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MADRAS RECORD OFFICE

GOVERNMENT OF MADRAS

.....RW.....DEPARTMENT

G.O. No.	41	Press
B.P. No.		Mis.
Dated	6. 8. 1873	196 .

Not to be folded or roughly handled

No. 483. Read the following endorsement of the Chief Secretary, dated 4th July 1873.—

From G. A. BALLARD, Esq., Resident in Travancore and Cochin, to the Honourable W. HUDLESTON, Chief Secretary to Government, Fort St. George, dated Trevandrum, 30th June 1873. No. 54.

I HAVE the honour to forward, for the information of Government, copies of certain correspondence regarding the road across the Peermade plateau to the head of the Goodaloor Ghaut. The Government will, I believe, peruse with interest Mr. Barton's clear description of the road over the hills, and observe with satisfaction the prompt measures taken by the Travancore Government to push forward this important line of communication.

2. It will be seen that the Travancore Government have no need of the assistance of the Madras Engineers, but that the Sirkar is not the less obliged for the assistance kindly proffered.

3. Mr. Barton submits some explanatory remarks on certain points noted by Major Farewell regarding the Peermade Ghaut, etc.

4. Information is requested as to the site of the bungalow immediately intended for the use of Departmental Officers, but to be subsequently converted into a traveller's "rest-house."

From G. A. BALLARD, Esq., Resident in Travancore and Cochin, to A. SASHIAH SASTRI, Diwan of Travancore, dated Trevandrum, 1st April 1873, No. 237.

I HAVE the honour to invite attention to the letters noted, and to request the information called for at your early convenience.

To Diwan Peishcar in charge, No. 855, dated 12th Nov. 1872.
To do. do. " 884, " 21st " "
To Diwan of Travancore " 936, " 23rd Dec. "
To do. do. " 89, " 1st Feb. 1873.
* Proceedings of Govt., No. 799, dated 13th March 1873.

2. I have just received the communication noted * which I request may be returned to me after perusal by you and the Chief Engineer.

3. I observe by Mr. Barton's letter to you, dated 17th ultimo, No. 1,105, that owing to the death of Mr. Summers, Mr. Valentine, who would otherwise have been employed by this time in tracing the road as far as the Perryaur, has been sent to the Warkallay works.

4. I gather that the Madras Engineers are working the ghaut and road from its head to Goodaloor Tavalum, and if a Travancore Officer is not likely to be able to be deputed for the trace from the Perryaur to Goodaloor Tavalum before long it might be desirable to ascertain if the officer in charge of the work at Goodaloor Tavalum could undertake tracing and opening to the Perryaur.

5. The Chief Engineer should be consulted. If necessary, I shall be happy to address the Madras Government on the subject.

From A. SASHIAH SASTRI, Diwan of Travancore, to G. A. BALLARD, Esq., British Resident of Travancore, etc., etc., dated Trevandrum, 23rd June 1873, No. 2,489/P. W. 669

REFERRING to correspondence noted at foot, I have the honour to forward herewith, for your information, copies of letters as per margin,

From Chief Engineer, No. B. M., dated 26th May 1873.
To do. " 2,471, " 23rd June "

from which you will observe that Mr. Barton will soon be in a position to arrange for continuing the road from Peermade down to the frontier at Goodaloor, and though we have now no

occasion to avail ourselves of the services nevertheless not the less obliged to them for

2. I beg to draw your attention to Mr. Farewell's report, which perhaps you may

3. I shall be obliged for definite information

* Referred to in paragraph 24 of Colonel Farewell's Report, printed in the Proceedings of Government No. 793, dated 13th March 1873, (herewith returned)

information with a view to determine the site for

From Resident, to Di-

To do. from

From do. to

officers on the British side, this Government is assistance so kindly proffered.

on's observations on certain points of Colonel's to communicate to the Madras Government.

as to the site for the location of the bungalow immediately intended for the use of Departmental Officers, but to be subsequently converted

into a traveller's Rest-house. I seek this information on our own side.

No. 237, dated 1st April 1873.

„ 1,488, „ 5th

„ 265, „ 12th

Extract from a letter from the Chief Engineer, to the Diwan of Travancore, No. B. M., dated 26th May 1873.

I HAVE the honour to acknowledge receipt of your No. 1,489, of the 5th ultimo, and enclosures, and for the information and further orders of His Highness' Government, to report as follows.

2. I have just returned from my inspection of the road in progress between this and Goodaloor Tavalam and the ghaut works in progress in the British territories.

3. In the Diwan's letter, No. 5,246, of the 12th December 1871, a preliminary sanction was accorded for constructing the road from Peermade to Goodaloor, taken approximately at 16 miles in length, and at the rate of 800 Rupees per mile, or a total amount of 14,720 Rupees. During the remaining portion of that working season the first section of the line to Wespidingy 8½ miles was commenced, the road being opened to full 14 feet in width, and an attempt was made to carry on the trace down to the Perryaur, a work of considerable difficulty owing to the precipitous, rocky and broken character of the intervening country. The first and second trial lines both failed, but the surveys of the country beyond the Perryaur to Goodaloor were completed.

4. Last season, having no establishment which could be made available for the duty without suspending executive works, I undertook the duty of completing the trace myself, and assisted only by Assistant Overseer Renganathen, and greatly by the experience gained in the last year, carried the trace down to the Perryaur and commenced the work of actual road-making.

5. The distance of the new road from Peermade (or the 45th mile from Cottayam) to the Perryaur river is 14½ miles, and excluding the cutting of the catch-drains, the whole of the earthwork on this section may be said to be completed; a good deal of rock has also been removed by blasting between Peermade and Wespidingy, and that section, with the exception of one very bad spot near the Araday river, has been made passable for carts though not completed. The expenditure up to date is 8,000 Rupees, or, including outstanding balances due to petty contractors for works in progress or completed, Rupees 9,000; the sanction for these fourteen miles would be 13,340, leaving, therefore, a balance of 4,340 Rupees still available.

6. Now, however, that we come to open the hill sides and see the amount of the rock met with, it is clear that 800 Rupees per mile will barely suffice even to open the line throughout with a clear passage for carts; however, before submitting a regular estimate for completing the road to the Perryaur, I recommend that the balance available should be expended, which will enable a more reliable estimate to be prepared than can at present with any amount of care in measurement be arrived at.

7. His Highness' sanction should, I think, be accorded to the original sanction of 14,720 being expended entirely on the section between Peermade and the Perryaur, after which further work should cease. For that expenditure I am of opinion that the line may be practicable and safe for cart traffic, though not completed in the same manner as the ghaut on the British side, which is being worked out, as far as I can at present learn, on an estimate of between 5,000 and 6,000 Rupees per mile.

8. The section from the Perryaur to the front nine miles; its length by the new route may be put down with existing surveys and the determination of certain points which I have been able to fix during this last tour, the tracing will occupy a very short time, a month at most, but it should be done as early as practicable. The jungles are now mostly healthy, in fact are looked upon as deadly, but in July the tracing might be done, and a qualified officer (Mr. Valentine, for instance,) should be detached for the duty, the road construction taken in hand as fast as the trace between certain fixed points is completed.

9. I propose to ask for a new sanction or

or commencement of the British road, is 7½ nine miles: this has yet to be traced; but points which I have been able to fix during a month at most, but it should be done as early as practicable. The jungles are now mostly healthy, in fact are looked upon as deadly, but in July the tracing might be done, and a qualified officer (Mr. Valentine, for instance,) should be detached for the duty, the road construction taken in hand as fast as the trace between certain fixed points is completed.

ion (between the Perryaur and the frontier).

	RS.
Nine miles at 1,000 Rupees per mile	9,000
Formation of camps and cooly lines	500
Construction of a tank or reservoir at Wespidingy, the chief halting ground on the road	1,000
	10,500
Extra Establishment and Contingencies	1,625
	12,125

It is not likely that much of this sanction can be utilized in the current year; it will of course find its proper place in next year's Budget, but it is desirable, to prevent any possible delay, that sanction should be accorded at once to its expenditure, that petty contracts may be formed and every arrangement made for commencing work as soon as the season will permit.

10. I do not think anything will be gained by submitting to the Sirkar with this report the surveys and sections of the Peermade plateau, but it may be interesting to note some particulars of the country traversed, viz., from Peermade to Goodaloor Tavalum.

11. The present track is eighteen miles in length; it is passable for bullocks only; there are some places where it can be likened only to long flights of very rough steps, and others where the passage is so narrow that only one bullock at a time can pass.

12. Three considerable streams have to be crossed en route, the Araday, the Pambanar, and the Perryaur.

13. Between Peermade and Wespidingy the country is open, very undulating, but very picturesque, and although wet and cold for six months in the twelve, is healthy all the year round.

14. From Wespidingy the descent into the Perryaur of 1,050 feet occurs, and between it and Goodaloor Tavalum the features of the country entirely change. Dense impenetrable jungle is met with the greater part of the distance, and for several months in the year, from April to July, the whole district is dangerously unhealthy.

15. With the exception of a coffee estate on the banks of the Perryaur there is not a vestige of civilization or recent cultivation along the line; not a village or even a hut is met with.

To illustrate the severe undulations of the country, I note the particulars of the present route:—

From Peermade to the Araday River.	
Ascent.	Descent.
250	450
From the Araday to the Perryaur River.	
Ascent.	Descent.
1,200	1,100
From the Perryaur to Goodaloor.	
Ascent.	Descent.
1,450	1,150

which is equivalent to ascending a ghaut 2,900 feet high going to Goodaloor, 3,350 feet coming from it. Goodaloor being actually only 450 below Peermade.

16. By the new road the distance will be greater than the old route, 23 miles against 18 miles, but the undulations will be very greatly reduced; still, owing to the natural features of the country, they will be considerable.

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17. For comparison with the old route I note as follows:—

From Peermade to the Araday.

Ascent.	Descent.
100 feet.	300

From Araday to the Perryaur.

Ascent.	Descent.
500	1,050

From the Perryaur to Goodaloor Tavalam.

Ascent.	Descent.
550	250

Total ascent... 1,150 Total descent... 1,600

or a saving over the old route of 1,750 + 1,750 = 3,500 feet of what is called reverse gradient.

18. That the best has been done which can be done for the new line will be under when I mention that the crossing of the Araday and of the Perryaur are fixed points, and that only two ridges crossed by the new road will be those which form the water-shed between Araday and Pambanar west of the Perryaur and of the Perryaur and Goodaloor east of the Perryaur.

19. I fixed the ruling gradient at 1 in 20, but in the descent into the Perryaur for a distance, to save very heavy rock blasting, 1 in 16 has been adopted. One in 20 may, however, be taken to be practically the ruling gradient, and of this there will not be more than six miles detached sections; the rest of the road having easier and in many places inappreciable gradient.

20. In your letter under reply you allude to an offer which has been made by the Engineers to render us assistance in completing the section of the road now reported upon. I am extremely civil on the part of Colonel Roberts to make the offer, and, as the Engineer-in-Chief's Government, I have already tendered him my individual thanks, but I think there be no question on any side that it would be desirable to do the work ourselves if possible, believe it is possible if the following arrangements are sanctioned:—

28. I think it is right His Highness' Government should know that on the British side, although the work there bears no comparison in point of magnitude and difficulty of construction with the work on the Travancore side—the ghaut and approach from Cumbum being less than ten miles in length, the ghaut itself only four miles in length, and with a rise of about 1,200 feet, equal, in fact, only to one of the ghauts which occurs on the Travancore side, viz., the descent of the Perryaur—a Special Assistant Engineer with Overseers is allowed for supervision. The establishment of the Travancore Department Public Works is limited, and therefore I cannot put to put such a supervising establishment on my works, but I think we shall nevertheless, with the arrangements proposed, get through the work creditably.

29. Mention is made in paragraph 24 of Colonel Farewell's report* of the construction of a traveller's bungalow on the Goodaloor Ghaut; it would seem desirable to obtain information on this point with a view to determining where to locate the traveller's bungalow must be constructed on the Travancore side. At present the nearest bungalow on this line will be Mondeleyaur, at the foot of the Peermade ghaut, and distant thirty-eight miles from the Goodaloor Ghaut.

32. It seems desirable to reply to one or two notes in Colonel Farewell's report. Paragraph 2—He alludes to some of the gradients on the Cottyam and Moondakayom road being steep and improvable. This applies chiefly to the section west of and close to Canjerapully; it has been intended to alter this, and it will probably be best effected by the projected line south of the present road, which will have a branch to Sherwully and the river side and water communication at Coonumpaugum; instructions for tracing this were given to Mr. D'Abedojuhl last year.

33. Colonel Farewell also alludes to some of the slopes on the ghaut not having been cut out; there are but two of these places, one about 300 yards in length, the other about 100 feet

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They do not affect free traffic, and with regard to widening the ghaut in those one or two places, wherefrom the extremely precipitous face of the bank along which the road is carried bare 14 feet has been obtained, I would rather advocate a proper arrangement of "turns out" than incurring the heavy cost of widening.

34. Paragraph 4.—He alludes to bridging Perryaur. This is not contemplated; such a work would probably cost 50,000 or 60,000 Rupees and a causeway in the dry, and a jungar in the wet, season will, I think, suffice at present. Perhaps, when the grand Perryaur Irrigation Project is completed, and the waters of the Perryaur divided, a low level bridge capable of passing under it the moderate volume of flood water which will then occupy the bed may be constructed with advantage.

(True Extract.)

(Signed) G. A. BALLARD,
Resident.

TRANSFERRED to the Department Public Works.

(Signed) W. HUDLESTON,
Chief Secretary.

No. 484. ORDER THEREON, 31st July 1873, No. 1,916.

CIVIL WORKS, No. 28.

His Excellency the Governor in Council has perused with interest Mr. Barton's description of the road in progress across the Peermade plateau to the head of the Goodaloor Ghaut, and desires that it be recorded as completing the previous report on the same subject made by Lieutenant-Colonel Farewell, and recorded with G. O., No. 799, of 13th March.

2. It is noted that the Chief Engineer of Travancore has proposed to that Government that the services of a competent Assistant Engineer should be made available in the current month for tracing the 7½ miles yet untouched between the Perryaur crossing and the Goodaloor Ghaut; and that he anticipates it will take him only a month to lay out the track. Immediately after which he proposes that the construction of the road be taken in hand on a sanction of Rupees 12,125. But he adds that not much of that amount is likely to be utilized in the current year, which is a matter of disappointment to the Government of Madras, whose allotment of the current year for the Goodaloor Ghaut Works is Rupees 40,000, with which it is expected that the line will be opened for cart traffic to the Goodaloor Tavalum in the present working season. His Excellency the Governor in Council trusts that at least the earthworks of the line between the Tavalum and Perryaur crossing will be completed this year, and the new line made practicable for horsemen and loaded bullocks.

3. The site of the intended bungalow will be immediately above the head of the new Goodaloor Ghaut.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Resident in Travancore and Cochin.

„ District Engineer, Madura.

„ Inspecting Engineer for Ports and Communications.

„ Revenue Department.

Exd. S. T. Austin.

20 Spare Copies.

Conf'd to the Board
of Revenue
6 Aug 73

Rev 1873 Sept
N. 2346

Sob. of {1873} Madras.

PUBLIC WORKS.

To

THE RESIDENT IN TRAVANCORE,

AND COCHIN.

&c. &c. &c.

Dated *10th* 31st.

Recd 5 August 1873

Recd.

G. O., 31st July 1873. No. 1,213.

Recd JULY

Nos. 483-484

Road.—Passing orders on letter from the Resident in Travancore and Cochin forwarding copies of correspondence relating to the road in progress across the Peermade plateau to the head of the Goodaloor Ghaut, and requesting information as to the site of the proposed bungalow.

With Order

5 Aug/73 N. 484