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(3) Initials of the Referencer \_\_\_\_\_

## MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

|          |         |       |
|----------|---------|-------|
| G.O. No. | 808     | Press |
|          |         | Mis.  |
| 1954/6   |         |       |
| Dated    | 21-3-18 | 1871  |

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,  
21st March 1872.*

No. 495. Read the following letter from the Secretary to the Government of India, Public Works Department, (Railway,) to the Secretary to the Government of Madras, in the Public Works Department, Railway Branch, dated Fort William, 2nd March 1872, No. 325-G. R. :—

I AM directed to acknowledge the receipt of your letters No. 3,069, dated 5th December 1871, No. 3,082, dated 6th December 1871, No. 3,099, dated 8th December 1871, No. 153, dated 17th January 1872, and No. 180, dated 22nd January 1872, forwarding a project for the extensions of the Great Southern of India Railway from Trichinopoly to Tuticorin and Tinnevely, together with a copy of the Consulting Engineer's Report, and an expression of the views of the Madras Government on the whole subject.

2. In reply, I am directed to express the satisfaction of the Governor-General in Council at the completeness of the surveys, plans, and estimates which have been prepared by the Chief Engineer of the Company, and ably scrutinized by the Consulting Engineer. The scheme has been submitted to the Government of India in an unusually lucid and satisfactory manner, entirely in accordance with their wishes, and I am desired to request that the thanks of the Governor-General in Council may be conveyed to Major Prendergast and Mr. Logan.

3. The Government of India approve of the alignment of the railway generally from Trichinopoly to Muniachee, and thence to Tinnevely and Tuticorin, and prefer the alternative line between Vinduputty and Covilputty, and the approach to the town of Tinnevely which have been recommended by the Madras Government.

4. The modifications in the project which have been suggested by the Consulting Engineer are, broadly, eleven in number—

- (1).—To substitute 70 for 50 feet spans in the bridging of the Vypar and Vigay rivers.
- (2).—To provide floorings with retaining walls for such bridges as may need them, which the Madras Government would define to be all bridges in which the foundations of the piers and abutments are not laid on rock.
- (3).—To adhere to the standard formation width of 12 feet, instead of increasing it to 16 feet.
- (4).—The adoption of a weight of 45 lbs. of rail to the yard, instead of the standard weight of 36 lbs., to be made dependent on the opinion of the Consulting Engineer to the Railway Company in England.
- (5).—To reduce the total length of wire-fencing from one-half to one-fourth of the length of the line.
- (6).—To substitute a corrugated zinc roof for an iron roof over the passenger platforms at the terminal stations, and to provide a carriage shed of small span.
- (7).—To reduce the height of the walls of the engine sheds, of the width of the porticoes outside the Booking Office, and of the length of platform at all but the terminal junction and large stations.
- (8).—To adopt a simpler and cheaper style of accommodation for Station Masters in third-class stations.

- (9).—To reduce the height of the walls of the enclosures of latrines for natives, and to dispense with the roof for the space within the walls.
- (10).—To provide one instead of two water-cranes at each third-class station, and to dispense with fencing in the approaches at level-crossings, except where they are embanked.
- (11).—To construct temporary bungalows, for the accommodation of Engineers during construction, in preference to locating them in the Station Masters' bungalows, which it is proposed to build at first.

I am to observe that, as regards Nos. 5, 6, 8, 9, 10 and 11, the Government of India believe that it will conduce to economy if the works be reduced and omitted, as proposed, for the present, and I am to forward, for information, copies of some type drawings for the State Railways, which show the views of the Government of India.

5. Major Prendergast has not fully recorded his reasons for desiring to substitute spans of 70 feet for those of 50 feet for the Vypar and Vigay rivers, and a reference to the details of the quantities has led to some doubt whether the smaller openings might not be economically adopted. On full consideration, however, of the character of these rivers, and of the damage which has been already sustained during the floods of the Vypar, His Excellency the Governor-General in Council believes that spans of 70 feet will be safer than those of 50 feet, and therefore orders their introduction. In other places also where the rivers are passed obliquely, and the piers consequently contain more masonry than at square crossings, the spans may be considerably increased, and the number of piers proportionately reduced, with advantage. The estimated weights of the girders, whether large or small, is above the weight which has been hitherto found necessary, and I am to request that the girders may be designed by the Consulting Engineer to the Company in England, on an indent from this country showing the number of spans required.

6. The table of data, on which Mr. Logan has calculated the waterway, shows some discrepancies which local knowledge alone can explain. The Chief Engineer is not confident that his proposals are correct, and intends to review his own proposals as occasion requires. There is undoubtedly sound reason for the apprehensions, which have been felt by the Consulting Engineer, for, so far as figures are to be accepted, the total waterway of the larger bridges, namely, 8,070 lineal feet, is small when compared with the sum of all the drainage basins, and the designs do not provide for deep foundations.

7. With reference to the protection works to be adopted in the case of bridge openings when the piers and abutments are not founded on rock, the Government of India believe that every precaution should be strictly observed. Three bridges on the Madras Railway have been undermined, owing to the want of masonry floors, during the last two years, if the Cheyann bridge be included in the number.

Two certainly owed their destruction to this cause, one on the Bangalore Line, the other on the branch to Bellary. The sandy nature of the beds of the rivers is a source of so great danger that His Excellency in Council considers that all bridges, in which the foundations are not laid in rock, shall be provided with inverts or floors.

8. On consideration of the nature of the soil and of the Chief Engineer's opinions, the Government of India do not insist on adherence to a top width of embankment of 12 feet in every case, and, wherever the Chief Engineer may consider it to be necessary, the width may be increased to 14 feet, and the cost will be covered by the sum set down for contingencies.

9. The weight of the rail should be 20 kilograms to the metre or the same as has been lately ordered for the State Railways. If the Chief Engineer can lay down an efficient iron road for the same price as the road with cross-tied cross-sleepers, the Government of India will not object. Wire-fencing for one-fourth of the line should be ordered as recommended. The retrenchments shown in Major Prendergast's statement of savings and additional expenditure, dated 11th October 1871, are adopted, with the exception that the length of platforms will be left as they were designed.

10. The Government of India concur with the Consulting Engineer in thinking that too high a rate has been named for masonry, but this opportunity is taken to impress on the Railway Company the extreme importance of having thoroughly sound, durable, workmanship and materials in all the underworks of the railway.

11. The general station arrangements have been discussed at length by the Consulting Engineer, who has recommended slight reductions, but the designs for goods shed and passenger stations are too costly, and these reductions appear to the Government of India to be insufficient. It is thought that Rupees 4,000 per mile for such works should suffice, as it is always easy, and generally cheaper, to complete station works after, instead of before, the opening of the line to traffic. The plans which have been sent up do not, even approximately, show how it is proposed to work the traffic at Trichinopoly, and no sanction for these works can be given until the junction arrangements are explained. There is already one station at Trichinopoly, and the Government of India desire to know in what way this station may be made use of for the Southern Extensions.

12. The telegraph will be erected by Government on the same terms as were agreed to for the Oudh and Rohilkhand Railway, and the provision under this head is removed from the estimate for works, but some expenditure for establishment must be incurred, as the telegraph servants for working the lines must be paid by the Company.

13. The Madras Government have not noticed the estimate for vehicle and engine stock, which amounts to Rupees 14,11,080. The numbers of engines and vehicles which are enumerated in the table which has been furnished by the Locomotive Superintendent, Great Southern of India Railway, are sanctioned, but the prices are, it is believed, far beyond those which will be found sufficient, and two lakhs of rupees are struck off the estimate on this account.

14. The carefully prepared list of establishment is also approved, so far as rates and numbers go, but it should not be taken for granted that construction will be going on for two and a half years over the whole line. Probably the greater part of the railway will be finished much before the end of that period. The estimate is therefore reduced by 2½ lakhs, and it must be understood that the sum sanctioned will cover charges for Telegraph Subordinates as well as the Engineering and other Staff.

Proceedings of the Madras Government, Public Works Department  
21st March 1872.

15. The whole estimate now sanctioned stands as under:—

|                                                          |           |
|----------------------------------------------------------|-----------|
| I.—Preliminary expenses                                  | Rs.       |
| II.—Land                                                 | 2,40,500  |
| III.—Construction of line                                | 50,00,000 |
| IV.—Ballast and permanent-way                            | 53,25,000 |
| V.—Stations and buildings, 215 1/2 miles at Rupees 4,000 | 8,63,000  |
| VI.—Electric Telegraph                                   |           |
| VII.—Plant                                               | 4,50,500  |
| VIII.—Rolling-stock                                      | 10,82,800 |
| IX.—Maintenance                                          | 3,88,400  |
| X.—Establishment                                         | 9,87,000  |
| XI.—Contingencies                                        | 1,00,800  |
|                                                          | 91,50,000 |

16. This authorization is recorded in this Office as No. 46 M. R. of 1871-72.

No. 496.

ORDER THEREON, 21st March 1872, No. 803.

RAILWAY, No. 77.

5th December 1871, No. 3,068.  
6th " " " 3,081.  
8th " " " 3,098.  
17th January 1872, " 152.  
22nd " " " 179.

Communicated to the Consulting Engineer for Railways with reference to the orders marginally noted. Major Prendergast will communicate to Mr. Logan and accept himself the thanks conveyed by the Governor-General in Council in paragraph 2.

2. The attention of the Railway

Agent should be drawn to the instructions and observations in paragraphs 5 to 14, and a report on the arrangements proposed for working the traffic at the Trichinopoly junction should be submitted with reference to paragraph 11.

(True Extract.)

(Signed) J. CARPENDALE, Colonel, R.E.,

Secretary to Government.

To the Acting Consulting Engineer for Railways.  
" Editor's Table.

Exd. E. C. Shunker.

Public Works Department  
No 803

Proceedings of the Madras Government

Under date the 21st March 1872.

Read the following

From the Govt. of India  
and  
Railway

H.E. No 320 G. R. 7/2 1/2 March 72

A/A

BD

\* 5th Dec 1871 No 3068  
8th Dec " " 3081  
8th " " " 3098  
17th Jan 1872 " 152  
22nd " " " 179

MA

Communicated to the Consulting Engineer for Railways with reference to the orders marginally noted. Major Prendergast will communicate to Mr. Logan and accept himself the thanks conveyed by the Governor-General in Council in

in Para 2.

The attention  
the Railway Agent  
should be drawn to  
the instructions and  
observations in Paras  
5 to 14 and a report  
on the arrangements  
proposed for working  
the traffic at the  
Lutetia junction  
should be submitted  
with reference to Para

11.

13<sup>th</sup>  
1872

M. L. Duff 21-3-72  
P.C. 27/3/72  
To The Comd Engr  
for Railways  
Calcutta

in Para 2.

The attention  
the Railway Agent  
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Trichinopoly junction  
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with reference to Para  
11.

Max. 13<sup>th</sup>

0/12/72

Govt. of Madras.

PUBLIC WORKS.

The Asst. Consulting Engineer  
for Railways

21<sup>st</sup> Decr 803.

No. 495 & 496

Extensions. Letter from  
the Govt. of India asking  
orders on the project  
for the extension of the  
L. & S. Ry from Trichin-  
opoly to Patacarin and  
Paimoreddy, Com<sup>d</sup> to  
come for Rys into  
instructions.