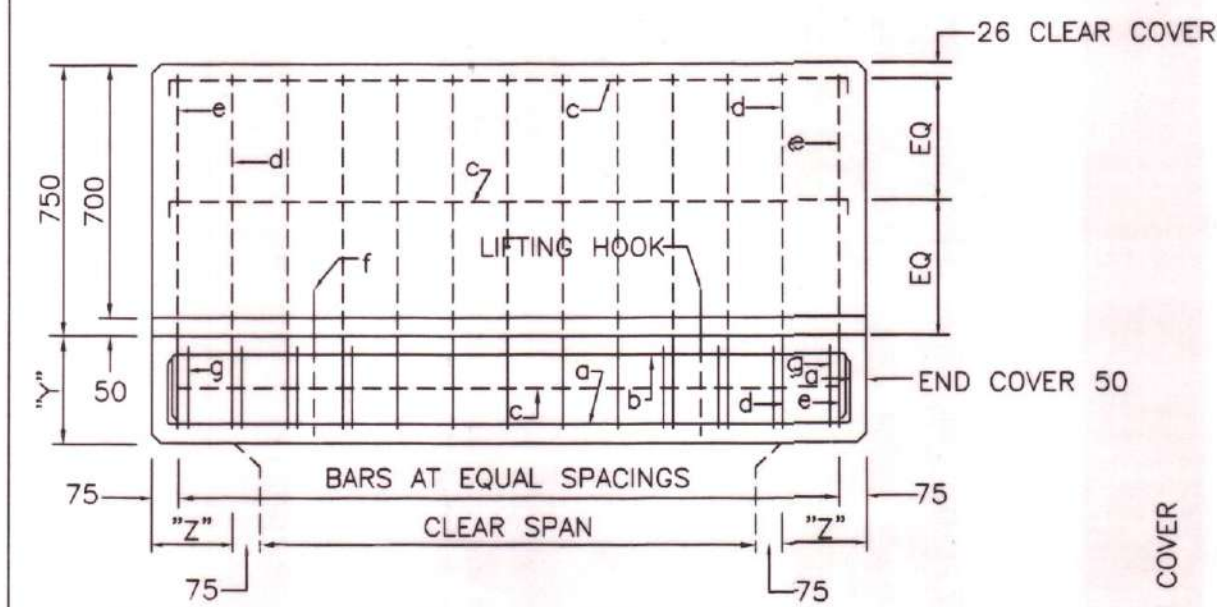
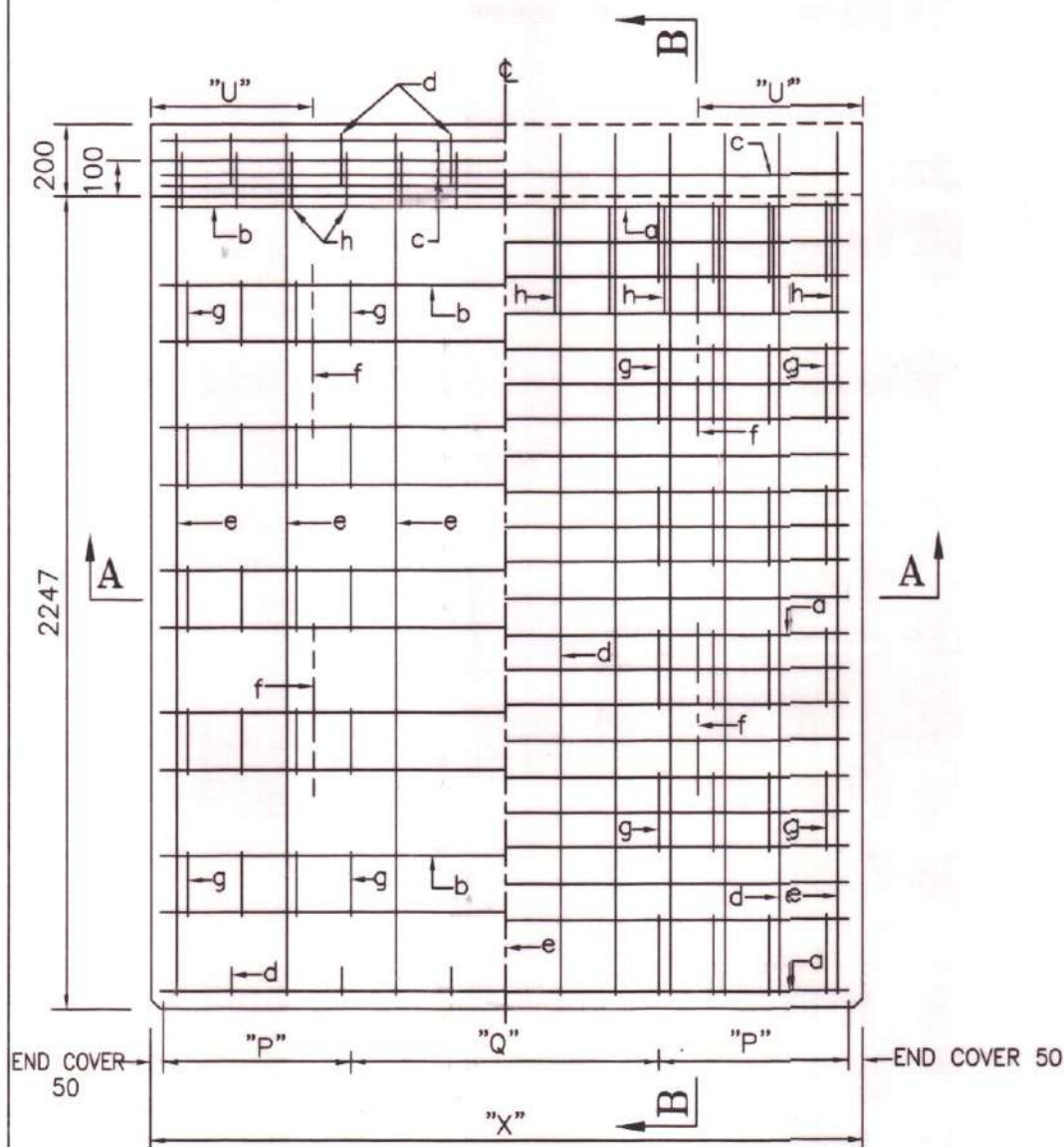
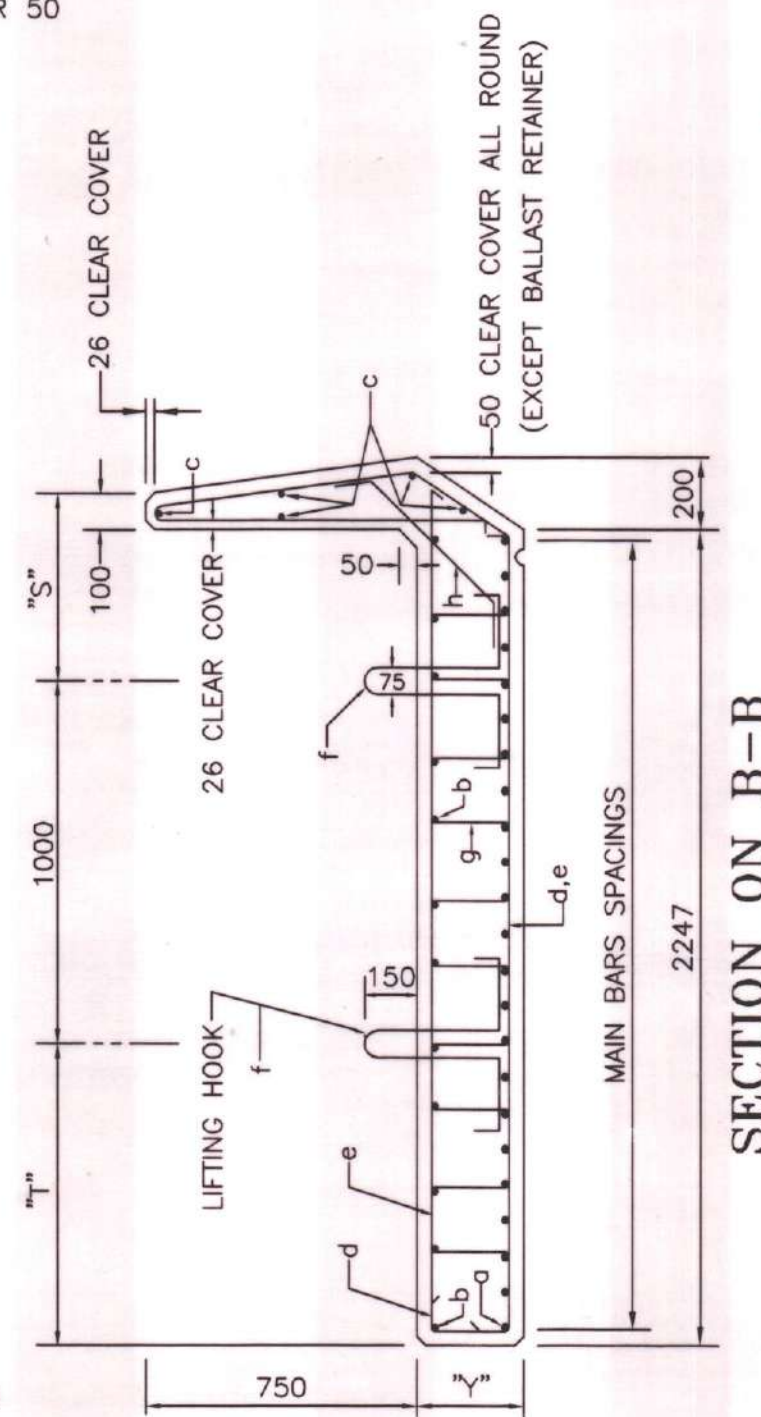




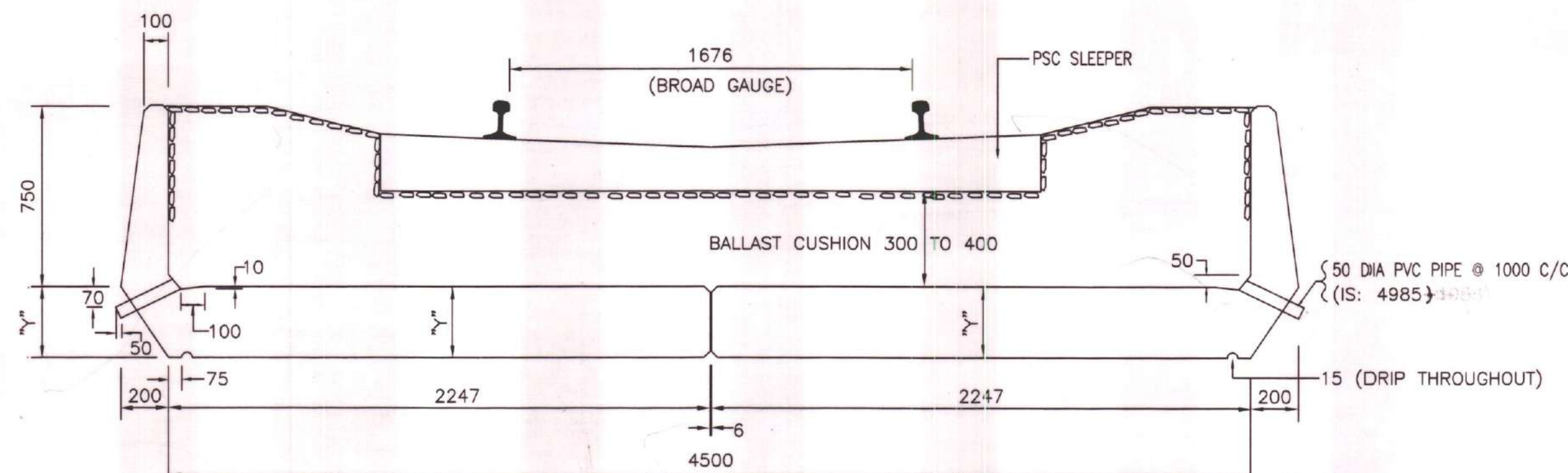
SECTIONAL ELEVATION ON A-A



HALF TOP HALF BOTTOM
TYPICAL SECTIONAL PLAN



SECTION ON B-B



GENERAL ARRANGEMENT FOR SINGLE TRACK

QUANTITY SCHEDULE FOR EACH UNIT

DESCRIPTION						
CLEAR SPANS	0.610m	0.915m	1.22m	1.83m	2.44m	
WEIGHT (kN)	22.23	29.64	41.43	59.57	81.75	
CUBICAL QUANTITY (cu m)	0.89	1.19	1.66	2.38	3.27	
NET WEIGHT OF BARS # 8 (kg)	41.82	52.80	47.57	—	—	
NET WEIGHT OF BARS # 10 (kg)	—	—	23.43	104.28	148.07	
NET WEIGHT OF BARS # 16 (kg)	59.48	73.36	100.41	—	—	
NET WEIGHT OF BARS # 20 (kg)	—	—	—	173.16	235.08	
NET WEIGHT OF STEEL + 10% WASTAGE (kg)	111.43	138.78	188.55	305.19	421.47	
NET WEIGHT OF STEEL + 10% WASTAGE (kN)	1.09	1.36	1.85	2.99	4.13	

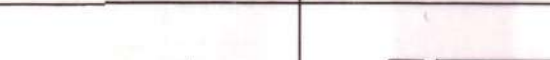
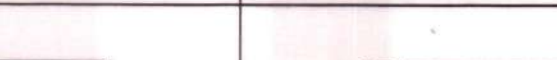
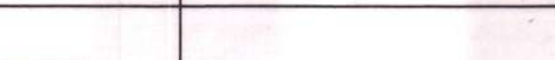
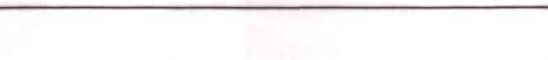
DESCRIPTION FOR EACH UNIT

DIMENSION OF SLAB			POSITION OF LIFTING HOOK			BEARING PRESSURE AT SUPPORT	
CLEAR SPAN (m)	LENGTH "X"	DEPTH "Y"	"S"	"T"	"U"	SUPPORT "Z"	N/mm ²
0.610	1210	265	482	865	375	225	2.06
0.915	1515	285	497	850	375	225	2.03
1.220	1970	310	510	837	450	300	1.54
1.830	2580	345	527	820	450	300	1.55
2.440	3290	375	541	806	500	350	1.54

ARRANGEMENT FOR SHEAR REINFORCEMENT

SPAN (m)	PORTION "P"		PORTION "Q"		TOTAL Nos OF STIRRUPS (BAR-"g")
	LENGTH (mm)	Nos OF STIRRUPS	LENGTH (mm)	Nos OF STIRRUPS	
0.610	305	4	500	—	8
0.915	383	4	650	—	8
1.220	485	5	900	—	10
1.830	590	5	1300	—	10
2.440	795	8	1600	—	16

BAR BENDING SCHEDULE FOR EACH UNIT

CLEAR SPAN (m)	DEPTH "Y" (mm)	BAR "a"						BAR "b"						BAR "c"						BAR "d"										BAR "e"										BAR "f"										
																																																		
		DIA (mm)	NOS REQD	k	l	LENGTH OF ONE BAR	TOTAL LENGTH (mm)	DIA	NOS REQD	k	l	LENGTH OF ONE BAR	TOTAL LENGTH	DIA	NOS REQD	k	l	LENGTH OF ONE BAR	TOTAL LENGTH	DIA	NOS REQD	k	l	m	n	p	q	r	LENGTH OF ONE BAR	TOTAL LENGTH	DIA	NOS REQD	k	l	m	n	p	q	r	s	LENGTH OF ONE BAR	TOTAL LENGTH	DIA	NOS REQD	k	l	m	n	LENGTH OF ONE BAR	TOTAL LENGTH
0.610	265	16	25	1110	141	1296	32400	8	18	1078	133	1296	23328	8	5	1110	75	1260	6300	8	3	2147	923	165	259	75	48	727	4396	13187	8	4	2147	923	165	259	75	48	727	2342	6714	26854	16	4	341	95	250	107	1312	5248
0.915	285	16	25	1415	161	1641	41025	8	18	1383	153	1641	29538	8	5	1415	75	1565	7825	8	4	2147	938	185	276	75	48	727	4447	17788	8	5	2147	938	185	276	75	48	727	2342	6765	33825	16	4	361	95	250	107	1352	5408
1.220	310	16	27	1870	186	2146	57942	8	12	1838	178	2146	25752	8	5	1870	75	2020	10100	8	6	2147	957	210	298	75	48	727	4513	27076	8	7	2147	957	210	298	75	48	727	2342	6831	47815	16	4	386	95	250	107	1402	5608
1.830	345	20	23	2480	215	2790	64170	10	10	2440	205	2790	27900	10	5	2480	75	2630	13150	10	6	2147	983	245	329	75	48	727	4599	27594	10	7	2147	983	245	329	75	48	727	2342	6911	48377	20	4	415	120	250	115	1484	5937
2.440	375	20	25	3190	245	3560	89000	10	10	3150	235	3560	35600	10	5	3190	75	3340	16700	10	8	2147	1005	275	355	75	48	727	4677	37416	10	9	2147	1005	275	355	75	48	727	2342	6989	62901	20	4	445	120	250	115	1544	6176

- ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT OTHERWISE SHOWN.
- ALL REINFORCEMENT BARS SHALL BE OF HIGH STRENGTH DEFORMED BARS (HSD/TMT) CONFORMING TO IS:1786.
- SPACING OF REINFORCEMENT ARE WITH REFERENCE TO THE CENTRE LINES OF BARS.
- CLEAR COVER TO THE REINFORCEMENT AT TOP, BOTTOM & AT ENDS OF THE SLAB WILL BE 50mm AS PER CLAUSE No.15.9.2 OF IRS CONCRETE BRIDGE CODE.
- THE DESIGN IS SUITABLE FOR MODERATE ENVIRONMENT EXPOSURE CONDITIONS (i.e., DESIGN CRACK WIDTH NOT TO EXCEED 0.20 mm AS PER CLAUSE No.10.2.1(a) OF IRS CONCRETE BRIDGE CODE).
- SLABS HAVE BEEN DESIGNED FOR 400mm BALLAST CUSHION & CHECKED FOR 300mm BALLAST CUSHION VIDE CLAUSE NO. 2.2.2 OF IRS BRIDGE RULES.
- CONTROLLED CONCRETE GRADE M-30 SHALL BE USED. THE LETTER 'M' REFERS TO THE MIX AND NUMBER INDICATES THE CHARACTERISTIC CUBE STRENGTH AT 28 DAYS IN N/mm².
- MAXIMUM SIZE OF AGGREGATE TO BE USED IS 20 mm.
- UNIT WEIGHT OF REINFORCED CONCRETE HAS BEEN ASSUMED AS 25 kN/Cu m.
- 'DIA' INDICATED IN THIS DRAWING REFERS TO NOMINAL DIAMETER OF THE HSD/TMT BARS AS PER IS:1786.
- ALL CORNERS OF SLAB SHALL HAVE A CHAMFER OF 25 mm UNLESS OTHERWISE SHOWN. HOWEVER ABUTMENT WILL HAVE A CHAMFER OF 75mm.
- BAR BENDING DIMENSIONS ARE OVER OUTER EDGES. ALL BARS SHOULD BE PLACED IN ACCORDANCE WITH THE TABLE SHOWN ABOVE FOR EACH SPAN.
- TOP SURFACE OF THE SLAB SHOULD BE GIVEN A FEW COATS OF COAL TAR/BITUMEN OR ANY OTHER SUITABLE WATER PROOFING TREATMENT BEFORE THE TRACK IS LAID ON THEM.
- UNITS SHOULD BE PROVIDED WITH A UNIFORM BEDDING BY PLACING IT OVER A LAYER OF CEMENT AND CAST IRON BORINGS IN 1:1 PROPORTION. THE PASTE SHOULD BE OF STIFF CONSISTENCY.
- THESE SLABS ARE SUITABLE FOR CURVED TRACK UP TO 10 DEGREE.
- THESE SLABS CAN ALSO BE USED FOR REPLACEMENT OF EXISTING SLABS, IF CLEAR SPAN OF EXISTING SLAB IS LESS THAN THAT OF THE PROPOSED SLABS SUBJECT TO AVAILABILITY OF BEARING ON ABUTMENT/PIER.
- BALLAST CUSHION MAY BE ADJUSTED TO CATER FOR SUPER ELEVATION WHILE PLACING THE SLABS ON CURVES.
- DATE OF CASTING AND NAME OF CASTING DEPOT SHOULD BE ENGRAVED ON EACH UNIT.
- THESE SLABS CAN BE USED IN YARDS, CARRYING TURNOUT OR MULTIPLE LINE SECTIONS ELIMINATING BALLAST RETAINER PORTION AND SHAPE OF BAR "d" AND "e" MAY BE MODIFIED, BAR "h" MAY BE REMOVED, IF NECESSARY.
- FOR NEW CONSTRUCTION, MINIMUM SPAN SHALL NOT BE LESS THAN 1.0 METRE.
- TO FACILITATE THE WORKING OF BALLAST CLEANING MACHINE, LIFTING HOOKS SHALL BE CUT AFTER THE PLACEMENT OF THE SLAB AND SUITABLE WATER PROOFING COAT SHALL BE APPLIED ON THE CUT.

NOTE

CLEAR SPAN (m)	DEPTH "Y" (mm)	BAR "g"										BAR "h"					
		DIA	NOS REQD	NOS OF LEGS	a	b	c	d	e	LENGTH OF ONE BAR	TOTAL LENGTH	DIA	NOS REQD	k	p	LENGTH OF ONE BAR	TOTAL LENGTH
0.610	265	8	8	14	75	96	165	125	180	3935	31480	8	7	475	100	675	4725
0.915	285	8	8	18	75	113	185	89	139	4755	38040	8	9	540	100	740	6660
1.220	310	10	10	10	75	226	210	166	216	3797	37970	8	13	545	100	745	9685
1.830	345	10	10	10	75	244	245	162	212	4146	41460	10	13	610	100	810	10530
2.440	375	10	16	10	75	111	275	200	256	4546	72736	10	17	660	100	860	14620

MILLIMETRES

IRS BRIDGE RULES
IRS CONCRETE BRIDGE CODE
IS: 1786



SCALE

ALT

DESCRIPTION

DATE

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अ. अ. मा. सं
R. D. S. O

डी एफ सी मारण के लिए (32.5 टन एक्सल लोड)
0.61, 0.915, 1.22, 1.83 और 2.44 मी. मानक पाट के लिए उपयुक्त
पूर्व निर्मित प्रबलित कंक्रीट पुल स्लैब
(कंक्रीट ग्रेड एम-30)

PRECAST R C BRIDGE SLAB
STANDARD SPANS 0.61, 0.915, 1.22, 1.83 & 2.44m
FOR DFC LOADING (32.5t AXLE LOAD) (CONCRETE GRADE M-30)

PROVISIONAL DATE: 17-02-2009

RDSO/B-10062

CALCULATION REGISTER REFERENCE- DIC NO. BS-80	0.61m	0.915m	1.22m	1.83m	2.44m
DRAWN BY: ANJANA BHASIN (SSE/D/CB-II)	SHWETA SUMAN (JE/D)	ADWIVEDI (JE/D)	B. KUMAR (SE/D)	S. CHANDRA (SSE/D)	S. DAYAL (JE/D)
CHECKED BY: ADWIVEDI (JE/D/CB-II)	B. KUMAR (SE/D)	ADWIVEDI (JE/D)	ADWIVEDI (JE/D)	ADWIVEDI (JE/D)	SHWETA SUMAN (JE/D)

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