M.R.O. 1—32,000—23-11-36.

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 1326 Press Mis.-

Dated 9-7-1856

Not to be folded or roughly handled

No. 54. Read the following letter from Major E. LAWFORD, Superintending Engineer Southern Circle, in charge of Central Office Public Works; to W. H. BAYLEY, Esq., Acting Secretary to Government, dated 16th June 1858, No. 1193.

SIR,

In forwarding for submission to Government the original report by Captain Francis of his proceedings subsequently to his giving over charge of the Coimbatore District to Mr. Fraser, I have the honor to observe that no definite statement of work performed to the Western Trace under the orders of Government of the 19th February 1858, No. 294, has yet been received in this office, nor is it known what amount has been expended either out of Government Funds or from the sum of Rupees 5,000 contributed by Mr. Ouchterlony* in aid of that work.

Dated 26th May 1858.

Extract Minutes Consultation No. 742, dated 20th April 1858.

2. As however I conclude that the formation of the Trace is intended to be resumed after the termination of the monsoon, I propose to call on the Acting District Engineer to report his future plan of operations.

3. With respect to the Tambracherry Ghaut, a trace has been under formation since the end of last Monsoon under the Superintendance of Lieutenant Tennant, by means of a grant from the District Ferry Funds, and I hope soon to submit a report on what has been done, but it is evident that the amount required to make a permanent trace will be more than the local funds can afford, and I shall have to ask permission to expend at least a part of the 10,000 Rupees entered in the Budget of 1858-59 for tracing this very important Ghaut, which I trust there will be no objection to remove from the list of restrictions on good cause being shewn.

Extract Minutes Consultation No. 1300, dated 7th July 1857.

Letter from Captain P. M. FRANCIS, Acting Superintending Engineer, Central Circle; to Colonel C. E. FABER, Chief Engineer, dated Jackatalla, 26th May 1858.

SIR,

1. In obedience to the Telegraph orders appended, I delivered over charge of the District Office to Mr. Fraser on Saturday the 8th Instant and on Monday the 10th proceeded with that gentleman and Captain Morgan to Neddavattam examining the commencement of the trace upon which some work had been lately done pointing out to Captain Morgan those parts of the trace with which he was unacquainted and the alterations that were proposed particularly the head of the new pass to descend from near Neddivattam to Goodaloor.

2. On my last visit with Mr. Fraser, we had made such arrangements as that all parts of the line should go on at once, but sickness among the Subordinates has defeated our intentions and I found that this part of the trace which I had hoped to have seen brought to the test of actual trial has not been commenced.

3. On the 11th we proceeded to Nadkany at the head of the Carcoor pass by way of Ouchterlony's Valley, the mists were so heavy as almost entirely to obscure the views of the valley and I was obliged to depute Mr. Fraser on his return with Captain Morgan to shew him the line which I intended to be pursued here. I should here mention that I had before altered the project in regard to the Neilgherry branch and indeed also of the main traffic line, so that the latter will now instead of following the immediate valley of the Paundy river, be brought out on the country at Umbelabyle a village about 3 miles from the head of the Carcoor and thence pass through cultivated and inhabited country to Goodaloor, this enables me to establish an excellent junction with the Nellialom road and the advantages of such a disposition of the main line will be apparent to every one and cannot fail I am sure to meet your approval. The Neilgherry branch will then start near Goodaloor which is the watershed of the country and winding round Ouchterlony's spur will pass through his plantations, the whole of this as I said before owing to sickness among the Subordinates remains untried.

Major Lawford
proposes

4. The new line from Umbellabyle to the new head has been cut almost throughout and parties are still working at it. Mr. Fraser laid out great part of this with his own hands and has nicely determined the curves &c., but our old custom is better for this style of work and so he is now inclined to think, for instance he has had a line of drainage to follow, and has laid out the trace by his eye in the general direction, fixing the curves by offsets &c., after which the whole must be carefully levelled and laid down on a section, and the cuttings and fillings must be worked according to it; whereas if I wanted to get a slope of 1 in 25 say, on a country where a good deal must be done afterwards to shorten it, in the way of filling across hollows and re-entering angles, and cutting off salients &c., I should have laid out the general slope at 1 in 27 or 1 in 30 according to my judgement, no levelling instrument would have been required afterwards, and a lower class of Superintendent would suffice to carry out a cutting or a filling between any two pickets given him on the general trace, which itself would be guide enough for the Officer in charge, and he would I think produce a cheaper road in this manner, but this is a point of detail upon which it is not necessary to enlarge. A party has been employed and has cut the new trace as picketted out by Serjeant Kelly about 4 miles down from the new head, the myriads of leeches make this a very unpopular work with the coolies.

5. Besides the trace, parties have been employed on the old road from Goodaloor to the Carcoor Ghaut, and the latter part which is by far the most difficult has been well repaired and the bridges put in safe order. On the first part from Goodaloor the bridges still require to be repaired, and this I hope will be done before the Monsoon, but we are so short of overlookers, owing to fever, and I am so anxious to get Serjeant Kelly's trace secured lest any part now uncut should after another monsoon entirely be lost, that I am not sure Mr. Fraser will succeed in getting them put in order.

6. On the 12th Instant we proceeded down the old Carcoor pass which has been very well repaired, to Eddakara, where we met a young Native Surveyor who has been employed in making a direct line to meet the junction of the Shaulayam and Nellamboor rivers on the right bank of the latter, we inspected as much of his work as our time permitted and he has done it well, but this portion after Consultation with Mr. Robinson I have determined to alter and to carry it, after as early a crossing of the main river as possible, on the south bank, for the sake of the country, the Government Forests at Pallicool &c.

7. We met a European Superintendent and his parties who were improving the river crossing places, and Mr. Fraser directed them to proceed to Serjeant Kelly's trace, and continue to open it up from the bottom; with the parties working at both ends we may reasonably hope to accomplish the desideratum of getting it all marked before the weather prevents all further work. We proceeded on to Nellamboor where I left Mr. Fraser and Captain Morgan and continued my journey dawk to Calicut for the purpose of inspecting Tambercherry.

8. On the 13th by mid-day I reached Calicut and Mr. Bean and Mr. Tennant arrived that evening and the next morning. The monsoon burst in full force in the night and it continued raining torrents till mid-day on the 16th when it held up for a few hours. Mr. Bean and I started that night and ran to Tambercherry and on to the foot of the Ghaut about 30 miles on the morning of the 17th. I am sorry to say that Mr. Tennant was unable to accompany us having had his leg hurt very severvly by a stone so that he could neither walk nor ride, this accident prevents my report being so full as it might have otherwise been, as the nature of the country is such that no information can be obtained, except by actually walking over the ground, and no distinct views can be obtained of the underfeatures, which are covered with the densest forest. Mr. Tennant has walked over and tried many lines and all I could do on this occasion therefore was to inspect the actual trace and pronounce upon the likelihood of its executive difficulties being successfully overcome.

9. The lower part of the trace to an elevation of 1700 feet has been carried along a spur at an easy gradient, of this part there is no doubt and my time being so short I did not inspect it, thence to the top of the Ghaut (about 400 feet in perpendicular height) the trace has been carried by zigzags across a very short and steep spur, up which the old road now runs nearly straight, and consequently frightfully steep. Mr. Tennant's trace is laid out at 1 in 20, some part of it has been cut, but several zigzags presented such difficulties and dangerous climbing, that it was hard to bestow sufficient critical examination on the actual difficulties which an Executive would have to deal with. I found the two lower zigzags to pass thro' a country easier to work

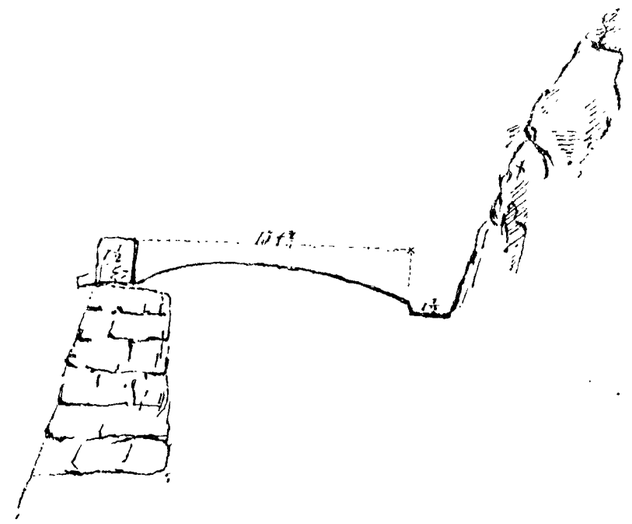
than I expected, for I was pretty well acquainted with the extreme difficulties of the project, and so also of the extreme top, but the intermediate zigzag, 3 in number pass though ground so exceedingly steep and rocky that a road can only be cut at a very large outlay, but it appears to me that the circumstances justify such an expenditure and after considering the various items, I give it as my opinion that the ghaut itself might be made for 1½ lacs of Rupees including bridging, draining, and metalling.

10. Mr. Tennant will not be able to make out his estimate properly till the trace is opened throughout, nor to prepare a Survey of it, and he will not be able to get workmen to go out at this season to widen the trace and cut it, he must therefore wait till there is a decided break in the monsoon. I also wish him to try two or three changes which I have pointed out to him before making his survey and final estimate.

11. I believe that Mr. Tennant has gone on the right principle, and deserves much credit for the pains he has taken, and the Judgment he has shown after many trials, for this is just one of those kind of places in which no skill will enable a man to decide off hand how a line of road should be traced, patient trial can alone lead to successful issue and as I said before, there are one or two trials I should still like to have made.

12. In all cases in the upper part of this road that is above 1,700 feet elevation, the whole breadth of the road must be cut out of the solid and in some parts from the exceeding steepness of the hill side, there will scarcely be room to cut out the Zigzags one above the other unless it should turn out to be rock which will stand at the perpendicular.

13. I consider that in all the very difficult parts of the road the section might be as shown below, for it will not be possible to defend the road by catch drains, and water tables to answer the double purpose must therefore be resorted to, the smallest safe width to have in the clear is 15 feet.



The remainder of the road might be 7 yards in the clear. The revetments should be built very carefully in dry rubble of which there is abundance suited to the purpose and should have a batter of one twelth to the front, the cross under-drains must in this climate be very close together say 100 to the mile which will cost 2,000 Rupees per mile. One large river has to be bridged, the rest of the streams are of minor consideration.

14. This far I have spoken of the Ghaut itself only, but the road from the foot into Calicut nearly 30 miles in length requires much improvement, I rode slowly and carefully over the whole

Major Lawford
pro hoses

with Mr. Bean and discussed each point with him, and I see no difficulties which cannot be easily overcome by local divergence between the foot of the Ghaut and the 12th mile stone from Calicut: from the 12th to the 9th mile-stone the succession of ups and downs is constant and steep, these three miles must be altered altogether, either by following the left bank of the Ellatur river more closely, or by turning off near the 13th mile and following the right bank of the parallel river until the cross road to Calicut is again struck, the country thus indicated must of course be thoroughly studied on both sides, but so much of the road in general is good and can be so easily improved that I should deprecate any more radical change.

15. Nothing has been done yet in the way of a trace between the head of the Ghaut and Culpetta, but I know well that this piece of country would test the powers of a most experienced tracer; I have discussed the line with Mr. Tennant, and trust he will succeed in discovering the best.

16. The road from Culpetta to Sultan's Battery and thence to Eddaterracottah according to my memory can be made easy for carts at no great expense.

17. The Ghaut and Road to Calicut is of course of the first importance, but the whole line through into the Mysore country is one of vital interest to Malabar.

18. I returned to Calicut with Mr. Bean over the road above noticed on the 18th, and on the 19th started dawk to return; on the 20th I reached Palghaut.

21st. Coimbatore.
22nd. Metapolliem.
23rd. Jackatallah.
24th. The Office was closed.

25th. I despatched the accounts for 1856-57 with the advice of the Head Sheristadar, who considered that the discrepancy referred to in my letter accompanying them was due only to dates and could be easily rectified on the arrival of his account Department, whilst he declared that he would vouch for the accuracy of the accounts, which indeed had been signed by Mr. Cherry the Acting Collector on his responsibility.

No. 55. ORDER THEREON, No. 1326; dated 9th July 1858.

Para. 1. With this letter, the Officer in charge of the Central Office submits one from Captain Francis, reporting his proceedings subsequently to giving over charge of the Coimbatore District to Mr. Fraser. The Central Office has received no definite statement of the operations on the new Carcoor line, and concluding that work will be resumed after the monsoon, Major Lawford proposes to call on the Acting District Engineer, for a report on his future plan of operations.

2. As regards this project, the Government observe, that besides a sum of Rupees 3,000 laid out in tracing the line, and a further sum of Rupees 5,000 sanctioned on the 9th February 1858, for widening the trace, Mr. Ouchterlony offered a contribution of 5,000 Rupees towards the construction of an efficient road for traffic, which the Government desired should be received and expended, if the road could be so improved as to make it of any practical value to that Gentleman. It is therefore very desirable that Government should have before them, some information as to the actual progress made on the work to the present time, from Government funds and from those placed at their disposal by Mr. Ouchterlony, as well as, the amount of expenditure incurred, and the funds still available for future operations. As surmised by Major Lawford, it is the intention of Government that work should be resumed on this line on the termination of the monsoon; they therefore approve of the call proposed to be made on the Acting District Engineer, and they hope that that Officer's report, will convey information on all the points mentioned above.

3. As regards the funds required for making a permanent trace on the Tambracherry pass, which is referred to in the concluding para. of Major Lawford's letter, the Government propose to await his promised communication on the subject, before deciding whether or not the work may be exempted from the operation of the restrictive order.

(Signed) T. PYCROFT,
Chief Secretary.

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Central Office of P.W.D.
Fort St. George 16 June 1858

P. 1193
1 1111

To The Superintending Engineer S.C.
in charge of Central Office &c

To
The Secretary to Government P.W.D.

Sir,

In forwarding for submission to Government the original report by Captain Francis of his proceedings subsequent to his giving over charge of the Coimbatore District to Mr. Fraser, I have the honor to observe that no definite statement of work performed in the Western trace under the orders of Government of the 9th February 1858 has yet been received in this Office, nor is it known what amount has been expended either out of Government Funds or from the sum of Rs. 5000 contributed by Mr. Ouchterlony in aid of

Major Lawford

P.W.O. 11742
9 Sept 1858.

of that work.-

2. However I conclude that the formation of the Race is intended to be resumed after the termination of the Monsoon, I propose to order the letting District Engineer to report upon future plan of operations.-

3. With respect to the Vandrachery Channel, a trace has been made formations since the end of last 2 Monsoons under the Superintendence of Lieut. Newcomb, by means of an Punch from the District Survey Vessel and Shafie Dow to submit a report on what has been done, but it is evident that the amount required to make a permanent Race will be more than the local funds can afford, and I shall have to ask permission to expend that part of the 10,000 Rupees entered in the Budget of 1858/59 for Training the very important Channel, which

Submitted that there will be an objection to the Report of Lieutenant Newcomb being submitted to Government.

J. Lawrence
Supg. Engr. M.C.P. Works
Chief Office Pdy.

Submitted to Government
Pdy.

Major Lawrence
pro forma

No 1326. P. W.O.

Contract-plans &c. transmitted to Commissioners
Under date the 9th December 1858.

Canada. Public Works Office

Plans &c. transmitted to Engineer
Secretary Circular instructions &c.
Contract Office 9th Dec. 1858.

(Received 15th December 1858 No 1193)

P.W. With this letter the
Applicant incloses the sections
Applicant submits some plans &c.
Engineer respecting his proceedings
Subsequently to giving evi-
dence of the Contractor's
Tenders to the Engineer. The Contr
Applicant has received no definite
Statement of the operations
the main Contract line, consid-
sequently that would unde
be returned, after the Arbitrators
Major Lawford
Arbitrators

Cons: 23d Febr. /58 to 31833
" 20th April " " 144 to 145
" 7th July /57 " 57 to 53
Copies in a letter to Engr
of 31st " & letter No 100 of
1862.

Rd Nov 3 1858 Copies
Copies to Can 13th Nov 1831.
from
The Secy Engr. &c C
of Mich. Contract &c
To
The Secretary &c
Pro Forma

Dated 16 Sept 1858.
Rec'd 17 Sept 1858.
Contr. & Sec's Nos 1153
Capt 26 July 1858
Commander Capt Francis
Commissioner Price the duties
his signing over charge of the
Circulation District to Mr.
Fraser, observes that no st
mark of the work pro
ed to the Northern base ha
yet been received, states
that he intends to call
on the District Engineer to
point his instructions operat
mentions that permission
heard a part of the 1000 Po
Sanctioned for the Sambro

1854.

Capt Dame R.I. July

Shank mill be asked
that a report of the
work will be submitted

proposes to call on the acting District Engineer for a report on his future plan of operations.

2. As regards this project the Government observe, that besides a sum of Rupees 3,000 laid out in tracing the line, and a further sum of Rupees 5,000 sanctioned on the 9th February 1858 for widening the trace, Mr Ouchterlony offered a contribution of 5,000 Rupees towards ~~be laid out in~~ the construction of an efficient road for traffic, which the Government desired should be received and expended if the road could be so improved as to make it of any practical utility to that Gentleman. It is therefore very desirable that Government

should

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should have before them some information as to the actual progress made on the work to the present time from Government funds and for those placed at their disposal by Mr Ouchterlony, as well as the amount of expenditure incurred, and the funds still available for future operations. As suggested by Major Comford, it is the intention of Government that work should be resumed on this line on the termination of the monsoon, they therefore approve of the call proposed to be made on the acting District Engineer, and they hope that that Officer's report will convey information on all the points mentioned above.

3. As regards the funds

funds required for making a permanent trace on the Lambracherry pass; which is referred to in the concluding para of Major Lawford's letter, the Government proposes to await his promised communication on the subject before deciding whether or not the work may be exempted from the operation of the restrictive order.

W A B

10 Copies to the Offg Chief Engr & Secretary 10

24 June 81 Tuly C

Cons: 23d Feby /58 No. 31 to 33.
— 20th Mch — — 144 & 145
— 7th July/57 — 51 to 53.

Copy in a letter to Engineer of 31st October 1862.

Public Works 1858 Dpt.
Cy to Cons: 1st July

Co No 182
Extract Minr. of Cons:
Dispt. July /58.

Desire information as to the actual progress made on the new Carcoor line from the Govt Funds and from those contributed by Mr Auchterlony as well as the amount of Expenditure incurred and the Funds still available=

Pts 54 & 55.