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MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No.	2280	Press
368-369.		Mis.
Dated	26-9-	1892.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
26th September 1872.*

No. 368. Read the following Circular from the Government of India, Public Works Department, (Railway,) dated Simla, 3rd September 1872, No. 39 :—

Standard dimensions for Indian Railways.

READ—

Public Works Department Circular No. 35, Railway, dated the 1st August 1872.

Read also—

Memorandum by the Consulting Engineer to the Government of India for State Railways, dated the 8th August 1872.

OBSERVATIONS.—The curves on the main lines of Guaranteed Railways out of stations are, it is believed, nowhere of short radius, but in the curves within the stations it is possible that the body of a long carriage on a bogie frame when traversing a curve would approach too close to a fixed structure, and information on this question is required.

ORDER.—Ordered that this Resolution, together with the memorandum now read, be communicated to the Governments of Madras and Bombay in the Public Works Department, (Railway,) to the Chief Commissioner of the Central Provinces, and to the Resident at Hyderabad; also to the Consulting Engineers to the Government of India for Guaranteed Railways at Calcutta, Lahore, and Lucknow, for inquiry and report whether with a view to the possible introduction of longer carriages on bogie frames, it is considered desirable to modify the standard maximum dimensions for moving structures.

Ordered also that this Resolution be communicated to the Consulting Engineer to the Government of India for State Railways for information, with a request that he will state whether, in the case of State Railways, he would recommend a decrease in the maximum dimensions of moving structures, or an increase in the minimum dimensions of fixed structures; and to the Officers in charge of State Lines of Railway named in the margin, for information.

Officiating Chief Engineer, Punjab Northern State Railway.
Engineer-in-Chief, Indus Valley State Railway.
Superintending Engineer, Agra District, Rajpootana State Railway.
Do. do. Delhi District do. do.
Do. do. Holkar State Railway.

(Signed) H. DRUMMUND, Colonel, R.E.,
Offg. Deputy Secretary.

Memorandum by the Consulting Engineer to the Government of India for State Railways, dated 8th August 1872.

I THINK it desirable that the standard dimensions should have some reference to the curves on which the structures may be built, or to the length of wheel base and vehicle employed.

It appears to me not impossible that some of the instances to which reference has been made in the circular, may be attributable to the tendency that has arisen of late to increase the length of vehicles and to sharpen the radii of curves.

In the standard diagram for fixed structures, which I prepared a few weeks ago, I specified an increase in the lateral dimensions for curves of sharp radius, and I think that some rule of the sort should be introduced into the standard dimensions for all railways. The projection

Proceedings of the Madras Government, Public Works Department,

26th September 1872.

(beyond the ordinary dimensions on the straight) varies on curves as the difference of versed sine of the wheel base, and that of the total length of the carriage (except in extreme cases where the versed sine of the wheel base is greater than half the versed sine of the total length); it follows then that either an allowance must be made in the fixed structures on sharp curves to provide for long carriages, or that a diminution shall be made in the lateral dimensions of long carriages. Bogie carriages seem as yet to be but little used on Indian railways, but it is only prudent in fixing standard dimensions to provide against the contingency of their being largely used. The following table which I have prepared will show approximately the allowance necessary with curves of different radii, and vehicles of different length and wheel base.

Table showing increase of Projection in inches caused by different lengths of vehicle on curves of various radii.

LENGTH OF		RADIUS OF CURVE			
Carriage.	Wheel base.	1,500 feet.	1,000 feet.	600 feet.	300 feet.
Feet.	Feet.	Inches.	Inches.	Inches.	Inches.
15	8	1	24	4	3
20	11	3	42	7	14
30	16	6	97	16	32
40	26	9	14	23	46
60	40	20	30	50	100

The platforms of stations are frequently on curves of sharp radius.

The longest carriage I have taken in the foregoing table is the ordinary American bogie carriage, but I believe that some of Pulman's sleeping cars are considerably larger.

No. 369. ORDER THEREON, 26th September 1872, No. 2,280.

RAILWAY, No. 74.

Communicated to the Consulting Engineer for Railways for report.

(True Extract.)

Colonel, R.E.,

Secretary to Government.

To the Consulting Engineer for Railways.

Erd. S. T. Austin.

*Public Works 1872 Department
No. L. 4. 81*

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

RAILWAY.

To

CIRCULAR No. 39 RAILWAY.

Dated SIMLA, 3rd September 1872.

Received 13th do -

Enclosure 1

Under Secretary

22280

*Communicated to the Consulting
Engineer for Railways for report.*

J. H. [Signature]

Standard dimensions for Indian Railways.

*C.E. for R. 1
Recd 23/9/72*

C/4481

Govt. of Madras.

PUBLIC WORKS. ✓

To The Consulting Engineer for
Railways

Dated

Recd.

Encl.

G. O. 26th Sept. No. 2280.

Nos. 368-369

Standard dimensions
for Indian Railways.

Circular from the Govt.
India requesting certain
information respecting
the Standard Dimensions
for Indian Rygs., Encl.
to the Secy. for Govt.