

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. & P. Railway: Letter
to the Govt of India for forwarding ^{with, Revenue Secy} a statement showing
all - (other than those of 150, 120 and 100 spans)
which do not comply with the Govt of India
rules.

17/12

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

Requesting to be
furnished with the
further reports on the
Strength of the _____
of other than 150, 120, +
100' spans over which
certain 'O' class engines
are used.

P. W. 19
100-5-8-20.

FURTHER PAPERS.

*All communications
should be addressed
to the Secretary.*

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

Railway Stores.

To

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

Simla, the 25th August 1896.

Sir,

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.

Documents accompanying:-

Nil.

R. L.

SERIAL
No.

No. 152 of 23 Sept/96.
0

To A. Ad reply in 1123

Sir, 5/12/96

with ref to the accompanying
copy of Govt. of India
letter No. 377 R.S. d 25/8/96 I
~~a report statement~~
have the h. today that a staff
of these jidus was furnished
D.O. of the Chief Engineer of
your line to Mr. Hodson.
together with an estimate^A of
the cost of strengthening all
the jidus in the line up to
Govt. of India standard, and
an abstract of calculation for
the Whipple Murphy ~~transverse~~ jidus.

2. But it appears from the D.O.
Correspondence that the cal-
culations 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 shall 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 -

Yds
23/9

Despatched on 23/9/96

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 G.O. of India no. 77/A
dated 27 Feb'y 1894 on
the — may be expected.

BACK PAPERS.

FURTHER PAPERS.

No. 476 R.S.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

Railway Stores.

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.

S. I. R.

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

Span of main girder - dees.	Span	Type	Number of spans erected on the railway	Iron or Steel	No. of girders to each span	Area reqd.		Area avail-able.				Remarks
						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
12	E	1		Do	5	4.77	4.77	4.32	4.32	.45	.45	The cross girders being weak only to a trifling extent will be left as they are.
12	F	14		Steel	5	3.70	3.70	3.58	3.76	.12		
15	C	6		Iron	5	6.26	6.26	5.75	5.75	.51	.51	
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	2.97	3.59	1.72	1.10	
15	H	33		Steel	5	3.65	3.65	3.58	3.75	.07	.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	
20	F	72		Do	6	4.74	4.74	3.28	3.59	1.46	1.15	Cross girders to be strengthened by drawing in the main girders
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	73		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	
40	A	28		Do	12	2.80	2.80	2.19	2.97	.61		Cross girders to be removed & replaced by Cross Sleepers.
50	A	26		Do	11	6.34	6.34	5.75	5.75	.59	.59	
50	D	2		Do	13	5.38	5.38	3.66	3.66	1.72	1.72	Cross girders will be replaced by Cross Sleepers.
												Cross girders are only slightly weak & can remain as they are.
												Cross girders require strengthening

Note:- a = Rolled iron girder
b = Built up girder.

W. Spalding
Chief Engineer

ENC. 1
LETTER 1123
FROM

5332 of 1896

No. 1123

South Indian Railway Co., Ltd.
AGENT'S OFFICE.

SERIAL
No. 1123

TRICHINOPOLY, 5th Decr 1896.

From

THE AGENT,

SOUTH INDIAN RAILWAY,

To

THE CONSULTING ENGINEER

FOR RAILWAYS,

MADRAS.

Sir,

With reference to your letter N^o 152 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^o class engine.

I have the honor to be,
Your most obedient servant

A. S. S. Shetty Captain
Agent

1 Enclosure M.S.

R. Form No. 12.

SERIAL
No. 32

113

No. 1035.2

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 R.B. d 16/10/96
I am directed to inform
you that the matter has
been under consideration
with the Agent S.I.R.
Calculations on being
made by the Agent S.I.R.
forward copy of a stat^t
received from the Chief
Engineer of that R.
showing all cross-riders
on the line (other than those
of 150, 120 and 100 spans
specified in your letter
under ref) which do not
comply with the Govt. of India
rules
2-2 This stat^t will be forwarded*



E
F

Dated
Received

ENCLOSURE

No.

189

To

THE CONSULTING ENGINEER FOR

RAILWAYS,

Madras.

From
THE AGENT,
SOUTH INDIAN RAILWAY,
Trichinopoly.

has been kept. Calculations
are now in hand in which
wind-pressure is treated as
a lateral stress but it will
be some time before these
works finished are completed

W.F.
9/12

W.F.

No. 1035. Dated 11.12.96

Documents accompanying:-
Statement referred to