Supplementary Information

The following information is associated with Network Rail Standard:
NR CIV/SD/1049 Rev B

Additional Content Access

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CAD Drawing

- CIV/SD/1049

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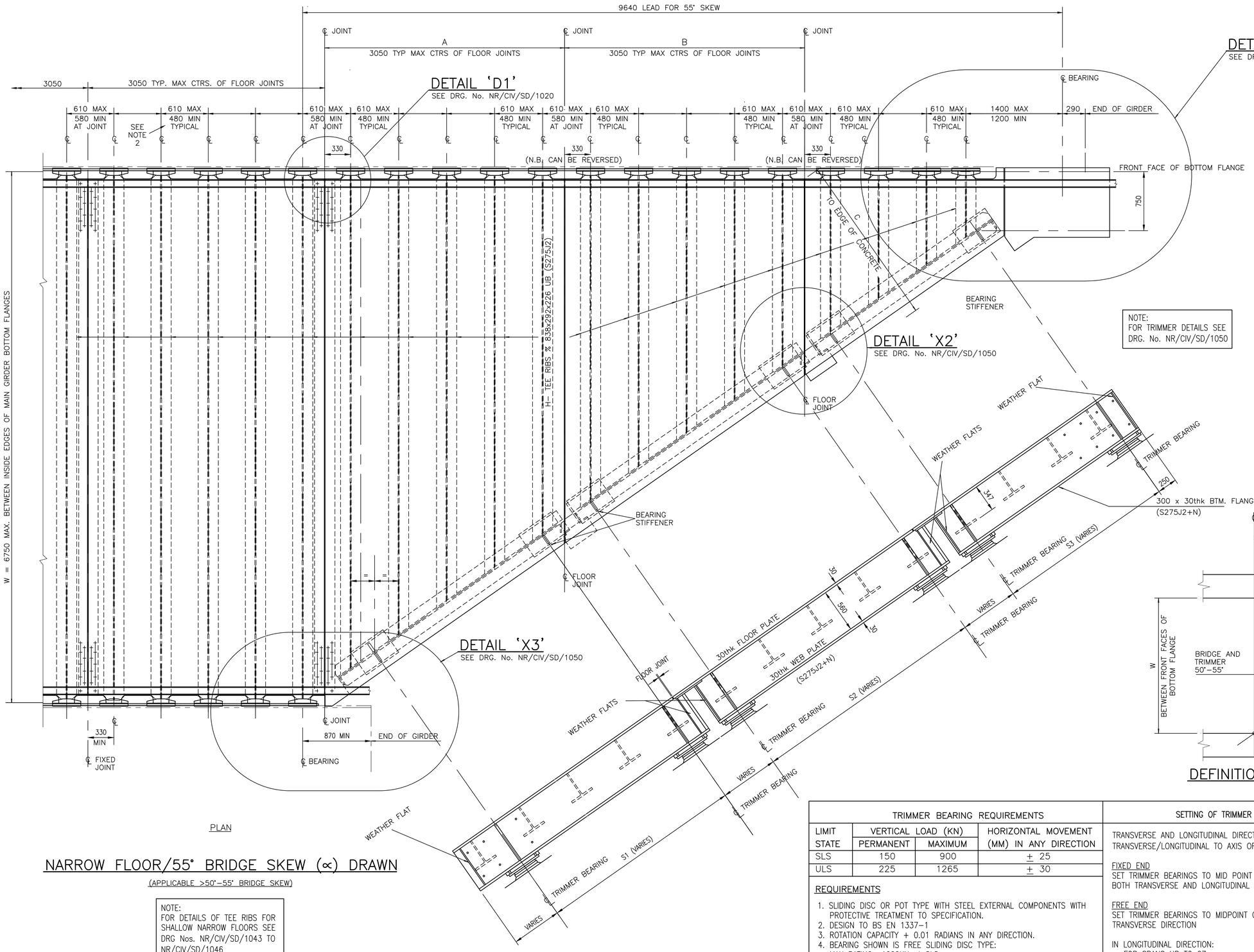


PLAN

NARROW FLOOR/55° BRIDGE SKEW (∝) DRAWN

(APPLICABLE >50°–55° BRIDGE SKEW)

NOTE:
FOR DETAILS OF TEE RIBS FOR SHALLOW NARROW FLOORS SEE DRG Nos. NR/CIV/SD/1043 TO NR/CIV/SD/1046

NOTE:
FOR TRIMMER DETAILS SEE DRG. No. NR/CIV/SD/1050

TRIMMER SETTING OUT

TRIMMER LENGTHS TO BE MADE APPROXIMATELY EQUAL USING THE FOLLOWING FORMULA:

$$\frac{Y}{3} - 300 < A < \frac{Y}{3} + 300$$

$$\frac{Y}{3} - 300 < B < \frac{Y}{3} + 300$$

UNITS ARE NOT TO EXCEED 3500mm FOR TRANSPORTATION PURPOSES

WORKED EXAMPLE:

SKEW : ∝ = 55°
FLOOR WIDTH : W = 6750
BEARING LEAD : BL = 9640

$Y = 9640 - (610-330) - 750 \tan 55°$
$= 8289$

$A = 2463 < A < 3063$
$2463 < B < 3063$

CHOOSE TEE RIB SPACING TO SUIT A, B AND TO GIVE APPROXIMATELY EQUAL TRIMMER SPANS.

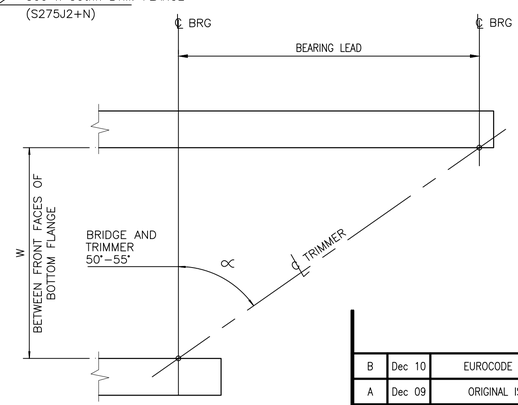
A (SHOWN) = 3050
B (SHOWN) = 3050
C (SHOWN) = 2180

S1 = 2606
S2 = 2977
S3 = 2271

E.G. $S1 = \sin^{-1} \propto (A - 330 - \frac{610}{2} - (610-330))$

$= \sin^{-1} 55(3050 - 330 - \frac{610}{2} - (610-330))$

$= \underline{2606}$



DEFINITION OF SKEW

(NTS)

TRIMMER BEARING REQUIREMENTS

LIMIT STATE	VERTICAL LOAD (KN) PERMANENT	VERTICAL LOAD (KN) MAXIMUM	HORIZONTAL MOVEMENT (MM) IN ANY DIRECTION
SLS	150	900	± 25
ULS	225	1265	± 30

REQUIREMENTS

1. SLIDING DISC OR POT TYPE WITH STEEL EXTERNAL COMPONENTS WITH PROTECTIVE TREATMENT TO SPECIFICATION.
2. DESIGN TO BS EN 1337–1
3. ROTATION CAPACITY + 0.01 RADIANS IN ANY DIRECTION.
4. BEARING SHOWN IS FREE SLIDING DISC TYPE:
   MAX RATING 1000KN at SLS
   TOP PLATE DIMENSION: 350 x 455
   BASE PLATE DIMENSION: 250x250

DIMENSIONS INDICATED THUS ‡ ON DRG.NR/CIV/SD/1033 ARE SUBJECT TO ACTUAL BEARING TO BE USED.

SETTING OF TRIMMER BEARINGS

TRANSVERSE AND LONGITUDINAL DIRECTIONS ARE DEFINED AS TRANSVERSE/LONGITUDINAL TO AXIS OF MAIN GIRDER

FIXED END
SET TRIMMER BEARINGS TO MID POINT OF MOVEMENT RANGE IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS

FREE END
SET TRIMMER BEARINGS TO MIDPOINT OF MOVEMENT RANGE IN TRANSVERSE DIRECTION

IN LONGITUDINAL DIRECTION:
FOR SPANS UP TO 27m:
OFFSET BEARING BY 0.33mm FOR EACH DEGREE ABOVE OR BELOW 10°C

FOR SPANS > 27m:
OFFSET BEARING BY 0.5mm FOR EACH DEGREE ABOVE OR BELOW 10°C

1. TEE RIBS SHALL BE FORMED IN ONE LENGTH, INTERMEDIATE WELDED JOINTS ARE NOT PERMITTED.
2. 580 RIB SPACING IS DESIRABLE MINIMUM TO ALLOW WELDING, PROTECTIVE TREATMENT & MAINTENANCE.
3. SEE DRG No. NR/CIV/SD/1020 FOR LOCATION OF FLOOR PLATE BUTT WELDS.

Rev	Date	Description of revision	Design'd	C'kd
B	Dec 10	EUROCODE ISSUE	CH	MM
A	Dec 09	ORIGINAL ISSUE	CH	MM

Network Rail
Network Rail Infrastructure Ltd
Registered Office:
Kings Place
90 York Way
London
N1 9AG

Approved	P Clark	Senior Programme Engineering Manager (Building & Civils)	P.C.	Dec–10
	Name	Position	Signature	Date

Master copy with original signatures held by Network Rail HQ CIVIL ENGINEERING STANDARD DESIGN

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STANDARD HALF THROUGH UNDERBRIDGES
BOX GIRDERS & TRANSVERSE RIBBED FLOORS

DOUBLE TRACK – 2 GIRDERS
ALTERNATIVE TRIMMER
NARROW FLOOR >50° – 55° SKEW
SHEET 1 OF 2

Scale	1:25	
Drawing Number	NR/CIV/SD/1049	B

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