M.R.O. 1—10,006—28-2-50.

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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	1573	Press
~~B.P. No.~~ 266-267	(Rly)	~~Mis.~~
Dated	13-6-1874	~~195~~ .

Not to be folded or roughly handled

No. 266. Read the following letter from Major C. H. LUARD, R.E., Officiating Under Secretary to the Government of India, Public Works Department, (Railway,) to Colonel G. W. WALKER, R.E., Secretary to the Government of Madras, Public Works Department, (Railway,) dated Fort William, 21st May 1874, No. 1,109-R:—

I AM directed to acknowledge the receipt of your letter, No. 1,054, dated 24th April 1874, regarding the relative advantages of laying the line between Palghaut and Beypore on the Madras Railway with creosoted pine instead of cast-iron sleepers.

2. The Consulting Engineer for Railways thinks that by the adoption of pine sleepers a saving will ultimately result to the Company, and recommends the renewal of the whole line from Palghaut westward with them. The Railway Company on the other hand assuming the life of iron bowl sleepers at 50 years and wood at 10 years estimate that a large loss would ultimately result by using the latter.

3. In connection with this subject, I am to forward, for information, a report by Sir John Hawkshaw, Consulting Engineer in England to the Eastern Bengal Railway Company, and a memorandum prepared in this office, and to inquire whether there is reliable information from actual experience for fixing the life of an iron bowl sleeper road at 50 years, whether that includes all breakages in transit and handling, or whether that is the estimated life after the sleepers have been put into the road; also if the sale of all iron chairs, bowls, etc., at Rupees 30 per ton can be fairly calculated on, and whether any such old iron has been sold at that price.

Copy of a Report from the Consulting Engineer, Sir JOHN HAWKSHAW, to the Secretary of the Eastern Bengal Railway Company, dated 24th March 1874.

I BEG to report on your letter of the 12th ultimo, with enclosure, relating to the decay of wood sleepers.

2. It appears from Mr. Benedict's letter, dated 1st November, that there have been 255,020 sleepers laid down on the main line, of which 51,711 have been renewed, and he is of opinion that the whole of the remainder, viz., 203,309, will have to be renewed within the next twenty-four months.

3. Surprise has been expressed that so many sleepers should require renewal at about the same time. It is true, as a rule, that such does not happen.

4. It only shows that the sleepers have been of a generally uniform quality, and that they have been good is shown, I think, from the fact that they will last on an average about twelve years; and it may be taken that the average life of the best creosoted sleepers in India on a railway like the Eastern Bengal is about that time.

5. From the fact that so many sleepers will be required in the next two years, I have thought it right to investigate the comparative cost of a road laid with iron bowl sleepers and with creosoted wood sleepers.

6. The estimate is as follows, at present prices —

		£	d
Iron Sleeper Road	*Delivered in Calcutta*		
	2 Bowl sleepers, 92 lbs. each	13	0
	1 Wrought-iron Tie Bar, 31½ lbs.	4	8
	2 Cotters = 44 lbs. at 1½	0	3
	Say 18s. 0d.	17	11
	∴ 1,584 at 18s. 0d. = say £1,425 per mile		
Creosoted Wood Sleeper Road.	1 Creosoted Wood Sleeper	8	0
	2 Cotters, 2½ lbs. each	5	0
	4 Fang bolts and nuts, 2½ lbs. each	2	1
	Say 15s. 0d.	15	1
	∴ 1,584 at 15s. 0d. = £1,188 per mile.		

7. It therefore appears that, assuming those cotters and fang bolts can be used again, the cost of an iron sleeper road at present prices is about £237 per mile more than a creosoted wood sleeper road.

8. The average life of iron sleepers ought to be taken that of creosoted wood sleepers.

9. Probably, however, the present chairs can be used again, as a great number of them In the absence of information on this head, I am unable to state their exact value as it affects the the present renewals of the Eastern Bengal Railway, but with the estimates before them the Officers in India will be able to judge whether it would or would not be desirable to send out a supply of bowl sleepers, so that some of the renewals may be made with them. In this they will be guided to a great degree by the extent to which the bowl sleepers already sent out have answered.

10. In arriving at the comparative value of wood and iron, it must not be forgotten that an iron sleeper has value after it is no longer serviceable for the road, whilst a wood sleeper is of comparatively little value.

11. Probably, however, in India, old iron would be less valuable than in England, where it can more readily be disposed of to be remanufactured.

Memorandum prepared in the Public Works Department on relative advantages of fir and the line between Pulghaut and Beypore with creosoted pine instead of cast iron sleepers.

Taking Colonel Stewart's figures and instead of 30 years giving the iron road only 25 years life. Taking Colonel Stewart's weight of iron in the sleeper road, Sir J. Hawkshaw's of that in iron road and crediting the account with the value at the end of life of iron road —

Wood road, life 10 years.

Cost per mile			£
Interest at 5 per cent.			2,534
Renewals at 1½ per cent.		380	
		754	
	Annual charge ..		1,134

Iron road, life 25 years.

Cost per mile, less chairs, etc., in hand			16,129
Interest at 5 per cent.		806	
Renewals at ½ per cent.		698	
	Annual charge ..		1,504

Iron road, life 25 years.—(Concluded.)	Rs.
Difference in favour of sleeper road	373
For 25 years, 373 × 25 = ...	9,375
Credit sales of iron, 35 tons per mile, at Rs. 30 per ton for 79¼ miles = ...	83,212
	92,587
Sale of iron road, 103 tons per mile, at Rs. 30 per ton for 79¼ miles ..	2,44,882
In favour of iron road at end of life	1,52,295

No. 267. ORDER THEREON, 13th June 1874, No. 1,573.

RAILWAY, No. 46.

COMMUNICATED to the Consulting Engineer for Railways in continuation of No. 1,053 of 24th April 1874, and with a request that he will, in communication with the Railway Authorities, furnish information on the several points on which it is sought by the Government of India.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Consulting Engineer for Railways.

Exd. E. C. Shunker.
Spare Copies

Pub: Works 1874 Dept.
No: 3261.

Fino

The Govt: of India

Dated 21st May 1874
Received 1st June 1874.

No: 1109 R.

Encld 2

Regarding the proposed relaying of a portion of the Madras Railway with creosoted pine sleepers & forwarding correspondence relative to the advantage of pine over iron sleepers & requesting a further report upon the subject.

Comm'd to Council of 15th 1873

In Continuation of P.D. No 1053 of 24th April 1874 and with a request that the Government will communicate with the Railway authorities the renewal of which will be required

Thanks Public Works Dept. 20 June 1874

Public Works Dept. 1874

82615

Govt. of 1187-8 Madras.

PUBLIC WORKS.

To Secretary to Govt.
Public Works Dept.

Dated 15th June 1874.

Rec'd 2. 1573.

Nos. 266-267.

Subject— Madras Railway

Letter from the Govt. of India regarding the proposed relaying with steel rails of the Madras Railway with recommendations for the adoption of steel sleepers and forwarding copies of correspondence relative to the advantages of steel over iron sleepers and requesting a further report upon the subject. Copies to the Engineer for his information.