Rec'd 21st } Nov 1857.

No 5283.
S.C.R. 2342 - 18 Dec 57.
Enclo: 1 & Returned
25-1-58.

No 32

Dec 1857.

Forwarded a Report
& Estimate for Embankments
& Sea Walls on the
Shrubbery, Dillon's Island
& the Railway Station amtg
to Rs 44,000 and requesting
the Sanction of Govt thereto
Plan & Section herewith
returned, to be entered in
the Budget of 1858/59.

2309. 132

My dear Forbes

This estimate you
have returned is a
Revised one for the
Gardens (Shrubbery
Isld) Roads. It should
I think be entered
in the Book list

4

be left unfinished
after 20,000 Rs have
been spent.

1532

9th Dec.r 1854.

15 2

Public Works Dep.t

No. 2342.

Extract from the Minutes of Consultation

Under date the 18th December 1857

Read the following

Report from the Chief Engineer

(Recd under 17th November 1857 No 5288)

With this Report
the Chief Engineer forwards
a Revised Estimate for con-
structing a road from Yercaud
on the Shevaroy Hills, to the
Mullapooram Railway Sta-
tion in the Salem District.
The Estimate amounts to
Rupees 44,000, from which
being deducted the sum al-
ready authorized for this
road viz Rs. 24,600; there
remains Rs. 19,400 for which
the

*Elm. 30th Oct. 1855
No. 742.

the Government resolve to solicit the sanction of the Government of India, as required by No. 1 of the Rules communicated with Colonel Baker's letter of the 1st August 1856 No. 3605.

The additional outlay now applied for, it is observed, is recommended for entry in the Budget of 1858/59, and the Government request the attention of Major Lawford and of the Chief Engineer to the remarks made in para 1 of the orders of the 1st instant No. 2225, as to the terms in which recommendations for sanction should be made, when forwarding Supplemental or revised Estimates to Government.

Ordered that the following letter be despatched to Captain H. Yule Offg Secy to the Govt of India Mil. Dept.

Copy to the Chief Engr Disp. 19

(Secn entries 18 Dec 1857, Nos. 2343)

Public Works 185[illegible] Dept.
Dr. to Govt. 23d Decr.

No 2342.

Extract Mins: of Govt.
Dy 18th Decr 57.
From Govt. of India Dy 19th
Janry 58 Cl. No 270 inclg 23d Feby

Resolving to solicit the
sanction of the Govt of India
for the revised Estimate upon
forwarded by the Ch. Engr
for constructing a road
from Yercaud on the
Shevaroy Hills to the
Mullapooram Rail
way Station in the
Salem Dist. amtg
to Rs 19,400.

No 32 & 33.

Cy Decr 1814