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M.R.O. 1—32,409—22-11-50.

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

Cons. 23 Oct 57

G.O. No. 1178	Press Mis.
1719	
Dated 17 — 6 —	1857

Not to be folded or roughly handled

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

Read the following letters.

No. 17. From Lieutenant Colonel T. T. PEARS, C. B., Consulting Engineer for Railways; to T. PYCROFT, Esq., Chief Secretary to Government, Fort Saint George, dated 22nd April 1857, No. 151.

SIR,

I have the honor to acknowledge the receipt of an Extract from Minutes of Consultation, in the Public Works Department, No. 509, dated the 20th March last, forwarding for my report certain papers connected with two projects under consideration, viz., a road from the plains by Kotagherry to the Hill station of Ootacamund, and a Railway incline by Coonoor to the same place.

2. I have read these papers with attention, but it does not appear necessary for me to add at present any thing to the opinion expressed on this subject, in my report, No. 237, of the 13th November last.

3. In that report paras. 34-49, I noticed the project of an inclined Railway, and I am still of opinion that whatever may be the result of an enquiry into the practicability of constructing such a line of Railway, it should not, and would not, ultimately affect the question of the expediency of making a road over the interesting tract of country traversed by Captain Francis' projected pass.

4. The Railway incline would complete in the most efficient manner the communication between the plains and Coonoor, Jackatalla and Ootacamund, but would not affect that portion of the Hills about Kotagherry, and between that and Seeroomoogay, which would be opened up by Captain Francis' road.

5. The practicability of making such an incline is not yet ascertained. In order to determine the point nothing appears to be wanted, beyond the employment, for a few months, of a competent officer for the purpose of examining the Coonoor, and if necessary, the neighbouring vallies, taking the levels accurately, with the view of determining the probable character of the best series of gradients that can be obtained.

6. I have shown in my former report that, viewed in connection with the Railway on the plain, that project of an inclined rail to the summit of the Hills is worthy of investigation, and I trust that Government may concur in this view of it, and may sanction the appointment of an officer to this duty.

7. In the meanwhile, I would strongly recommend that Captain Francis' road may be proceeded with. If the inclined rail is found impracticable, the Kotagherry line of road will be indispensable to connect the Trunk Railway with the Hill stations. If, on the other hand, it should be found practicable to lay a rail up to Coonoor, a road, though perhaps of an inferior class, will be essential to the opening up of that large portion of the Hills about Kotagherry, and from thence to Seeroomoogay.

8. I do not think it possible to make anything like a trustworthy estimate of the cost of such an incline, until sections are taken and the real nature and extent of the work to be done ascertained by actual examination: nor until the practicability of the project is determined, is it of any use troubling the Government with such calculations. I must observe, however, that the Chief Engineer in noticing Captain Ouchterlony's estimate, as amounting to Rupees 11,00,000 (eleven lacs), has in fact given 2 estimates, the one being for the incline to the neighbourhood of Coonoor six lacs, the other for a rail in continuation to Ootacamund five lacs. The latter work I do not consider at all an essential feature in the scheme.

9. It will be observed also, that Captain Ouchterlony's estimate of Rupees 6,00,000 for the incline, includes the cost of plant, water wheels, &c.

10. With regard to the traffic, I find that Captain Ouchterlony's estimate of 14,000 tons per annum falls somewhat short of mine, which was 60 tons a day as the present traffic, but considering the extreme difficulty of getting supplies up to the Hills, together with the effect of that difficulty on the amount of population, there can be no doubt that such improved means of

communication as would be offered by a rail, or even by such a road as that proposed by Captain Francis, would effect an enormous increase in this traffic.

11. Captain Ouchterlony, in a very interesting letter to the Chief Engineer, estimates the difference of level between the head and the foot of the Coonoor ravine at 4,500 feet, and shows that a direct incline would, supposing this to be the truth, have a fall of 1 in 7½.

No. 839 dated 12th November 1856.

12. In my report of the 13th November, No. 237, I stated that my observations made the difference 3,500 feet on the last six miles of the pass, but this referred to the main valley, not to the steep ravine which leads from Coonoor into that valley.

13. Among the many steep inclines in Europe and America, worked by fixed power, I find records of some as steep as 1 in 10; and I have no doubt there are inclines still steeper than these in Mineral districts and situations, where the main object is the conveyance of material. The Government may judge from hence, whether the practicability of getting similar inclines up the slopes of the Neilgherries is a subject deserving of investigation. I consider that it is so, that it is a subject sure to attract attention and enquiry hereafter if not looked into now; and that it may probably become a source of regret that it was not carefully investigated and finally determined, before the contemplated branch rail was laid, in connection with the high road by Kotagherry.

14. I should think an active Officer, having some experience of work of this nature, could in six months be able, not only to furnish a correct section of the Coonoor valley, with an approximate estimate of the cost of a Railway incline, but also to give an account of the neighbouring vallies, and the probability of a more favorable line being discovered for a work of that nature. In the meantime, opening a bridle path along Captain Francis' line would not only give access to that portion of the Hills to some extent, but would give that officer an opportunity of judging with greater confidence, whether the Surveyor's estimate, of the correctness of which he expresses some doubt, was, or was not, near the truth.

No. 18. From Colonel C. E. FABER, Chief Engineer; to H. FORBES, Esq., Acting Secretary to Government, dated 8th May 1857, No. 180.

SIR,

I have the honor to forward for the information of Government, the accompanying letter* from the Superintending Engineer Southern Circle.

* No. 114 dated 20th April 1857.

2. The recent order of Government, which Major Lawford alludes to, in his first para. is contained in Extract from the Minutes of Consultation No. 509 dated 20th March 1857.

3. In para. 4 of this Extract, Government direct, that the subject of the communications between Ootacamund, and the places to the Eastward, be kept in view, and that an Officer be nominated to carry on the investigations, as soon as one can be spared for the duty. In consequence of this order of Government, the District Engineer was directed to cause the early preparation, of a detailed Survey and estimate, of the line of road already surveyed, and roughly estimated for by Mr. Williams, a Surveyor under Captain Francis' orders.

4. The Superintending Engineer, Southern Circle, reports in para. 6, of his letter now forwarded, that no Officer at present in the Coimbatore District, can be spared to carry on these investigations, as the services of all the Officers are required for the performance of the duties, already allotted to them.

5. Under these circumstances, I have the honor to report, that it will be necessary to postpone these investigations, the subject shall however be taken up, as soon as an Officer is available.

6. In the meanwhile, it will be necessary to take care, that the present trace for the road, from Ootacamund to Seroomoogay shall not become overgrown, and be obliterated, I have therefore the honor to recommend, that Rupees (5,000) five thousand, be authorized forthwith for the purpose of clearing the trace.

7. A letter, received from Captain Francis, since Major Lawford's communication came to hand, is forwarded for the information of Government. In this letter Captain Francis, advocates the construction of the road, from Ootacamund past Kotagherry to Seroomoogay and not of a new line, through the Coonoor and Kullaur Valleys, and I cannot but think, that Captain Francis view is correct, I do not consider that the road through the Kullaur Ravine, and Coonoor would be, of nearly so much benefit, as one passing from east to west of the Hills themselves.

No. 19. ORDER THEREON, No. 1178; dated 17th June 1857.

In Extract Minutes Consultation of the 20th March last, the Government had under consideration an estimate, submitted by the Chief Engineer, for the construction of a first class road on Captain Francis' trace, as modified by Colonel Pears, to connect the Hill stations on the Neilgherries with the Railroad; and adverting to the great variation between Captain Francis, and Mr. Williams' calculation of its cost, they desired that the matter might be further investigated, and a detailed survey and estimate be made and submitted, in order that the project might be laid in a complete state before the Government of India. In the same Minute of Consultation, the Government noticed Captain Ouchterlony's project for a Railway up the Coonoor Ghaut, at a cost, roughly estimated by him, at 11,00,000 Rupees, having the same object in view, viz. the connection of the Hill stations with the Railroad; but as it was unaccompanied by a detailed survey and estimate, they were unable to pass any definite order, beyond desiring that the project might be kept in view, and that an Officer might be nominated to carry on the necessary investigations, as soon as one could be spared for the duty. The Government also doubted whether Colonel Pears, who had reported* on both the projects, had had them under consideration with a view to selection, and they resolved in consequence to request his opinion on the subject.

* In a letter dated 13th November and recorded in Consultation 23rd December 1856.

2. With reference to this requisition, Colonel Pears submits the report above recorded, in which he repeats the opinion expressed in his former report, that, whatever might be the result of an enquiry into the practicability of constructing a Railway incline by Coonoor, it would not ultimately affect the question of the expediency of making a road over the interesting tract of country traversed by Captain Francis' project. "The Railway incline," he states, "would "complete, in the most efficient manner, the communication between the plains and Coonoor, "Jackatallah, and Ootacamund, but would not affect that portion of the Hills about Kotagherry, and between that and Seeroomoogay, which would be opened by Captain Francis' road." He notices that the practicability of constructing a Railway incline has not yet been ascertained; and suggests, in view to the determination of that point, the employment of a competent Officer for a few months, for the purpose of examining the Coonoor, and if necessary, the neighbouring vallies, and taking the levels accurately, with the view of determining the probable character of the best series of gradients that can be obtained. Meanwhile, he strongly recommends that Captain Francis' road may be proceeded with, observing that, "if the inclined rail is found im- "practicable, the Kotagherry line of road will be indispensable to connect the Trunk Railway "with the Hill stations. If, on the other hand, it should be found practicable to lay a rail up "to Coonoor, a road, though perhaps of an inferior class, will be essential to the opening up "of that large portion of the Hills about Kotagerry, and from thence to Seeroomoogay."

3. As to the cost of making such a Railway incline, Colonel Pears considers it impossible to estimate it with accuracy, until sections are taken and the real nature and extent of the work to be done, is ascertained by actual examination; but he points out that the Chief Engineer, in noticing Captain Ouchterlony's estimate as amounting to eleven lacs of Rupees, has given two estimates; one of six lacs, for the incline to the neighbourhood of Coonoor; the other, of five lacs, for a rail in continuation to Ootacamund. The latter work Colonel Pears does not consider at all an essential feature in the scheme.

4. In the remaining paras. of his letter, Colonel Pears adverts to some other matters connected with the projected rail, and in para. 13 expresses his conviction of the importance of investigating the practicability of laying Railway inclines up the slopes of the Neilgherries, a subject which he considers is certain to attract attention hereafter if not looked into now, and the omission to look into which may be a source of regret, after a branch rail has been laid in connection with the high road by Kotagherry; and he concludes by stating that an active and experienced Officer would be able, in six months, not only to furnish correct sections of the Coonoor valley, with an approximate estimate of the cost of a Railway incline, but also to give an account of the neighbouring vallies, and the probability of a more favourable line being discovered for a work of that nature. In the meantime, he is of opinion that opening a bridle path along Captain Francis' trace would not only give access to that portion of the Hills, but would enable that Officer to judge of the correctness or otherwise of Mr. Williams' estimate.

5. The Right Honorable the Governor in Council resolves to forward a copy of Colonel Pears' Report to the Chief Engineer, with the request that, he will take the earliest opportunity of sending a competent Officer to ascertain, by careful examination, the practicability of laying a rail up the Coonoor Ghaut, and in the event of its construction being found feasible, to prepare an approximate estimate of its cost. The Chief Engineer will also consider whether, in that case, it will be necessary to construct a first class road on Captain Francis' trace, or one of an inferior class, as suggested by Colonel Pears. The Government recognize the great importance of connecting the Hill stations with the plains, the more especially as there is every prospect of the Railway communication being brought, at no distant date, to the vicinity of the Hills, and they are therefore desirous that the subject should not be indefinitely postponed. As regards the Officer that should be entrusted with the investigation of these projects, the Government are of opinion that Captain Francis would be the fittest person to undertake the duty, both on account of his being at hand, as well as in consequence of his experience in tracing mountain passes; and they would be glad if the Chief Engineer could make arrangements to detach him on the service, without impediment to the general duties of the District.

6. With his letter of the 8th Ultimo, above recorded, the Chief Engineer submits, with reference to para. 2 of the orders of Government of the 20th March preceding, a report from the Superintending Engineer Southern Circle, and a letter from Captain Francis, regarding the road traced by the latter on the eastern side of the Neilgherries. Major Lawford reports that no competent Officer is at present available in the Coimbatore District to make the detailed survey and estimate of this road, as required by the orders of Government; and the Chief Engineer suggests, that, under the circumstances represented, the necessary investigations may be postponed, until an Officer can be found for the duty. In the meanwhile, he recommends that (5,000) five thousand Rupees may be granted for widening the trace, which is represented to be all but obliterated; and as the results of much labor and examination are thus likely to be altogether lost, the Government sanction the required amount out of the one lac fund.

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

For Orders
Public Works Department No. 804
From The Consulting Engineer for Railways
Dt 22d April /57.

Colt. Pears opinion is strong
hearing of acceptance – it shou
be referred when Dept P. Wks per
approval.

No 1178 P.W.D.

Extract from the Minutes of Consultation

Under date the 17th June, 1857

Read the following

letters.

From the Consulting Engineer
for Railways.

/ Here enter 22nd April 1857 N 151 /

From the Chief Engineer

/ Here enter 8th May " — " 180 /

In Extract Minutes
of Consultation of the 20th Ulto
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for the construction of a first
class road on Captain Francis'
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Pears, to connect the Hill sta-
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calculations

calculation of its cost, they desired that the matter might be further investigated, and a detailed Survey and Estimate be made and submitted, in order that the project might be laid in a complete state before the Government of India. In the same minute of Consultation, the Government noticed Captain Cubbitt's project for a railway up the Coonor Ghaut, at a cost, roughly estimated by him, at 1100000 Rupees, having the same object in view, viz the connection of the Hill stations with the Rail road, but as it was unaccompanied by a detailed Survey and estimate, they were unable to pass any definite order, beyond desiring that the project might be kept in view, and that an

officer

officer might be nominated to carry on the necessary investigations, as soon as one could be spared for the duty. The Government also doubted whether Colonel Pears, who had reported on both the projects, had had them under consideration with a view to Selection, and they resolved in consequence to request his opinion on the subject.

+ In a letter dated 13th November and recorded in Cons. 23d Dec. 56.

With reference to this requisition Coll. Pears submits the report above recorded, in which he repeats the opinions expressed in his former reports that, whatever might be the result of an enquiry into the practicability of constructing a Railway incline by Coonor it would not ultimately affect the question of the expediency

expediency of making a road
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"the Hills about Kotagherry,
"and from thence to Seroonogay."

As to the cost of making such a railway incline, Col. Pears considers it impossible to estimate it with accuracy, until sections are taken and the real nature and extent of the work to be done is ascertained by actual examination; but he points out that the Chief Engineer, in noticing Captain Ouchterlony's Estimate as amounting to eleven Lacs of Rupees, has given two estimates; one of six Lacs, for the incline to the neighbourhood of Coonoor; the other, of five Lacs, for a rail in continuation to Ootacamund. The latter work Col. Pears does not consider at all an essential feature in the scheme.

In the remaining paras of his letter, Col. Pears adverts to some other matters connected with the projected rail, and in para 13 expresses his conviction of the importance of investigating the practicability of laying railway inclines up the slopes of the Neilgherries, and concludes by stating that an active and experienced Officer would be able, in six months, not only to furnish correct sections of the Coonoor Valley, with an approximate estimate of the cost of a railway incline, but also to give an account of the neighboring valleys, and the probability of a more favorable line being discovered for a work of that nature. In the meantime, he is of opinion that opening a bridle path along Captain Frances' trace would

* a subject which he considers is certain to attract attention hereafter if not looked into now, and the omission to look into which may be a source of regret after a Road Rail has been laid in connection with the High road by Kotagherry.

would not only give ways to that portion of the Hills, but would enable that Officer to judge of the correctness or otherwise of Mr Williams estimate.

His Right Honorable the Governor in Council resolved to forward a copy of Colonel Pears report to the Chief Engineer, with the request that, ~~in the event of his commencing in the ensuing season~~, he will take the earliest opportunity of sending a competent Officer to ascertain, by careful examination, the practicability of laying a road up the Coonoor Ghaut, and in the event of its construction being found feasible, to prepare an approximate estimate of its cost. The Chief Engineer will also consider

15

consider whether in that case, it will be necessary to construct a first-class road on Captain Francis' trace, or one of an inferior class, as suggested by Colonel Pears. The Government recognize the great importance of connecting the Hill Stations with the plains, the more especially as there is every prospect of the railway communication being brought, at no distant date, to the vicinity of the Hills, and they are therefore desirous that the subject should not be ~~lost sight of~~ indefinitely postponed. As regards the Officer that should be entrusted with the investigation of these projects, the Government are

cies of opinion that Captain Francis would be the fittest person to undertake the duty, both on account of his being at hand, as well as in consequence of his experience in training Mountain passes, and they would be glad if the Chief Engineer could make arrangements to detach him on the service, without the least impediment to the general duties of the District.

With his letter of the 8th Instant, above recorded, the Chief Engineer submits, with reference to paras 2 of the orders of Government of the 20th March preceding, a report from the Superintending Engineer Southern Circle, and a letter from Captain Frances, regarding the road traced by the latter on the Eastern side of the Neilgherries. Major Lawford reports that no competent officer is at present available in the Coimbatore District to make the detailed survey and estimate of this road, as required by the orders of Government, and the Chief Engineer suggests that, under the circumstances represented, the necessary investigations may be postponed, until an officer can be found for the duty. In the meanwhile, he recommends that (5000) five thousand Rupees may be granted for widening the trace, which is represented to be all but obliterated; and as the results of much labor and examination are thus

thus likely to be altogether
lost the Government sanc-
tion the required amount
out of the one Loc. fund.

JR

9 Copies to the Chief Eng.
with the Ins of the Jan/Feb
both 6 Encls.
Desp. 18

2 — Consulting Engrs
for Railways

Exhibits: 24 March/57 No 30 ...

Public Works 1857 Depth.
Do to Nos 23rd June

No 1178

Extract Minis. of Cons.
of 17th June/57.
Ex from Exec Min. of 22nd July 1854
Con. No 1491 Min Cons: 14 July.

Requesting the Chargé to ascertain the practicability of carrying a rail up the Common Quay & reporting that if it is feasible to prepare an approximate estimate of its cost & to consider whether it will be necessary to construct a first Class road on the Francis shore, directing that if Francis be detached to answer to be the debt of Sandy 5000 Rs out of the annual fund for rebuilding Quays &c on the eastern side of the Island.

No 17 at 19.

6th June R10th