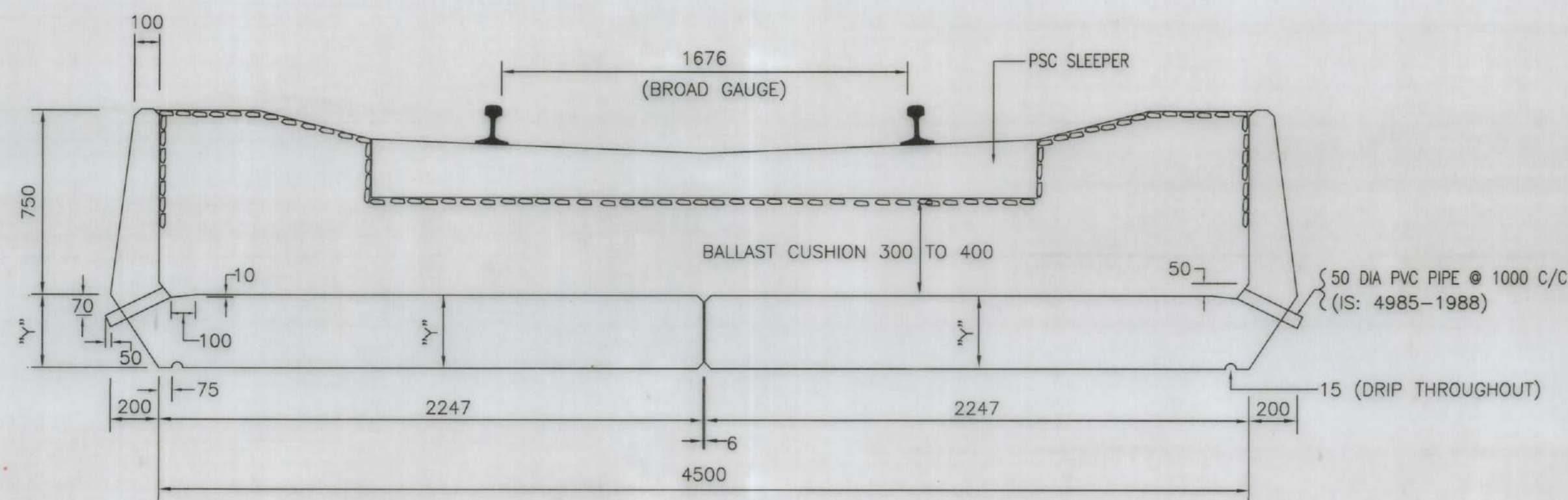
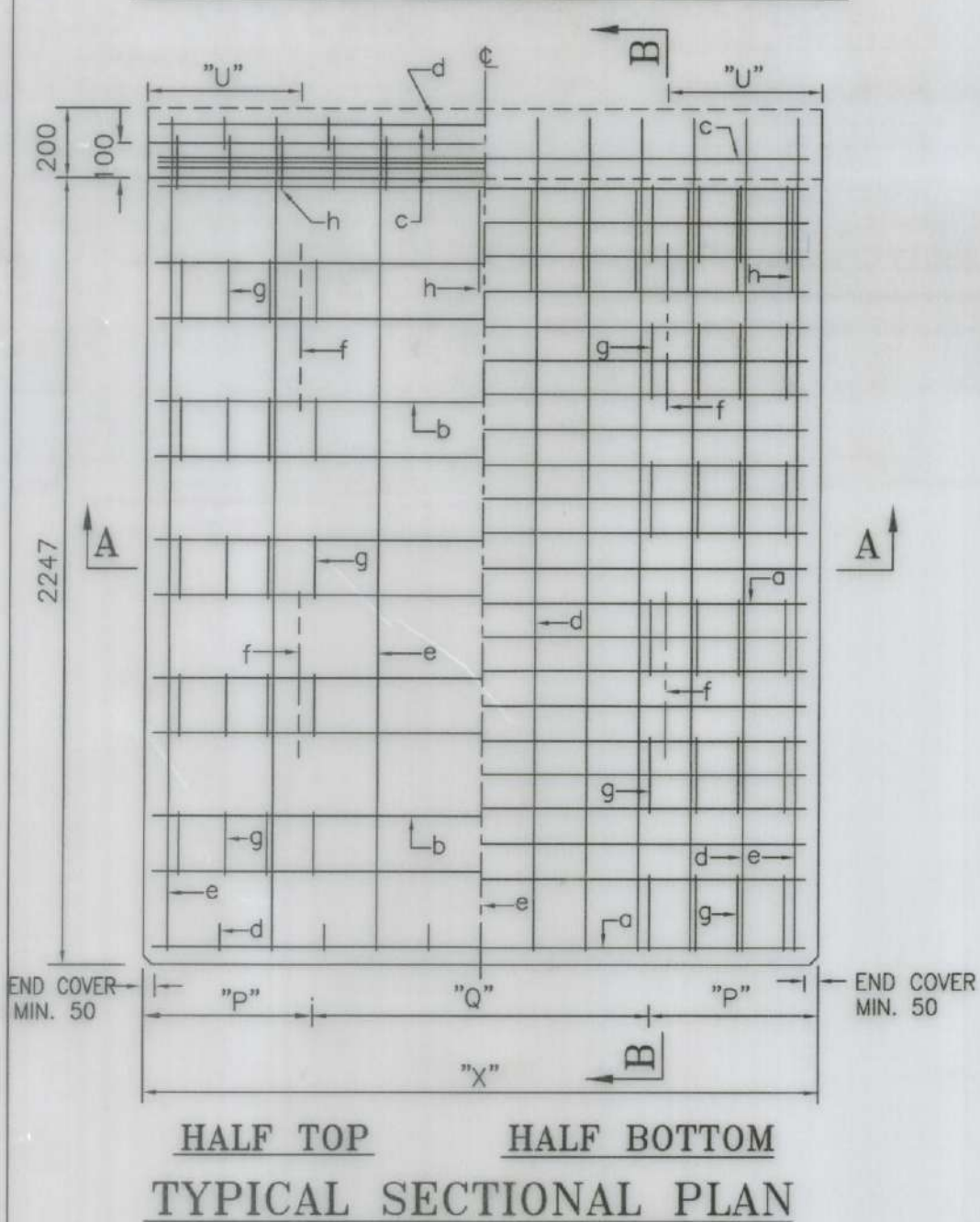




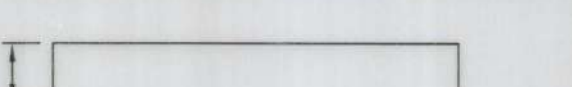
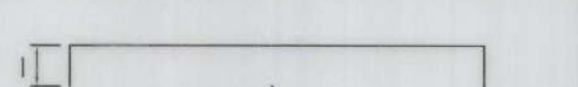
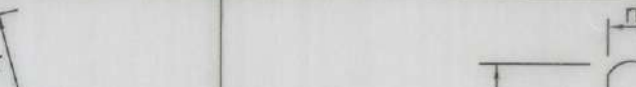
GENERAL ARRANGEMENT FOR SINGLE TRACK

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"	kN/m ²
0.610	1210	320	522	825	375	225	1760
0.915	1515	340	530	817	375	225	1800
1.220	1970	420	554	793	500	300	1390
1.830	2580	440	559	788	500	300	1430
2.440	3290	490	570	777	525	350	1390

QUANTITY SCHEDULE FOR EACH UNIT					
DESCRIPTION					
CLEAR SPANS	0.610m	0.915m	1.22m	1.83m	2.44m
WEIGHT (kN)	22.16	34.53	54.15	73.94	103.95
CUBICAL QUANTITY (cu m)	1.05	1.38	2.17	2.96	4.16
NET WEIGHT OF BARS # 8 (kg)	45.30	—	—	—	—
NET WEIGHT OF BARS # 10 (kg)	—	81.89	110.58	130.31	174.97
NET WEIGHT OF BARS # 20 (kg)	112.43	137.21	182.85	—	—
NET WEIGHT OF BARS # 25 (kg)	—	—	—	308.74	—
NET WEIGHT OF BARS # 28 (kg)	—	—	—	—	484.28
NET WEIGHT OF STEEL + 10% WASTAGE (kg)	173.50	241.02	322.77	482.96	725.17
NET WEIGHT OF STEEL + 10% WASTAGE (kN)	1.70	2.36	3.16	4.73	7.11

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	320	20	29	1090	202	1374	39846	8	16	1062	75	1212	19392	8	5	1102	75	1252	6260	8	6	2143	965	212	309	75	50	732	4537	27221	8	4	2143	965	212	309	75	50	732	2343	6781	27123	20	4	372	120	250	95	1418	5673							
0.915	340	20	29	1395	220	1715	49735	10	16	1365	75	1515	24240	10	5	1405	75	1555	7775	10	8	2143	980	230	326	75	50	732	4580	36644	10	4	2143	980	230	326	75	50	732	2343	6817	27270	20	4	390	120	250	95	1454	5817							
1.220	420	20	29	1850	300	2330	67570	10	16	1820	75	1970	31520	10	5	1860	75	2010	10050	10	10	2143	1040	310	399	75	50	732	4793	47932	10	6	2143	1040	310	399	75	50	732	2343	7030	42181	20	4	470	120	250	95	1614	6457							
1.830	440	25	25	2455	318	2941	73525	10	14	2420	75	2570	35980	10	5	2470	75	2620	13100	10	13	2143	1055	330	418	75	50	732	4847	63009	10	7	2143	1055	330	418	75	50	732	2343	7084	49587	25	4	480	150	250	100	1667	6668							
2.440	490	28	25	3162	366	3726	93150	10	14	3124	75	3274	45836	10	5	3180	75	3330	16650	10	17	2143	1093	380	465	75	50	732	4982	84692	10	9	2143	1093	380	465	75	50	732	2343	7219	64970	28	4	524	170	250	103	1779	7115							

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT OTHERWISE SHOWN.
2. ALL REINFORCEMENT BARS SHALL BE OF HIGH STRENGTH DEFORMED BARS (HSD/TMT) HAVING Fe 415/500 D GRADE CONFORMING TO IS:1786.
3. BAR BENDING DIMENSIONS ARE WITH REFERENCE TO THE CENTRE LINES OF BARS. ALL BARS SHOULD BE PLACED IN ACCORDANCE WITH THE TABLE SHOWN ABOVE FOR EACH SPAN.
4. CLEAR COVER TO THE REINFORCEMENT AT TOP AND BOTTOM OF THE SLAB HAS BEEN TAKEN AS 50mm IN DESIGN AS PER CLAUSE No. 15.9.2 OF IRS CONCRETE BRIDGE CODE.
5. THE DESIGN IS SUITABLE FOR EXTREME ENVIRONMENT EXPOSURE CONDITION (i.e., DESIGN CRACK WIDTH NOT TO EXCEED 0.10 mm AS PER CLAUSE No. 10.2.1(g) OF IRS CONCRETE BRIDGE CODE).
6. SLABS HAVE BEEN DESIGNED FOR 400 mm BALLAST CUSHION AND CHECKED FOR 300 mm BALLAST CUSHION VIDE CLAUSE NO. 2.2.2 OF IRS BRIDGE RULES.
7. CONTROLLED CONCRETE GRADE M-35 SHALL BE USED. THE LETTER 'M' REFERS TO THE MIX AND NUMBER INDICATES THE CHARACTERISTIC CUBE STRENGTH AT 28 DAYS IN N/mm².
8. MAXIMUM SIZE OF AGGREGATE TO BE USED IS 20 mm.
9. WEIGHT OF REINFORCED CONCRETE HAS BEEN ASSUMED AS 25 kN/Cu m.
10. 'dia' INDICATED IN THIS DRAWING REFERS TO NOMINAL DIAMETER OF THE HSD/TMT BARS AS PER IS:1786.
11. ALL CORNERS OF SLAB SHALL HAVE A CHAMFER OF 25 mm UNLESS OTHERWISE SHOWN. HOWEVER ABUTMENT WILL HAVE A CHAMFER OF 75mm.
12. 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.
13. 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.
14. THESE SLABS ARE SUITABLE FOR CURVED TRACK UPTO 10 DEGREE.
15. 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.
16. BALLAST CUSHION MAY BE ADJUSTED TO CATER FOR SUPER ELEVATION WHILE PLACING THE SLABS ON CURVES.
17. DATE OF CASTING AND NAME OF CASTING DEPOT SHOULD BE ENGRAVED ON EACH UNIT.
18. 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.
19. FOR NEW CONSTRUCTION, MINIMUM SPAN SHALL NOT BE LESS THAN 1.0 METRE.
20. 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)	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	8	6	14	75	103	212	123	179	4585	27510	8	10	517	100	717	7170
0.915	10	6	14	75	105	230	121	181	4667	28002	10	12	533	100	733	8796
1.220	10	6	14	75	105	310	121	181	5787	34722	10	16	601	100	801	12816
1.830	10	6	12	75	123	330	140	210	5527	33162	10	20	618	100	818	16360
2.440	10	8	12	75	125	380	137	213	6727	49016	10	26	662	100	862	22412

IRS BRIDGE RULES
IRS CONCRETE BRIDGE CODE
IS: 1786

MILLIMETRES

ALT.

APPROVED BY 81st BSC
VIDE REVIEW ITEM NO.1010

ED/STRUCTURES
hik
DIR/CB-II
ADE/CB-II
03-01-2014

RELATED DRAWING

DESCRIPTION	DRAWING NO.
MODERATE ENVIRONMENT CONDITION	BA-10062

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R D S O

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-35

(FOR EXTREME ENVIRONMENT EXPOSURE CONDITION)

~~PROVISIONAL~~

DATE: 03.01.2014
DATE: 21.03.2012

~~RDSO/B-10062/1~~

BA - 10062/1