Public Works (1896) Department.

SERIAL No. 32

G.O., No. 1035 R

DATED 11. December 1896

[Despatch Abstract.]

Cross girders of bridges of the S. I. Railway: Letter from the Govt of India forwarding with remarks a statement showing all — (other than those of 150 120 and 100 spans) which do not comply with the Govt of India Rules.

[P.W. 95. 5,000—30-11-96.]

Indexed.

17/12

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
	108K		19/2/97.				

No. 108

Public Works (1896) Department.

CURRENT No. 7847

Order

From The Govt of India

No. 377 R.S.

Dated 25. 8. 96.

Received 2. 9. 96

Enclosures

Spare copies

SUBJECT.

Cross girders of bridges of the S. I. Ry.

Requesting to be furnished with the further report on the strength of the ——— of other than 150, 120, & 100' spans over which certain 'C' class engines are used.

0539
0556

P. W. 49

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

W.K. 19

No. 377 R.S.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

Railway Stores.

All communications should be addressed to the Secretary.

To

The Joint Secretary to the Government of Madras,

Public Works Department, Railway Branch.

Simla, the 25th August 1896.

Sir,

S 2165/96 G

I am directed to invite attention to paragraph 3 of Government of India No. 140 R.S., dated 20th April 1896, and to request the favour of being furnished with the further report called for in Government of India No. 77 R.S., dated 27th February 1894, on the strength of the cross girders of bridges of the South Indian Railway of other than 150, 120, and 100 feet spans over which the O class engines of that line which infringe standard dimensions, are used.

I have the honour to be,

Sir,

Your most obedient servant,

Assistant Secretary.

Recd 25/8/96

Documents accompanying:-

Nil.

R.L.

SERIAL
No.

110

No 152 of 23 Sept 96.

To A.

Ack reply in 1123

Sir,

With ref to the accompanying copy of Govt. of India letter No. 377 RB. d 25/8/96 I ~~report~~ ~~statement~~ have the h. to say that a stat. of these girders was furnished by the Chief Engineer of your line to Mr. Hodson. together with an estimate A of the cost of strengthening all the girders in the line upto Govt. of India standard, and an abstract of calculations for the Whipple Murphy trussed girders.

2. But it appears from the D.O. correspondence that the calculations are based on the assumption that wind pressure is to be treated as a vertical load and that a further report is under preparation.

3. I should be glad if you will let me know as early as possible how the matter stands in order that I may reply fully to the Govt. of India letter.

H.H. 22/9

25/9/96

No. 152 / 0 of 23rd Sept 1896.

No. 111

Public Works (1896) Department.

CURRENT No. 9595

Order

From The Government of India, Public Works Department, Simla

No. 476 R.S.

Dated 16 } October 1896.
Received 24 }

Enclosures Nil

Spare copies .

SUBJECT.

Strength of certain Cross girders of bridges of S. I. Railway.

Enquiring when the further report called for in Govt of India No. 774 dated 27 Feby 1894 on the —— may be expected.

[P. W. 28.
1,000—4-9-96.]

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

No. 476 R.S.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

Railway Stores.

All communications should be addressed to the Secretary.

To

The Joint Secretary to the Government of Madras,
Public Works Department, Railway Branch.

Simla, the 16th October 1896.

Sir,

With reference to paragraph 3 of Government of India Public Works Department letter No.140 R.S., dated the 20th April 1896 and subsequent reminder, I am directed to enquire when the further report called for in Government of India letter No.77 R.S., dated the 27th February 1894 on the strength of the cross girders of bridges of the South Indian railway of other than 150, 120, and 100 feet spans, over which the "O" class engines of that line, which infringe standard dimensions, are used, may be expected.

I have the honour to be,

Sir,

Your most obedient servant,

Assistant Secretary.

Documents accompanying :-

Nil.

SERIAL

S. I. R.

Statement of Cross Girders of plate girders that are weak for "O" class Engines under Government of India Standard Rules.

Span of main girders		Number of Spans erected on the Railway	Iron or Steel	No. of Girders to each span	Area Req.d		Area available		—		Remarks
Span Ft.	Type				Top	Bottom	Top	Bottom	Top	Bottom	
10	B	81	Iron	5	4.76	4.76	2.97	3.59	1.79	1.17	The Cross girders will be Strengthened by drawing in the main girders to 6 ft centres
10	I	5	Do	5	4.74	4.74	3.58	3.76	1.16	.98	
12	B	20	Do	5	6.28	6.28	5.75	5.75	.53	.53	+
12	D	16	Do	5	4.76	4.76	2.97	3.59	1.79	1.17	——— Do ——— Do ——— Do ———
12	E	1	Do	5	4.77	4.77	4.32	4.32	.45	.45	+
12	F	14	Steel	5	3.70	3.70	3.58	3.76	.12	-	+ The Cross girders being weak only to a trifling extent will be left as they are.
15	C	6	Iron	5	6.26	6.26	5.75	5.75	.51	.51	——— Do ——— Do ——— Do ———
15	E	20	Do	5	4.69	4.69	2.97	3.59	1.72	1.10	The Cross girders will be Strengthened by drawing in the main girders
15	G	1	Do	2	4.69	4.69	a 2.97	3.59	1.72	1.10	——— Do ——— Do ——— Do ———
15	H	33	Steel	3	3.65	3.65	3.58	3.75	.07	-	
20	B	10	Iron	5	6.26	6.26	5.75	5.75	.51	.51	Cross girders being only a trifle weak will be left as they are
20	E	3	Do	6	2.79	2.79	2.13	2.63	.66	.16	Cross girders to be Strengthened by drawing in the main girders
20	F	72	Do	6	4.74	4.74	3.28	3.59	1.46	1.15	——— Do ——— Do ———
20	H	150	Steel	6	3.70	3.70	3.58	3.75	.12		
20	J	4	Iron	6	2.96	2.96	2.47	2.97	.49		Cross girders weak to a trifling degree to be left as they are
20	K	5	Steel	6	3.70	3.70	3.58	3.75	.12		
25	A	134	Iron	8	4.74	4.74	3.28	3.59	1.46	1.15	The Cross girders to be brought to Standard by raising on brackets so as to bring rail level to top of main girders & to draw in main girders
25	B	72	Steel	8	3.70	3.70	3.58	3.75	.12		
25	C	9	Do	8	3.70	3.70	3.58	3.75	.12		Practically up to Standard.
29	A	9	Iron	8	7.81	7.81	6.88	6.88	.93	.93	
30	A	12	Do	9	6.33	6.33	5.75	5.75	.58	.58	Are not much under Standard, propose to leave as they are
30	D	59	Do	9	2.79	2.79	1.97	2.47	.82	.32	Cross girders to be removed & replaced by Cross Sleepers.
40	A	28	Do	12	2.80	2.80	2.19	2.97	.61		Cross girders will be replaced by Cross Sleepers.
50	A	26	Do	11	6.34	6.34	5.75	5.75	.59	.59	Cross girders are only Slightly weak & can remain as they are.
50	D	2	Do	13	5.38	5.38	3.66	3.66	1.72	1.72	Cross girders require Strengthening

Note :- a = Rolled Iron girder
b = Built up girder

Comp'd 1/11/26
Copied
Ch. 23/11/26.

W. H. Spaeding
Chief Engineer

ENC. IN ... / ... 1332 OF 1896.
LETTER No. 1123 DATED 12-12-96
FROM .....

SERIAL No. 1271

No. 1123 South Indian Railway Co., Ld.

AGENT'S OFFICE,

TRICHINOPOLY, 5th Dec. 1896.

From

THE AGENT,
SOUTH INDIAN RAILWAY,

To

THE CONSULTING ENGINEER
FOR RAILWAYS,
MADRAS.

Sir,

With reference to your letter No. 152/O dated 23rd September 1896, I have the honor to point out that it is customary to neglect wind pressure in the case of cross girders, an assumption which would appear to be in accordance with the rules of the Government of India which prescribe only that its effect should be taken into account as forming a part of the stress of the chords of main girders. In the calculations already submitted, wind pressure has been neglected in the case of cross girders and treated as a vertical load in the case of main girders. Calculations are now in hand taking wind pressure as a lateral stress, but it will be some time before the work is finished. I enclose a statement received from the Chief Engineer showing all cross girders on this line other than those of the Whipple Murphy bridges, which do not comply with the rules (wind pressure being neglected) under the weight of the "O" class engine.

I have the honor to be
Sir
Your most obedient Servant

A.D.G. Shelley Captain R.E.
Agent

1 Enclosure M.P.S.

R. Form No. 12.

SERIAL No. 88 13

No. 1035 dd

Government of Madras.

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

To

The Secy. to the Govt. of India,

P. W. Department.

Calcutta

Madras, the 11th December 1896.

Sir,

in reply to your letter No. 476 RS d 16/10/96 I am directed to inform you that the matter has been under correspondence with the Agent S.I.R. Calculations are being made by the Agent S.I.R. forward copy of statt received from the chief Engineer of that R.y. showing all cross-girders on the line (other than those specified in your letter of 150, 120 and 109 span under ref) which do not comply with the Govt of India rules

2. In this statt wind-pressure

From

The Agent,

South Indian Railway,

Trichinopoly

To

The Consulting Engineer for

Railways,

Madras.

Dated

Received

189

No.

Enclosure.

has been refitted. Calculations are now in hand in which load-pressure is treated as a lateral stress but it will be seen time before these works finishes are completed

WF
9/12

WF
No 1035. R dated 11.12.96

Documents accompanying:-
Statement referred to