

File no RW/NH-34049/1/2017-S&R(B) [Comp. No. 159214] GOVERNMENT OF INDIA MINISTRY OF ROAD TRANSPORT & HIGHWAYS (S &R Zone)

Parivahan Bhawan, 1-Sansad Marg, New-Delhi dated 28.01.2025

- 1. The Chief Secretaries of all the State Governments/ UTs.
- 2. The Principal Secretaries/ Secretaries of all States/ UTs Public works Department/ Road Construction Department/ Highways Department (dealing with National Highways and other centrally sponsored schemes).
- 3. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
- 4. The Managing Director, NHIDCL, New Delhi
- 5. The Director General (Border Roads), Seema Sadak Bhawan, Ring Road, New Delhi- 110010.
- 6. All Engineers-in-Chief and Chief Engineers of Public Works Department of States/ UTs/ Road Construction Department/ Highways Departments (dealing with National Highways and other centrally sponsored schemes).
- 7. The Secretary General, Indian Roads Congress
- 8. The Director, IAHE, NOIDA, UP
- 9. All CE-ROs, ROs and ELOs of the Ministry.

<u>Subject:</u> Standard drawings for 32.00 m span, 13.0 m width and 0° skew bridge for used in National Highways Project.

Ministry has undertaken project for development of Standard Design and Drawings for various type of bridge being constructed on National Highways. Ministry has issued the Standard Drawing for 32.00 m span, 13.0 m width and 0° skew bridge for used in National Highways Project.

The drawing can be accesses on the Ministry's website under the Tab 'Notification' 'Standard Bridge Drawings'.

This issues with the approval of the Competent Authority.

(Akil Ahmad) Superintending Engineer (S&R) for Director General (RD) &SS

Copy to:

- 1. All the Technical Officers in the Ministry of Road Transport & Highways
- 2. All the Joint Secretaries in the Ministry of Road Transport and Highways

3. Technical circular file of S&R (P&B) Section.

4. NIC- It is requested to create one Tab under Notification named "Standard Bridge Drawings" and upload the drawing under the newly created tab and 'what's new'

Copy for kind information to:

- 1. PS to Hon'ble Minister (RT&H)
- 2. PS to Hon'ble MoS (CA and RT&H), Shri Harsh Malhotra
- 3. PS to Hon'ble MoS (RT&H), Shri Ajay Tamta
- 3. PSO to Secretary (RT&H)
- 4. PSO to DG (RD) & SS
- 5. PPS/ PS to all ADGs
- 6. PPS/PS to Addl. Secretary (Transport)
- 7. PPS/ PS to AS& FA



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STANDARD DRAWINGS FOR R RCC T-BEAM AND SLAB SUPER

SL.NO	DRAWING NO	TITLE
A. NO		
1	RCC-T/GN/0001	GENERAL NOTES
B. RCC	T- BEAM BRIDGES - 32m SPAN	, 13.0m WIDTH AND 0° SKE
1	32m/13.0m/00/1001	GENERAL ARRANGEMENT
2	32m/13.0m/00/1002	DETAILS OF DECK SLAB
3	32m/13.0m/00/1003	DETAILS OF LONGITUDINAL GIRDE
4	32m/13.0m/00/1004	DETAILS OF DIAPHRAGMS
5	32m/13.0m/00/1005	SCHEDULE OF REINFORCEMENT L
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13	32m/13.0m/00/1013	REINFORCEMENT DETAILS OF TRA
14	32m/13.0m/00/1014	REINFORCEMENT DETAILS OF PED
C. MIS	CELLANEOUS	
1	RCC-T/MS/0101	DETAILS OF CRASH BARRIER AND
2	RCC-T/MS/0102	DETAILS OF WEARING COAT AND

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ROAD BRIDGES RSTRUCTURE
W
ER (OUTER)
ONGITUDINAL GIRDER (OUTER)
DECK SLAB, INTERMEDIATE DIAPHRAGM & END DIAPHRAGM
ER (INNER)
ONGITUDINAL GIRDER (INNER)
BEARING FORCES
IC REACTION BLOCK
NSVERSE SEISMIC REACTION BLOCK
ESTAL AND LONGITUDINAL SEISMIC REACTION BLOCK
APPROACH SLAB
DRAINAGE SPOUT

(A) GENERAL

- 1. THESE NOTES ARE APPLICABLE FOR THE STANDARD DRAWINGS FOR
- R.C.C-T BEAM AND R.C.C. SLAB SUPERSTRUCTURE WITH AND WITHOUT FOOTPATHS.
- 2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.

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- 3. DESIGN CRITERIA:
- i. THE DESIGN IS ACCORDING TO THE FOLLOWING CODES

(a)	IRC : 5-2024	(g)	IRC : SP : 73-2018
(b)	IRC : 6-2017	(h)	IRC : SP : 84-2019
(c)	IRC : 112-2020	(i)	IRC : SP : 87-2019
(d)	IRC : 83-2018 (PART-II)	(j)	IRC : SP : 114-2018
(e)	IRC : 83-2018 (PART-III)	(k)	IRC : 78-2024 (PART-I)
(f)	IRC · 83-2018 (PART-IV)	(1)	IS · 13801-2013

ii. THE FOLLOWING LOADS HAVE BEEN CONSIDERED IN THE DESIGN: (a) LIVE LOAD FOR EACH CARRIAGEWAY SHALL BE (WITH

APPROPRIATE REDUCTION FACTOR AS PER IRC: 6-2017)

	· · · · · · · · · · · · · · · · · · ·					
SR. NO.	DECK WIDTH (in Meters)	NO. OF LANES(FOR DESIGN PURPOSES)	LOAD COMBINATION (WHICHEVER IS CRITICAL)			
1.	10.50	TWO	i. ONE / TWO LANE CLASS A OR ii. ONE LANE OF CLASS 70R / CLASS AA OR iii. SPECIAL VEHICLE LOADING			
2.	11.00 / 12.825 / 13.00 / 13.65	THREE	 i. ONE / TWO / THREE LANE CLASS A OR ii. ONE LANE OF CLASS 70R / CLASS AA OR iii. ONE LANE CLASS A WITH ONE LANE CLASS 70R / CLASS AA OR iv. SPECIAL VEHICLE LOADING 			
3.	14.15 / 16.65	FOUR	i. ONE / TWO / THREE / FOUR LANE CLASS A OR ii. ONE / TWO LANE OF CLASS 70R / CLASS AA OR iii. ONE / TWO LANE CLASS A WITH ONE LANE CLASS 70R / CLASS AA OR iv. SPECIAL VEHICLE LOADING			

FOR DESIGN PURPOSE THE FOOTPATH IS CONSIDERED AS PART OF CARRIAGEWAY.

- (b) CONGESTION FACTOR AS PER TABLE 7 OF IRC : 6-2017
- (c) FOOTPATH LOAD OF 5KN/SQ.M, MODIFIED IN

ACCORDANCE WITH CLAUSE 206.3 OR IRC : 6-2017.

- (d) WEARING COAT LOAD OF 2.205kN/sqm
- iii. TEMPERATURE VARIATION = ± 37.55 °C
- 4. THE DESIGNS ARE APPLICABLE FOR MODERATE, SEVERE AND VERY SEVERE CONDITIONS OF EXPOSURE.
- 5. THE DESIGNS ARE APPLICABLE FOR SEISMIC ZONE-III, IV AND V. THE IMPORTANCE FACTOR IS CONSIDERED AS 1.5. DESIGN APPLICABLE FOR SEISMIC ZONE-III CAN BE ADOPTED FOR SEISMIC ZONE-II.
- 6. PROVISION OF ELASTOMERIC BEARING (APPLICABLE FOR SEISMIC ZONE-II ONLY), ANCHORED ELASTOMERIC BEARING, SLIDING ELASTOMERIC, POT-PTFE/SPHERICAL BEARING SHALL BE DECIDED BY THE ENGINEER-IN-CHARGE AND SHALL BE INCORPORATED IN THE DRAWING SHOWING GENERAL ARRANGEMENT OF SUPERSTRUCTURE DURING PROJECT PREPARATION
- 7. WEARING COAT SHALL COMPRISE OF THE FOLLOWING TYPE (ENGINEER IN-CHARGE TO DECIDE)
- i. BITUMINOUS WEARING COAT SHALL BE EITHER OF THE FOLLOWING:
- a) BITUMINOUS CONCRETE 50MM THICK LAID IN SINGLE LAYER.
- b) BITUMINOUS CONCRETE 40MM THICK OVERLAID WITH 25MM THICK MASTIC ASPHALT
- c) STONE MATRIX ASPHALT 50MM THICK LAID IN SINGLE LAYER.
- d) MASTIC ASPHALT 50MM THICK LAID IN SINGLE LAYER.
- (BEFORE LAYING OF WEARING COAT, THE DECK SURFACE SHALL BE THOROUGHLY CLEANED AND TACK COAT SHALL BE APPLIED. THE CONSTRUCTION OPERATIONS, BITUMINOUS MIXES AND TACK COAT SHALL CONFORM TO SECTION 500 OF MORTH'S SPECIFICATIONS FOR ROAD AND BRIDGE WORKS (FIFTH REVISION)).
- ii. CEMENT CONCRETE WEARING COAT:
- CEMENT CONCRETE WEARING COAT SHALL BE LAID SEPARATELY OVER THE BRIDGE DECK. THE THICKNESS OF WEARING COAT SHALL BE 75MM.THE MINIMUM CONCRETE GRADE SHALL BE AS PER CLIMATIC CONDITION AS GIVEN IN TABLE 14.2 OF IRC: 112-2020, BUT SHALL NOT BE LEANER THAN M30. STEEL REINFORCEMENT OF 8mm DIAMETER (Fe-500 OR HIGHER GRADE) @150MM SPACING IN BOTH DIRECTIONS SHALL BE PROVIDED AT THE MID DEPTH OF THE WEARING COAT. IN A LENGTH OF 1M NEAR THE EXPANSION JOINT, ADDITIONAL REINFORCEMENT OF 8MM DIAMETER BARS SHALL BE PROVIDED IN THE BOTH DIRECTIONS TO MAKE THE SPACING AS 75MM. CEMENT CONCRETE AND STEEL REINFORCEMENT SHALL CONFORM TO SECTION 1700 AND SECTION 1600, RESPECTIVELY OF MORTH'S SPECIFICATIONS FOR ROAD AND BRIDGE WORKS (FIFTH REVISION). CURING OF WEARING COAT SHALL START AS EARLY AS POSSIBLE. ALL CARRIAGEWAY AND FOOTPATH SURFACE SHALL HAVE NON- SKID CHARACTERISTICS

FOR ENSURING WATERPROOFING, DURABILITY, SUSTAINABILITY AND LONG LIFE OF BRIDGE DECKS, MASTIC ASPHALT WATERPROOFING LAYER SHOULD BE PROVIDED ON BRIDGE DECK BEFORE LAYING WEARING COAT AS PER FOLLOWING:

12mm THICK MASTIC ASPHALT WHERE ANNUAL RAINFALL ≤ 1500mm/YEAR. 15mm THICK MASTIC ASPHALT WHERE ANNUAL RAINFALL > 1500 mm/YEAR.

- 8. IN URBAN AREAS, IN LIEU OF WEARING COAT, HEAVY DUTY CHEQUERED TILES MAY
- BE PROVIDED IN THE FOOTPATH PORTION CONFORMING TO IS:13801-2013.

(B) MATERIALS SPECIFICATION

- 1. CONCRETE:
 - i. CONCRETE SHALL BE DESIGN MIX AND SHALL HAVE MINIMUM 28 DAYS CHARACTERISTIC STRENGTH ON 150 MM CUBES.
 - ii. THE CEMENT SHALL BE ORDINARY PORTLAND CEMENT 33/ 43/ 53 GRADE CONFORMING IS:269-2015, RAPID HARDENING PORTLAND CEMENT CONFORMING TO IS:8041-1990, SULPHATE RESISTANT PORTLAND CEMENT CONFORMING TO IS:12330-1988, PORTLAND POZZOLANA CEMENT CONFORMING TO IS:1489 (PART-I)-2015, PORTLAND BLAST FURNACE SLAG CEMENT CONFORMING TO IS:455-1989 OR LOW HEAT PORTLAND CEMENT CONFORMING TO IS:12600 - 1989 AS PER CL. 18.4.1 OF IRC:112-2020.
 - iii. ALL COARSE AND FINE AGGREGATES SHALL CONFORM TO IS:383 2016 AND SHALL BE TESTED TO CONFORM TO IS:2386 PARTS I TO VIII -1963 AS PER CL.18.4.4 OF IRC:112-2020. THE NOMINAL SIZE OF AGGREGATE SHALL BE 20MM. FINE AGGREGATES SHALL CONSIST OF NATURAL SAND, CRUSHED STONE OR GRAVEL.
 - iv. TO IMPROVE WORKABILITY OF CONCRETE, ADMIXTURES CONFORMING TO IS:6925-1973 AND IS: 9103-1999 MAY BE PERMITTED SUBJECT TO SATISFACTORY PROVEN USE. ADMIXTURES GENERATING HYDROGEN, NITROGEN ETC. SHOULD NOT BE USED
 - v. MAXIMUM WATER CEMENT RATIO, MINIMUM CEMENT CONTENT, MINIMUM GRADE OF CONCRETE AND CLEAR COVER TO OUTERMOST BAR SHALL CONFORM TO FOLLOWING

TARIE-1

		TADLE.1		
EXPOSURE CONDITION	MAXIMUM WATER/ CEMENT RATIO	MINIMUM CEMENT CONTENT, kg/m ³	MINIMUM GRADE OF CONCRETE	MINIMUM COVER,* mm
MODERATE	0.45	340	M30	40
SEVERE	0.45	360	M30	45
VERY SEVERE	0.45	380	M40	50

* MINIMUM COVER SHOWN IN THE TABLE CAN BE REDUCED BY 5MM IN CASE OF FACTORY MADE PRECAST CONCRETE ELEMENTS

- 2. REINFORCEMENT:
- i. ALL REINFORCING STEEL SHALL BE HIGH YIELD STRENGTH DEFORMED BARS CONFORMING TO IS:1786-2008. FOR SEISMIC ZONE III, IV & V HYSD STEEL BARS HAVING MINIMUM ELONGATION OF 14.5% AND CONFORMING TO OTHER REQUIREMENTS OF IS: 1786 SHALL ONLY BE USED. ACTUAL 0.2% PROOF STRENGTH OF BARS BASED ON TENSILE TEST MUST NOT EXCEED THEIR CHARACTERISTIC 0.2% PROOF STRENGTH BY MORE THAN 20%. THE RATIO OF ACTUAL ULTIMATE STRENGTH TO ACTUAL 0.2% PROOF/YIELD STRENGTH SHALL BE AT LEAST 1.15.
- ii. BINDING WIRES SHOULD BE ANNEALED 18 GAUGE MILD STEEL WIRES FREE FROM ANY DELETERIOUS MATTER. DUST ETC.
- iii. AT THE LOCATION WHERE REINFORCING BARS ARE CONGESTED (LIKE GIRDER BULBS), MECHANICAL SPLICES MAY BE USED, INSTEAD OF LAPPING OF BARS TO PROVIDE SUFFICIENT CLEARANCE BETWEEN ADJACENT BARS.
- 3. WATER:

WATER TO BE USED IN CONCRETING AND CURING SHALL CONFORM TO CLAUSE 18.4.5 OF IRC:112-2020.

- 4. EXPANSION JOINTS:
- i. THE EXPANSION JOINTS MUST BE ROBUST, DURABLE, WATERTIGHT AND REPLACEABLE. IT MUST BE PROVIDED OVER THE FULL WIDTH OF SUPERSTRUCTURE INCLUDING KERB AND FOOTPATH FOLLOWING THE PROFILE OF THE SAME
- ii. EXPANSION JOINT SHALL BE INSTALLED AFTER LAYING THE WEARING COAT. THE POCKET LEFT FOR FIXING OF EXPANSION JOINT SHALL BE TEMPORARILY BLOCKED WHILE LAYING THE WEARING COAT.
- iii. FABRICATED STEEL PARTS IN THE NOSING OF EXPANSION JOINTS SHALL BE POSITIONED ACCURATELY BEFORE THE CONCRETING OF THAT PORTION OF THE DECK SLAB
- OF NOSING AND INSTALLATION OF EXPANSION JOINTS IS MANDATORY.

- i. ELASTOMERIC, ANCHORED ELASTOMERIC OR FREE SLIDING ELASTOMERIC BEARINGS SHALL CONFORM TO IRC: 83-2018 (PART-II).
- ii. POT, POT-CUM-PTFE AND METALLIC GUIDE BEARINGS SHALL CONFORM TO IRC: 83-2018 (PART-III).
- iii SPHERICAL BEARINGS SHALL CONFORM TO IRC: 83-2018 (PART-IV) FOR DESIGN OF BEARING FOR EACH SUPERSTRUCTURE BEARING LOAD DATA DRAWINGS SHALL BE REFERRED.

i. THE FORMS MUST BE BUILT TO CORRECT DIMENSIONS, MUST BE SUFFICIENTLY RIGID UNDER THE CONSTRUCTION LOADS TO MAINTAIN THE DESIGNED SHAPE OF THE CONCRETE WITHIN PERMISSIBLE DEFLECTIONS AND TOLERANCE LIMITS, MUST BE STURDY AND STRONG ENOUGH TO MAINTAIN ALIGNMENT. THE FORMWORK MUST REMAIN IN PLACE UNTIL THE CONCRETE IS STRONG ENOUGH TO CARRY ITS OWN WEIGHT.

FORMWORK SHALL CONFORM TO SECTION 1500 OF MORTH SPECIFICATIONS FOR ROAD & BRIDGES AND IRC-87.

(C) WORKMANSHIP/ DETAILING

В

- 1. CONSTRUCTION JOINTS:

 - UNDER:
- CONCRETE

2. SPLICES OF REINFORCEMENT BARS:

- SHALL BE LAPPED IN ONE SECTION.

CONCR	ETE	A	NCHORAGE LENGTH F	OR
GRAD)E	Fe 500 GRADE	Fe 550 GRADE	Fe 600 GRADE
M 30)	40Ø	44Ø	48Ø
M 3	5	36Ø	40Ø	43Ø
M 40)	34Ø	37Ø	41Ø
M 4	5	32Ø	35Ø	38Ø
M 50	C	29Ø	32Ø	35Ø
M 5	5	27Ø	30Ø	33Ø
M 60 & H	IGHER	25Ø	28Ø	30Ø

SHALL BE AS BELOW



LAP LENGTH OF SPLICES = $I_b^* \alpha_1$ VALUE OF COEFFICIENT α_1 ARE GIVEN IN TABLE:3

%	OF I	AP	PED	R
CF	ROSS	S-SE	CTIC	٦N

ANCHORAGE OF BUNDLED BARS SHALL CONFORM TO CLAUSE 15.2.7.2 OF IRC:112-2020.

- BLOCKS SHALL ONLY BE USED.

- ENSURED.
- 9. SHARP EDGES OF CONCRETE SHALL BE CHAMFERED.

- iv. PRESENCE OF MANUFACTURER'S REPRESENTATIVE AT THE TIME OF CONCRETING

5. BEARINGS

6. FORMWORKS:

i. CONSTRUCTION JOINTS SHALL BE PROVIDED ONLY AT LOCATIONS SHOWN ON THE DRAWINGS. CONCRETING OPERATION SHALL BE CARRIED OUT CONTINUOUSLY UPTO THE CONSTRUCTION JOINT. CONSTRUCTION JOINTS AT OTHER LOCATIONS MAY BE PROVIDED WITH THE APPROVAL OF ENGINEER-IN-CHARGE. THE CONCRETE SURFACE AT THE JOINT SHALL BE BRUSHED WITH A STIFF BRUSH SOON AFTER CASTING, WHILE THE CONCRETE HAS ONLY SLIGHTLY STIFFENED ii. BEFORE NEW CONCRETE IS POURED, THE SURFACE OF OLD CONCRETE SHALL BE PREPARED AS

a) FOR HARDENED, CONCRETE SURFACE SHALL BE THOROUGHLY CLEANED TO REMOVE DEBRIS AND LAITANCE AND MADE ROUGH SO THAT 1/4 OF THE SIZE OF AGGREGATE EXPOSED BUT WITHOUT DISLODGING THE AGGREGATE & STRUCTURALLY DAMAGING THE CONCRETE.

b) FOR PARTIALLY HARDENED CONCRETE, THE SURFACE SHALL BE TREATED BY WIRE BRUSH FOLLOWED BY AN AIR JET. THE OLD SURFACE SHALL BE SOAKED WITH WATER, WITHOUT LEAVING PUDDLES, IMMEDIATELY BEFORE STARTING CONCRETING TO PREVENT ABSORPTION OF WATER FROM NEW

iii. NEW CONCRETE SHALL BE THOROUGHLY COMPACTED IN THE REGION OF THE JOINT.

i. SPLICING OF REINFORCEMENT BARS BY WELDING SHALL NOT BE PERMITTED UNDER NORMAL CIRCUMSTANCES AS RECOMMENDED IN CLAUSE 15.2.5.2(1) OF IRC:112-2020. IN CASE IT IS ABSOLUTELY UNAVOIDABLE, THE SAME SHALL BE PERMITTED WITH THE APPROVAL OF ENGINEER, ONLY AFTER SATISFYING CLAUSE 15.2.5.2 OF IRC:112-2020.

 SPLICING OF REINFORCEMENT BARS BY MECHANICAL DEVICES SHALL BE DONE AS PER CL.15.2.5.3 OF IRC:112-2020 & IS:16172-2014. BARS MAY BE SPLICED BY SPECIAL GRADE STEEL SLEEVES SWAGED ON TO THE BARS IN END TO END CONTACT OR BY THREADED COUPLERS. A MECHANICAL SPLICE INCLUDING ITS CONNECTING ELEMENTS SHALL DEVELOP, IN TENSION OR COMPRESSION, AT LEAST 125 PERCENT OF THE CHARACTERISTIC STRENGTH OF BAR.

iii. NORMAL LAP LENGTH SHALL BE AS PER TABLE: 2 AND NOT MORE THAN 50% OF REINFORCEMENT

3. THE BASIC ANCHORAGE LENGTH l_b ' FOR FAVOURABLE BOND SHALL BE K.Ø; VALUES FOR K FOR

DIFFERENT GRADES OF CONCRETE AND REINFORCING STEEL ARE GIVEN IN TABLE

TABLE:2

FOR UNFAVOURABLE BOND CONDITIONS (AS DEFINED IN RESPECTIVE DRAWING) THE ABOVE VALUES SHALL BE MULTIPLIED BY FACTOR OF 1.43. ANCHORAGE OF LINK/SHEAR REINFORCEMENT

Ø= DIA OF BAR SPLICES OF BARS BY LAPS SHALL BE AS PER CLAUSE 15.2.5.1 OF IRC:112-2020

IAB	LE:3				
ELATIVE TO TOTAL	< 25%	33%	50%	>50%	
α ₁	1.00	1.15	1.40	1.50	

4. FOR ENSURING PROPER COVER OF CONCRETE TO REINFORCEMENT SPECIALLY MADE POLYMER COVER

5. BENDING OF REINFORCEMENT BARS SHALL BE AS PER IS:2502-1963 AND IRC-112-2020.



FOR BAR ≥ 20mm DIA FOR BAR < 20mm DIA

6. SUPPORTING CHAIRS OF 12mm DIAMETER BAR SHALL BE PROVIDED AT SUITABLE INTERVALS AS PER

7. PROPER COMPACTION OF CONCRETE SHALL BE ENSURED BY USE OF FORM AND/OR NEEDLE VIBRATORS. USE OF FULL WIDTH SCREED VIBRATORS FOR COMPACTION OF CONCRETE IN DECK SLAB SHALL BE

8. SHUTTERING PLATES SHALL SUITABLY BE STIFFENED TO ENABLE THE COMPACTION BY FORM VIBRATORS.

10. THE LOCATION OF JACKS FOR LIFTING UP THE SUPERSTRUCTURE TO REPLACE BEARING ETC. IS SHOWN THUS (). THIS SHALL BE DISTINCTLY ETCHED ON END CROSS GIRDERS AND PIER/ABUTMENT CAPS.

(D) SPECIFICATION

1. THE WORK SHALL BE EXECUTED IN ACCORDANCE WITH MORTH'S SPECIFICATIONS FOR ROAD & BRIDGE WORKS (FIFTH REVISION) EXCEPT WHERE-EVER OTHERWISE MENTIONED.

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- 2. THE REQUIREMENT OF SLUMP FOR DIFFERENT ELEMENTS SHALL BE AS PER TABLE 1700-4 OF MORTH SPECIFICATION FOR ROAD AND BRIDGE WORKS.
- 3. THE PLACING OF CONCRETE SHALL BE SUCH THAT THERE SHALL NOT BE ANY SEGREGATION AND SHALL NOT BE FREELY DROPPED INTO A PLACE FROM HEIGHT EXCEEDING 2.0M
- 4. LAYERS OF CONCRETING AND THE VIBRATION REQUIREMENT SHALL BE AS PER SECTION 1700 OF MORTH SPECIFICATIONS FOR ROAD AND BRIDGE WORKS.

(E) CONSTRUCTION SEQUENCE

DESIGN CONSIDERATION

STAGE 1

AFTER 7 DAYS OF CASTING AND CURING OF GIRDERS, GIRDERS WILL BE LIFTED AND KEPT AT STACKING YARD IN WET CONDITION FOR ANOTHER 7 DAYS.

I OAD = SELE WEIGHT OF THE GIRDER

AFTER 14 DAYS OF CASTING GIRDER, GIRDERS WILL BE TRANSPORTED, ERECTED AT SITE AND DECK SLAB SHUTTERING WILL BE ON PLACE IN 7 DAYS

STAGE 2

DIAPHRAGM AND DECK SLAB CAST AFTER 21 DAYS OF GIRDER CASTING (AFTER 14 DAYS OF GIRDER LIFTING) FOLLOWING UNIFORMLY DISTRIBUTED LOAD WILL ACT ON THE GIRDER

- WET CONCRETE OF DIAPHRAGM
- WET CONCRETE OF DECK SLAB
- CONSTRUCTION LOAD DUE TO SHUTTERING AND LIVE LOAD AT CONSTRUCTION STAGE(
- LABOURS)
- STAGE 3

STRESS CHECK AFTER DECK SLAB ATTAINS STRENGTH AFTER 28 DAYS I.E. AFTER 21+28 = 49 DAYS (CHECK THE STRESSES FOR COMPOSITE ACTION)

STAGE 4

ADD SIDL (COMPOSITE ACTION) I.E. ADD CRASH BARRIER LOAD AFTER SLAB ATTAINING 28 DAY OF DECK CASTING.

STAGE 5

ADD SIDL (COMPOSITE ACTION) I.E. ADD WEARING COAT LOAD AFTER SLAB ATTAINING 28 DAY OF DECK SLAB CASTING.

STAGE 6

ADD LIVE LOAD (COMPOSITE ACTION).

AT ALL ABOVE STAGES, GIRDER WILL BE CONSIDERED FOR ULS AND SLS CHECK CONDITION.

THE CONSTRUCTION SEQUENCE IS PRESENTED IN TABLE: 4

TABLE: 4

SR.NO.	ACTIVITY	DAY
1	CASTING OF GIRDER	0 - 7
2	GIRDER LIFTED AND KEPT IN STACKING	7
3	GIRDERS WILL BE TRANSPORTED AND ERECTED AT SITE	14
4	SHUTTERING FOR DIAPHRAGM AND DECK	21 - 28
5	CASTING OF DIAPHRAGM AND DECK SLAB ON 28 TH DAY OR GIRDER CONCRETE ATTAINING A STRENGTH OF 80% OF DESIGN STRENGTH	28
6	INSTALL BEARING THEN CRASH BARRIER AND WEARING COAT WILL BE CASTED	49

		1			
MKD	DATE		DESCRIPTION		BY
		REVI	SION		
सङ्क परिवहन और राजमार्ग मंत्रालय MINISTRY OF ROAD TRANSPORT & HIGHWAYS आरत सरकार Government of India					
	STAN	IDARD DRAWING	S FOR ROAD BRI	DGES	
F	RCC T-E	BEAM AND SL	AB SUPERSTR	UCTUR	Ε
GENERAL NOTES					
DESIGNED BY RECOMMENDED BY APPROVED BY JANUARY 2025					RY 2025
K. GAN GENERAL ASSYST	ESH IYER MANAGER EM STUP	Digitally signed by SANJAY KUMAR JAIN Date: 2025-01-15 17:48+05:30 SANJAY KUMAR JAIN TEAM LEADER VKS INFRATECH MGT, PVT, LTD.	PANKAJ AGGARWAL CE (S&R)	SHEET SIZE: A2	
OBINERAL INFANDOER TEAMIN LEADER ASSYSTEM STUP VKS INFRATECH MGT. PVT. LTD. CE (S&R) DRG. NO. MORTH/I SM/RCC-T/GN/0001					



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DESIGN CONSIDERATIONS:

DESIGN CONSIDERATIONS.	
GRADE OF CONCRETE (GIRDER)	M30
GRADE OF CONCRETE (SLAB / DIAPHRAGM)	M30
GRADE OF STEEL	FE 500D
EXPOSURE CONDITION	MODERATE
SEISMIC ZONE	111

NOTES:

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- 1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE NOTED.
- 2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- 3. MINIMUM CONCRETE CLEAR COVER TO ANY REINFORCEMENT SHALL BE 40MM 4. TRANSVERSE SLOPE OF DECK SLAB IS 2.5%. CONTRACTOR MAY CHANGE THE
- SAME CONSIDERING PLAN AND PROFILE DRAWINGS.
- 5. SUITABLE WEDGES BELOW GIRDER SOFFIT SHALL BE PROVIDED AT BOTH THE ENDS SO THAT GIRDER WILL HAVE HORIZONTAL BASE RESTING ON BEARING. 6. THE SHUTTERING FOR CAST IN SITU DECK SLAB SHOULD FOLLOW THE PRE
- CAMBERED PROFILE OF GIRDER. 7. MAXIMUM REACTION OVER JACK AT WORKING LOAD (DL + SIDL) IS 150T.

REFERENCE DRAWINGS:

1. MORTH RCC-T/C	/LSM/ GN/0001	RCC T BEAM AND SLAB SUPERSTRUCTURE GENERAL NOTES	
2. MORTH 32m/13	/LSM/ 8.0m/00/1002	RCC T BEAM AND SLAB SUPERSTRUCTURE 32m SPAN, 13m WIDTH AND 0 DEGREE SKEW DETAILS OF DECK SLAB	
332m/	13.0m/00/1003	DETAILS OF LONGITUDINAL GIRDER (OUTER)	
432m/	13.0m/00/1004	DETAILS OF DIAPHRAGMS	
532m/	13.0m/00/1005	SCHEDULE OF REINFORCEMENT LONGITUDINAL GIRDER (OUTER)	
632m/	13.0m/00/1006	SCHEDULE OF REINFORCEMENT-DECK SLAB, INTERMEDIATE DIAPHRAGM & END DIAPHRAGM	
732m/	13.0m/00/1007	DETAILS OF LONGITUDINAL GIRDER (INNER)	
832m/	13.0m/00/1008	SCHEDULE OF REINFORCEMENT LONGITUDINAL GIRDER (INNER)	
932m/	13.0m/00/1009	ELASTOMERIC BEARING	
1032m	/13.0m/00/1010	DETAILS OF EXPANSION JOINT	
1132m	/13.0m/00/1011	DETAILS OF POT-PTFE/SPHERICAL BEARING FORCES	
1232m	/13.0m/00/1012	DETAILS OF PEDESTAL AND SEISMIC REACTION BLOCK	
1332m	/13.0m/00/1013	REINFORCEMENT DETAILS OF TRANSVERSE SEISMIC REACTION BLOCK	
1432m	/13.0m/00/1014	REINFORCEMENT DETAILS OF PEDESTAL AND LONGITUDINAL SEISMIC REACTION BLOCK	
LEGENI	DS:		
q	CENTER LINE		
EXP	EXPANSION JOIN	Т	
ТНК	THICK		
ТҮР	TYPICAL		
FRL	FINISHED ROAD I	EVEL	
PLSRB-A	PEDESTAL CUM L	ONGITUDINAL SEISMIC REACTION BLOCK AT ABUTMENT	
TSRB-A	TRANSVERSE SEI	SMIC REACTION BLOCK AT ABUTMENT	
PLSRB-P	PEDESTAL CUM L	ONGITUDINAL SEISMIC REACTION BLOCK AT PIER	
TSRB-P	TRANSVERSE SEI	SMIC REACTION BLOCK AT PIER	

MKD	DATE		DESCRIPTION	BY				
		REVI	SION	•				
	सड़क परिवहन और राजमार्ग मंत्रालय MINISTRY OF ROAD TRANSPORT & HIGHWAYS मारत सरकार Government of India							
	STANDARD DRAWINGS FOR ROAD BRIDGES							
	RCC T B	EAM AND SLA	AB SUPERSTRU	JCTURE				
	32m SPAN, 13.0m WIDTH AND 0° SKEW GENERAL ARRANGEMENT							
DESIG	DESIGNED BY RECOMMENDED BY APPROVED BY JANUARY 2025							
K. GAN GENERAL ASSYST	IESH IYER MANAGER EM STUP	Digitally signed by SANJAY KUMAR JAIN Date: 2025-01-15 17:48+05:30 SANJAY KUMAR JAIN TEAM LEADER VKS INFRATECH MGT. PVT. LTD.	PANKAJ Digitally signed by PANKAJ AGGARWAL AGGARWAL Date: 2025.01.17 11:36:19 +05'30' CE (S&R)	SHEET SIZE: A2				
DRG. NO.	N	IORTH/LSM/32m/	13.0m/00/1001	-				

А

2226072/2025//S&R Zome

С



В

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GRADE OF CONCRETE (GIRDER)	M30
GRADE OF CONCRETE (SLAB / DIAPHRAGM)	M30
GRADE OF STEEL	FE 500D
EXPOSURE CONDITION	MODERATE
SEISMIC ZONE	

Α

. MORTH/LSM/ RCC-T/GN/0001	RCC T BEAM AND SLAB SUPERSTRUCTURE GENERAL NOTES
. MORTH/LSM/ 32m/13.0m/00/1001	RCC T BEAM AND SLAB SUPERSTRUCTURE 32m SPAN, 13m WIDTH AND 0 DEGREE SKEW GENERAL ARRANGEMENT
32m/13.0m/00/1003	DETAILS OF LONGITUDINAL GIRDER (OUTER)
32m/13.0m/00/1004	DETAILS OF DIAPHRAGMS
32m/13.0m/00/1005	SCHEDULE OF REINFORCEMENT LONGITUDINAL GIRDER (OUTER)
32m/13.0m/00/1006	SCHEDULE OF REINFORCEMENT-DECK SLAB, INTERMEDIATE DIAPHRAGM & END DIAPHRAGN
32m/13.0m/00/1007	DETAILS OF LONGITUDINAL GIRDER (INNER)
32m/13.0m/00/1008	SCHEDULE OF REINFORCEMENT LONGITUDINAL

2236072/2025/S&R Zome



File No. RW/NH-34049/1/2017-S&R(B) (Computer No. 159214) Generated from eOffice by KKiHANntaki, BIEERIARSZX(6&R)SEMMORCTHOM: 08FMIERO2800RTH: gmm29/01/2025 11:01 am

2236072/2025/S&R Zome



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2226072/2025/S&R Zome

SI NO	BAR MARK	SHAPE OF BARS	DIA OF BARS	LENGTH OF EACH BAR	NO. OF BARS OR	TOTAL LENGTH	WEIGHT (kg)	REMARK			
		PER GIRDER	(mm)	(mm)	SPACING	(m)					
1		500 500	32	33544	8 Nos.	268.352	1693.30				
2	2	32720	32	32720	4 Nos.	130.880	825.85				
3	3	31950	32	31950	4 Nos.	127.800	806.42				
4	4	26100	32	26100	4 Nos.	104.400	658.76		-	FOTAL (2
5	5	18600	32	18600	2 Nos.	37.200	234.73		ſ	1. STEEL	_
6	6							NOT USED		2. CONCR	E
7	7							NOT USED			
8	8							NOT USED			
9	9	770	32	770	@1000 c/c	46.970	296.38	SPACER BAR			
10		210 210	10	2436	@175 c/c	107.184	66.45				
11	(10a)	750 750 750 750 750 750 750	10	2436	@150 c/c	43.848	27.19				
12	(11)	750 750 750 483 210	10	2436	@175 c/c	63.336	39.27				
13	(12)		10	2436	@175 c/c	226.548	140.46				
14	(13)	31000	10	31000	2x3 Nos.	186.000	115.32				
15	(13a)	1860	10	1860	2x2x3 Nos.	22.320	13.84				
16		<u>2821</u> <u>2821</u> <u>2821</u>	12	13500	2x1 Nos.	27.00	24.03	4 LEGGED STIRRUPS			
17	(15)	746 146 2821 2821	12	13500	@175 c/c	243.00	216.27	4 LEGGED STIRRUPS			
18	(15a)	2821 2821	12	13500	@175 c/c	594.000	528.66	4 LEGGED STIRRUPS			
19	(15b)	146 VARIES 146 VARIES 2821	12	6150	@150 c/c	110.700	98.52	2 LEGGED STIRRUPS	SCH MESF		
20	(16)		12	6150	@175 c/c	159.900	142.31	2 LEGGED STIRRUPS	1	(29)	
21											
		1360	12	6150	@175 c/c	565.800	503.56				
22		450 5360 330	12	7146	@150c/c	428.760	381.60				
25			12	21300	@150c/c	639.000	568.71				
24	(20)	2572 600 1100	12	3//2	2x4 Nos.	30.176	26.86				
25	(21)	³³ 626 1150 ¹¹⁰⁰	10	2838	@175 c/c	51.084	31.67				
26	(21a)	93 626 150 \$131	10	2838	@175 c/c	124.872	77.42				
27	(21b)	93 1100	10	2838	@150 c/c	51.084	31.67				
28	22	93 626 1100 1100 1131 1131	10	2838	@175 c/c	73.788	45.75				
29	(23)	93	10	2838	@175 c/c	261.096	161.88				
30	(24)	32720	12	32720	2x3 Nos.	196.320	174.72				
31	(25)	32720	10	32720	6 Nos.	196.320	121.72				
32	(26)	28* <u>1120</u> 304 3332	12	2060	@175 c/c	37.080	33.00				
33	(76a)	200 - #41 28* 1120 304 332	12	2060	@175 c/c	90.640	80.67				
				2055			22.02				
34	(26b)	$\begin{array}{c c} 304 \\ 200 \\ 208 \\ 1120 \\ 28 \\ 1120 \\ 304 \\ 1120 \\ 304 \\ 1120 \\ 304 \\ 100 \\ $	12	2060	@150 c/c	37.080	33.00				
35	(27)	304 J332	12	2060	@175 c/c	53.560	47.67				

File No. RW/NH-34049/1/2017-S&R(B) (Computer No. 159214)

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DESIGN CONSIDERATIONS:

GRADE OF CONCRETE (GIRDER)	M30
GRADE OF CONCRETE (SLAB / DIAPHRAGM)	M30
GRADE OF STEEL	FE 500D
EXPOSURE CONDITION	MODERATE
SEISMIC ZONE	111

NOTES:

А

- 1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE NOTED.
- 2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- MINIMUM CONCRETE CLEAR COVER TO ANY REINFORCEMENT SHALL BE 40mm.
- 4. DIMENSIONS IN THE SCHEDULE ARE GIVEN AS PER IS: 2502-1963.
- 5. THE EXACT LENGTH OF THE BARS WILL BE DETERMINED BY THE ACTUAL LAPS / SPLICES ADOPTED AT SITE.

REFERENCE DRAWINGS:

1. MORTH/LSM/	RCC T BEAM AND SLAB SUPERSTRUCTURE
RCC-T/GN/0001	GENERAL NOTES
2. MORTH/LSM/ 32m/13.0m/00/1001	RCC T BEAM AND SLAB SUPERSTRUCTURE 32m SPAN, 13m WIDTH AND 0 DEGREE SKEW GENERAL ARRANGEMENT

- 3. ...32m/13.0m/00/1002 DETAILS OF DECK SLAB
- 4. ...32m/13.0m/00/1003 DETAILS OF LONGITUDINAL GIRDER (OUTER)
- 5. ...32m/13.0m/00/1004 DETAILS OF DIAPHRAGMS
- 6. ...32m/13.0m/00/1006 SCHEDULE OF REINFORCEMENT-DECK SLAB, INTERMEDIATE DIAPHRAGM & END DIAPHRAGM
- 7. ...32m/13.0m/00/1007 DETAILS OF LONGITUDINAL GIRDER (INNER)
- 8. ...32m/13.0m/00/1008 SCHEDULE OF REINFORCEMENT LONGITUDINAL GIRDER (INNER)

EINFORCEMENT (PER GIRDER)

MKD	DATE			DESCRIPTIC	N		BY
			REVIS	SION			
सड़क परिवहन और राजमार्ग मंत्रालय MINISTRY OF ROAD TRANSPORT & HIGHWAYS मारा सरकार Government of India							
	STAN	NDARD DRA	WINGS	5 FOR R	oad brii	DGES	
RCC T BEAM AND SLAB SUPERSTRUCTURE							
	ICC I L		DISLA	AR SON	ERZIK	JCIURE	-
	32	2m SPAN, 13 SCHEDUL LONGITUI	D SLA 3.0m W .E OF R DINAL (AB SUP /IDTH AI EINFORC GIRDER (ERSTRU ND 0° SKE CEMENT OUTER)	W	<u>.</u>
DESIG	3: NED BY	2m SPAN, 13 SCHEDUL LONGITUI	D SLA 3.0m W E OF R DINAL (AB SUP /IDTH Af EINFORC GIRDER (APPRC	ERSTRU ND 0° SKE CEMENT OUTER)	JCTUKE W	2025
DESIGI K. GAN GENERAL ASSYST	NED BY MANAGER EM STUP	2m SPAN, 13 SCHEDUL LONGITUI RECOMMEND Digitally signed by SANJA Date: 2025-01-15 17.494C SANJAY KUMAR TEAM LEAM VKS INFRATECH MG1	D SLA 3.0m W E OF R DINAL (ED BY AV KUMAR JAIN 0530 R JAIN PER T. PVT. LTD.	AB SUP VIDTH AI EINFORG GIRDER (APPRC PANKAJ AGGARWAI	EKSTRU ND 0° SKE CEMENT OUTER) WED BY Digitally signed by PANKAJ AGGARWAL Digitally signed by PANKAJ AGGARWAL Digitally signed by PANKAJ AGGARWAL 11:37:45+05'30' (S&R)	JCTUKE W JANUARY SHEET SIZE: A2	2025

NTITY (PER GIRDER)

HSD BARS (Fe 500D) 8.424 T	
H.T. S BARS	0.058 T	
	45.044 m ³	

() H	SD BARS	$\tilde{\mathbf{b}}$						
SI NO	BAR MARK	SHAPE OF BARS (NOT TO SCALE) (DIMENSIONS ARE IN MILLIMETERS)	DIA OF BARS (mm)	LENGTH OF EACH BAR (mm)	NO.OF BARS OR SPACING	TOTAL LENGTH (m)	WEIGHT (kg)	REMARK
PER IN	NTERMEDIAT	E DIAPHRAGM (PER DIAPHRAGM)	1			I	1	1
15	21	12920 140	25	13063	3 Nos.	39.19	150.87	
16	(21a)	12870	25	12870	2 Nos.	25.74	99.10	
17	22	340	25	3096	2x4 Nos.	24.77	95.36	
18	23	4700	25	4700	2x4 Nos.	37.60	144.76	
19	24	1109	10	2798	@200 c/c	92.33	57.25	2 LEGGED STIRRUPS
20	25	3680	12	3680	16 Nos.	58.88	52.40	
21	26	2081	12	4382	8 Nos.	35.06	31.20	
22	27	<u>1109</u>	10	2798	2x2x4 Nos.	44.77	27.76	2 LEGGED STIRRUPS
23	28	220	25	220	@1000 c/c HORIZONTALLY SPACER BAR	5.28	20.33	SPACER BAR
24	29	2620 200	12	2972	2x3x4 Nos.	80.928	72.03	
25	30		12	2498	@150 c/c	189.85	168.96	2 LEGGED STIRRUPS (VARYING LENGTH)
26	(30a)	∠	10	380	18 Nos.	6.84	4.24	2 Nos. LINKS WITH EVERY 5th STIRRUP STAGGERED
ER E	ND DIAPHRA	GM (PER DIAPHRAGM)						
25	31	12920 200	20	13210	5 Nos.	66.05	163.14	
26	32	12920	12	12920	2 Nos.	25.84	23.00	
27	33	12920 200	12	13272	2 Nos.	26.54	23.62	
28	(34)	300 1040	20	3005	2 x 5 Nos.	30.05	74.22	
29	(35)	3350	20	4400	2 x 5 Nos.	44	108.68	
30	36	<u>2530</u>	12	6068	@150 c/c	273.06	243.02	2 LEGGED STIRRUPS
31	37	3920	12	3920	@150 c/c	219.52	195.37	
32	(38)	420	12	5412	@150 c/c	151.54	134.87	
33	39	2530	12	6068	4x2 Nos.	48.54	43.20	2 LEGGED STIRRUPS
34	(40)		10	4930	4 x 2 Nos.	47.44	29.41	
35	(41)	450 2345	12	3197	2x3x4 Nos.	76.728	68.29	
36	(42)	360 ,110	10	580	60 Nos.	34.8	21.58	5 Nos. LINKS WITH EVERY 5th STIRRUP STAGGERED

С

SCHEDULE OF REINFORCEMENT (PER SPAN) A) HSD BARS

В

SI NO	BAR MARK	SHAPE OF BARS (NOT TO SCALE) (DIMENSIONS ARE IN MILLIMETERS)	DIA OF BARS (mm)	LENGTH OF EACH BAR (mm)	NO. OF BARS OR SPACING	TOTAL LENGTH (m)	WEIGHT (kg)	REMARK
		DECK SLAB	1					
1	1	12920	16	12920	@175 c/c	2364.36	3735.69	
2	2	450 450 450	16	981	@175 c/c	359.05	567.29	
3	3							NOT USED
4	4	250 33270 250	10	33730	@190 c/c	1382.93	857.42	
5	(4a)	250 250 250	12	33722	8 x 4 Nos.	1079.10	960.40	
6	5	12920	16	12920	@175 c/c	2364.36	3735.69	
7	(5a)	4400	16	4400	@175 c/c	805.20	1272.22	
8	(5b)	1750	16	1750	2x2x2 Nos.	14.00	22.12	
9	(5c)	145	16	13146	2x6 Nos.	157.75	249.25	
10	(5d)	1660	10	1660	4x5 Nos.	33.20	20.58	
11	6							NOT USED
12	7							NOT USED
13	8	250	10	1020	@190 c/c	118.32	73.36	
14	(8a)	800 320	10	1085	@380 c/c	75.95	47.09	
15	9	145 145	10	33520	@190 c/c	1374.32	852.08	
16	(9a)	145 145	10	33520	@380 c/c	234.64	145.48	
17	(9b)	145 145	12	33512	8 X 4 Nos.	1072.38	954.42	
18	10	250 1200	10	2310	@190 c/c	64.68	40.10	
19	(11)	33270 145 145	16	33496	2x4 Nos.	267.97	423.39	
20	(12)	145 145	12	13162	2x3 Nos.	78.97	70.29	
21	(13)	450 5360	12	7164	2 x 2 x 4 Nos.	114.62	102.02	

TOTAL QUANTITY - DECK SLAB(PER SPAN)

1. STEELHSD BARS(Fe 500D)	14
2. CONCRETE	9

B

TOTAL QUANTITY (PER INT. DIAPHRAGM)

1. STEEL......HSD BARS(Fe 500D) 1.849 T

TOTAL QUANTITY (PER END DIAPHRAGM)

1. STEELHSD BARS(Fe 500D)	1.128 T	
2. CONCRETE	8.973 m³	

TOTAL QUANTITY - INT. DIAPHRAGM (PER SPAN)

С

1. STEELHSD BARS(Fe 500D)	3.697 T
2. CONCRETE	7.706 m ³

TOTAL QUANTITY - END DIAPHRAGM (PER SPAN)

1. STEELHSD BARS(Fe 500D)	2.257 T
2. CONCRETE	17.945 m³

File No. RW/NH-34049/1/2017-S&R(B) (Computer No. 159214)

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DESIGN CONSIDERATIONS:

14.234 T 97.700 m³

GRADE OF CONCRETE (GIRDER)	M30
GRADE OF CONCRETE (SLAB / DIAPHRAGM)	M30
GRADE OF STEEL	FE 500D
EXPOSURE CONDITION	MODERATE
SEISMIC ZONE	ш

NOTES:

А

- 1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE NOTED. 2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE
- FOLLOWED. 3. MINIMUM CONCRETE CLEAR COVER TO ANY REINFORCEMENT SHALL BE
- 40mm. 4. DIMENSIONS IN THE SCHEDULE ARE GIVEN AS PER IS: 2502-1963
- 5. THE EXACT LENGTH OF THE BARS WILL BE DETERMINED BY THE ACTUAL LAPS / SPLICES ADOPTED AT SITE.

REFERENCE DRAWINGS:

1. MORTH/LSM/ RCC-T/GN/0001	RCC T BEAM AND SLAB SUPERSTRUCTURE GENERAL NOTES
2. MORTH/LSM/ 32m/13.0m/00/1001	RCC T BEAM AND SLAB SUPERSTRUCTURE 32m SPAN, 13m WIDTH AND 0 DEGREE SKEW GENERAL ARRANGEMENT
332m/13.0m/00/1002	DETAILS OF DECK SLAB
432m/13.0m/00/1003	DETAILS OF LONGITUDINAL GIRDER (OUTER)
532m/13.0m/00/1004	DETAILS OF DIAPHRAGMS
632m/13.0m/00/1005	SCHEDULE OF REINFORCEMENT LONGITUDINAL GIRDER (OUTER)
732m/13.0m/00/1007	DETAILS OF LONGITUDINAL GIRDER (INNER)
832m/13.0m/00/1008	SCHEDULE OF REINFORCEMENT LONGITUDINAL GIRDER (INNER)

MKD	DATE		DESCRIPTION	BY
		REVI	SION	
	सन्दर्भन करने	सङ्क परिवहन अ MINISTRY OF ROAD भारत सरकार	और राजमार्ग मंद TRANSPORT & HIGH Governman	शालय IWAYS ent of India
	STAN	IDARD DRAWING	s for road bri	DGES
RCC T BEAM AND SLAB SUPERSTRUCTURE				
	32 SCH INTERI	2m SPAN, 13.0m V EDULE OF REINFO MEDIATE DIAPHRA	VIDTH AND 0° SKE RCEMENT-DECK S AGM & END DIAPH	W LAB, IRAGM
DESIGN	ED BY	RECOMMENDED BY	APPROVED BY	JANUARY 2025
K. GANE GENERAL I ASSYSTE	SH IYER MANAGER M STUP	Digitally signed by SANJAY KUMAR JAIN Date: 2025-01-15 17:50+05:30 SANJAY KUMAR JAIN TEAM LEADER VKS INFRATECH MGT. PVT. LTD.	PANKAJ AGGARWAL Construction Digitally signed by PANKAJ AGGARWAL Date: 2025.01.17 11:38:07 +05'30' CE (S&R)	SHEET SIZE: A2
DRG. NO.	N	IORTH/LSM/32m/	13.0m/00/1006	

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2226072/2025//S&R Zome



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2226072/2025/S&R Zome

SI NO	BAR MARK	SHAPE OF BARS	DIA OF BARS	LENGTH OF EACH BAR	NO. OF BARS OR	TOTAL LENGTH	WEIGHT (kg)	REMARK	
			(mm)	(mm)	SPACING	(m)	(6)		
1		500 500	32	33544	8 Nos.	268.352	1693.30		
2	(2)	<u> </u>	32	32720	4 Nos	130.880	825.85		
3		31950	32	31950	4 Nos	127.800	806.42		
4		26100		26100	4 NOS.	104.400	650.72		ТОТ
5	5	18600	32	18600	4 Nos.	37.200	234.73		
6					2 1103.				1. STI
7								NOT USED	2. CO
0	\bigcirc							NOT USED	
•		770			01000 /			NOT USED	
9	(9)	<u> </u>	32	770	@1000 c/c	46.970	296.38	SPACER BAR	
10		750	10	2436	@175 c/c	107.184	66.45		
11	(10a)	750	10	2436	@150 c/c	43.848	27.19		
12	(11)	750 483	10	2436	@175 c/c	63.336	39.27		
13	(12)	750 483	10	2436	@175 c/c	226.548	140.46		
14	(13)	31000	10	31000	2x3 Nos.	186.000	115.32		
15	13a	1860	10	1860	2x2x3 Nos.	22.320	13.84		
16	(14)	2821 2821	12	13500	2x1 Nos.	27.00	24.03	4 LEGGED STIRRUPS	
17	(15)		12	13500	@175 c/c	243.00	216.27	4 LEGGED STIRRUPS	
18	(15a)		12	13500	@175 c/c	594.000	528.66	4 LEGGED STIRRUPS	SCUEDI
19	(15b)	146 VARIES 146 VARIES 2821	12	6150	@150 c/c	110.700	98.52	2 LEGGED STIRRUPS	
20	(16)	146 2821	12	6150	@175 c/c	159.900	142.31	2 LEGGED STIRRUPS	1 (2
21			12	6150	@175.c/c	E C E 800	E02.EC	2 LEGGED STIRRUPS	
22		1360	12	7146	0150 /	100.200	201.00		
22		450 5360 330	12	/146	@150c/c	428.760	381.60		
23		<u></u> 600	12	21300	@150c/c	639.000	568.71		
24	(20)	25/2 600	12	3772	2x4 Nos.	30.176	26.86		
25	(21)	93 626 150 *131	10	2838	@175 c/c	51.084	31.67		
26	(21a)	93 <u>1100</u> *131	10	2838	@175 c/c	124.872	77.42		
27	(21b)	93 1100	10	2838	@150 c/c	51.084	31.67		
28	22		10	2838	@175 c/c	73.788	45.75		
29	(23)	93	10	2838	@175 c/c	261.096	161.88		
30	(24)	32720	12	32720	2x3 Nos.	196.320	174.72		
31	(25)	32720	10	32720	6 Nos.	196.320	121.72		
32	(26)	28 4 1120 332	12	2060	@175 c/c	37.080	33.00		
33	(26a)	200 - 41 28 1120 304 332	12	2060	@175 c/c	90.640	80.67		
34	(26b)	200 - 41 28 1120 304 332	12	2060	@150 c/c	37.080	33.00		
35	(27)	200 - ++41 28 - 1120 304 - 332	12	2060	@175 c/c	53.560	47.67		
		200 -#41							

File No. RW/NH-34049/1/2017-S&R(B) (Computer No. 159214)

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DESIGN CONSIDERATIONS:

GRADE OF CONCRETE (GIRDER)	M30
GRADE OF CONCRETE (SLAB / DIAPHRAGM)	M30
GRADE OF STEEL	FE 500D
EXPOSURE CONDITION	MODERATE
SEISMIC ZONE	111

TITY (PER GIRDER)

SD BARS (Fe 500D)	8.424 T	
.T. S BARS	0.058 T	
	45.044 m ³	

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE NOTED.
 DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- 3. MINIMUM CONCRETE CLEAR COVER TO ANY REINFORCEMENT SHALL BE 40mm.
- 4. DIMENSIONS IN THE SCHEDULE ARE GIVEN AS PER IS: 2502-1963.
- 5. THE EXACT LENGTH OF THE BARS WILL BE DETERMINED BY THE ACTUAL LAPS / SPLICES ADOPTED AT SITE.

REFERENCE DRAWINGS:

А

1. MORTH/LSM/ RCC-T/GN/0001	RCC T BEAM AND SLAB SUPERSTRUCTURE GENERAL NOTES
2. MORTH/LSM/ 32m/13.0m/00/1001	RCC T BEAM AND SLAB SUPERSTRUCTURE 32m SPAN, 13m WIDTH AND 0 DEGREE SKEW GENERAL ARRANGEMENT
332m/13.0m/00/1002	DETAILS OF DECK SLAB
432m/13.0m/00/1003	DETAILS OF LONGITUDINAL GIRDER (OUTER)
532m/13.0m/00/1004	DETAILS OF DIAPHRAGMS
632m/13.0m/00/1005	SCHEDULE OF REINFORCEMENT LONGITUDINAL GIRDER (OUTER)
732m/13.0m/00/1006	SCHEDULE OF REINFORCEMENT-DECK SLAB, INTERMEDIATE DIAPHRAGM & END DIAPHRAGM
832m/13.0m/00/1007	DETAILS OF LONGITUDINAL GIRDER (INNER)

INFORCEMENT (PER GIRDER)

IN END GIRDER 8 9580 2 x1 Nos. 19.160 7.47

MKD	DATE		DESCRIPTION	BY		
	•	REVI	SION	•		
	सड़क परिवहन और राजमार्ग मंत्रालय MINISTRY OF ROAD TRANSPORT & HIGHWAYS मारा सरकार Government of India					
	STAN	DARD DRAWING	s for road brii	DGES		
RCC T BEAM AND SLAB SUPERSTRUCTURE						
	32	m SPAN, 13.0m V SCHEDULE OF R LONGITUDINAL	VIDTH AND 0° SKE EINFORCEMENT GIRDER (INNER)	W		
DESIGN	NED BY	RECOMMENDED BY	APPROVED BY	JANUARY 2025		
Digitally signed by SANJAY KUMAR JAIN Date: 2025-01-15 17:50+05:30 PANKAJ Digitally signed by PANKAJ SHEET SIZE: Date: 2025.01.17 K. GANESH IYER GENERAL MANAGER ASSYSTEM STUP SANJAY KUMAR JAIN TEAM LEADER PANKAJ Date: 2025.01.17 A2						
DRG. NO.	M	ORTH/LSM/32m/	13.0m/00/1008			
		А				



R

File No. RW/NH-34049/1/2017-S&R(B) (Computer No. 159214)

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DESIGN CONSIDERATIONS:

GRADE OF CONCRETE (GIRDER)	M30
GRADE OF CONCRETE (SLAB / DIAPHRAGM)	M30
GRADE OF STEEL	FE 500D
EXPOSURE CONDITION	MODERATE
SEISMIC ZONE	
BEARING TYPE	ELASTOMERIC

NOTES:

А

- 1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE NOTED.
- 2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- 3. MINIMUM AGE OF GIRDER AT TIME OF FIXING EXPANSION JOINT WILL BE 49 DAYS.
- 4. THE POCKETS FOR FIXING OF EXPANSION JOINT SHALL BE CASTED AFTER COMPLETING OF WEARING COAT. THE TEMPERATURE SHALL BE WITHIN MEAN TEMPERATURE ±10°C AS PER CL-215.2 OF IRC:6-2017, DURING CASTING OF THE EXPANSION JOINT POCKET.

REFERENCE DRAWINGS:

- 1. MORTH/LSM/... RCC T BEAM AND SLAB SUPERSTRUCTURE RCC-T/GN/0001 GENERAL NOTES RCC T BEAM AND SLAB SUPERSTRUCTURE 32m SPAN, 13m WIDTH AND 0 DEGREE SKEW GENERAL ARRANGEMENT 2. MORTH/LSM/... 32m/13.0m/00/1001
- 3. ...32m/13.0m/00/1002 DETAILS OF DECK SLAB
- SCHEDULE OF REINFORCEMENT-DECK SLAB, 4....32m/13.0m/00/1006 INTERMEDIATE DIAPHRAGM & END DIAPHRAGM



В

TEMPERATURE Vs EXPANSION JOINT GAP DURING INSTALLATION CONSIDERING ELASTOMERIC BEARING

TEMPERATURE (DEGREE CELSIUS)	0	5	10	15	20	25	30	35	40	45	50	
EXPANSION JOINT GAP `E' (mm)	60.08	58.16	56.24	54.32	52.40	50.48	48.56	46.64	44.72	42.80	40.88	
EXPANSION JOINT GAP `J' (mm)	30.04	29.08	28.12	27.16	26.20	25.24	24.28	23.32	22.36	21.40	20.44	

	MAX. MOVEMENT (mm)	NO. OF SEALS
AT ABUTMENT	40	SINGLE STRIP SEAL
AT PIER	80	SINGLE STRIP SEAL

MKD	DATE		DESCRIPTION		BY
	1	REVI	SION		
सङ्क परिवहन और राजमार्ग मंत्रालय MINISTRY OF ROAD TRANSPORT & HIGHWAYS भारत सरकार Government of India					
STANDARD DRAWINGS FOR ROAD BRIDGES					
RCC T BEAM AND SLAB SUPERSTRUCTURE					
FOR 32m SPAN, 13.0m WIDTH AND 0° SKEW DETAILS OF EXPANSION JOINT					
DESIG	NED BY	RECOMMENDED BY	APPROVED BY	JANUAF	Y 2025
le	u	Digitally signed by SANJAY KUMAR JAIN Date: 2025-01-15 17:51+05:30	PANKAJ Digitally signed by PANKAJ AGGARWAL Date: 2025.01.17	SHEET SIZE:	
K. GAN GENERAL ASSYST	ESH IYER MANAGER EM STUP	SANJAY KUMAR JAIN TEAM LEADER VKS INFRATECH MGT. PVT. LTD.	AGGAKWAL 11:39:37 +05'30' CE (S&R)	A2	
DRG. NO.	M	ORTH/LSM/32m/	13.0m/00/1010		
		А			

BEARING TYPE					GUIDED BEARING - LONGITUDINAL	GUIDED BEARING - TRANSVERSE	FREE BEARIN	
BE	B2	B6	B1/B3/B4	B5/B7/B8				
Ν	NO. OF BEARINGS (PER SPAN)					3	3	
	UPPER SURFACE			M30	M30	M30	M30	
(GRADE OF CONCRETE)		LOWER SURFACE		M40	M40	M40	M40	
			MAXIMUM	2085	2085	2260	2260	
		VERTICAL	PERMANENT	1180	1180	1360	1360	
	SERVICEABILITY LIMIT		MINIMUM	1000	1000	1100	1160	
			GITUDINAL	125	0	125	0	
		TRA	NSVERSE	535	533	0	0	
DESIGN LOAD EFFECTS			MAXIMUM	2725	2725	3015	3015	
		VERTICAL	PERMANENT	1610	1610	1850	1850	
			MINIMUM	695	695	700	700	
		LONG	GITUDINAL	1190	0	1190	0	
		TRA	NSVERSE	2265	2265	0	5	
			TRANSVERSE	0.00	0.00	-1.28	-1.28	
		IRREVERSIBLE	LONGITUDINAL	0.00	-6.40	0.00	-6.40	
	STATE		TRANSVERSE	0.00	0.00	±2.88	±2.88	
		REVERSIBLE	LONGITUDINAL	0.00	±14.42	0.00	±14.42	
TRANSLATION (mm)	ULTIMATE LIMIT STATE	IRREVERSIBLE	TRANSVERSE	0.00	0.00	-1.73	-1.73	
			LONGITUDINAL	0.00	-8.64	0.00	-8.64	
		REVERSIBLE	TRANSVERSE	0.00	0.00	±4.33	±4.33	
			LONGITUDINAL	0.00	±21.63	0.00	±21.63	
		IRREVERSIBLE	TRANSVERSE	_	-	-	-	
	SERVICEARIUITY		LONGITUDINAL	0.0038	0.0038	0.0038	0.0038	
	LIMIT STATE		TRANSVERSE	_	-	-	-	
		REVERSIBLE	LONGITUDINAL	±0.0023	±0.0023	±0.0023	±0.0023	
ROTATION (RAD.)			TRANSVERSE	-	-	-	-	
		IRREVERSIBLE	LONGITUDINAL	0.0052	0.0052	0.0052	0.0052	
	STATE		TRANSVERSE	_	-	-	-	
		REVERSIBLE	LONGITUDINAL	±0.0035	±0.0035	±0.0035	±0.0035	
			TRANSVERSE	850	850	850	850	
	UPPER SU	RFACE	LONGITUDINAL	850	850	850	850	
MAXIMUM AVAILABLE STRUCTURE			TRANSVERSE	900	900	900	900	
DIMENSION FOR DISPERSION (mm)	LOWER SU	IRFACE	LONGITUDINAL	900	900	900	900	
	OVERALL F	IEIGHT		-	-	-	-	
			SERVICEABILITY					
	UPPER SU	RFACE	ULTIMATE	GRADE OF CONCRETE FOR UPPER SURFACE - M30				
ALLOWABLE AVERAGE CONTACT PRESSURE (N/mm²)	LOWER SURFACE		SERVICEABILITY	GRADE OF CONCRETE FOR LOWER SURFACE - M40				
TYPE OF FIXING REQUIRED		UPPER SURFACE		_		(MANUFACTURFR		
DISTRIBUTION PLATE)		LOWER SURFACE			TO DE DECIDED DI			

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PLSRB-P	PEDESTAL CUM LONGITUDINAL SEISMIC REACTION BLOCK AT PIER
PLSRB-A	PEDESTAL CUM LONGITUDINAL SEISMIC REACTION BLOCK AT ABUTMEN
TSRB-P	TRANSVERSE SEISMIC REACTION BLOCK AT PIER
TCDD A	

200

ELASTOMERIC BEARING

PEDESTAL

200

TRANSVERSE SEISMIC REACTION BLOCK AT ABUTMENT

DESIGN CONSIDERATIONS:

GRADE OF CONCRETE (GIRDER)	M30
GRADE OF CONCRETE (SLAB / DIAPHRAGM)	M30
GRADE OF STEEL	FE 500D
EXPOSURE CONDITION	MODERATE
SEISMIC ZONE	

NOTES:

- 1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE NOTED.
- 2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- 3. MATERIAL:

А

- GRADE OF CONCRETE FOR PEDESTAL & SEISMIC REACTION BLOCK : M40 4. MINIMUM CONCRETE CLEAR COVER TO ANY REINFORCEMENT SHALL BE
- 40mm 5. TRANSVERSE SLOPE OF DECK SLAB IS 2.5%. CONTRACTOR MAY CHANGE THE SAME CONSIDERING PLAN AND PROFILE DRAWINGS.
- 6. SUITABLE WEDGES BELOW GIRDER SOFFIT SHALL BE PROVIDED AT BOTH THE ENDS SO THAT GIRDER WILL HAVE HORIZONTAL BASE RESTING ON BEARING.

REFERENCE DRAWINGS:

1. MORTH/LSM/ RCC-T/GN/0001	RCC T BEAM AND SLAB SUPERSTRUCTURE GENERAL NOTES
2. MORTH/LSM/ 32m/13.0m/00/1001	RCC T BEAM AND SLAB SUPERSTRUCTURE 32m SPAN, 13m WIDTH AND 0 DEGREE SKEW GENERAL ARRANGEMENT
332M/13.0m/00/1009	ELASTOMERIC BEARING
432m/13.0m/00/1013	REINFORCEMENT DETAILS OF TRANSVERSE SEISMIC REACTION BLOCK
532m/13.0m/00/1014	REINFORCEMENT DETAILS OF PEDESTAL AND LONGITUDINAL SEISMIC REACTION BLOCK
I EGENDS:	

LEGENDS:

- CENTER LINE
- EXP. EXPANSION JOINT
- THK. THICK TYP TYPICAL





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ABBREVIATIONS

JDINAL SEISMIC REACTION BLOCK AT PIER
JDINAL SEISMIC REACTION BLOCK AT ABUTMEN
ACTION BLOCK AT PIER
ACTION BLOCK AT ABUTMENT

DESIGN CONSIDERATIONS:

GRADE OF CONCRETE (GIRDER)	M30
GRADE OF CONCRETE (SLAB / DIAPHRAGM)	M30
GRADE OF STEEL	FE 500D
EXPOSURE CONDITION	MODERATE
SEISMIC ZONE	111

BARS	DIA OF BARS (mm)	LENGTH OF EACH BAR (mm)	NO. OF BARS OR SPACING	TOTAL LENGTH (m)	WEIGHT (kg)	REMARK			
	25	2033	21 NOS.	42.683	164.33				
7	12	3932	4 NOS.	15.728	14.00				
]	10	5780	@ 100 c/c	57.800	35.84				
253	10	1686	@ 100 c/c	75.870	47.04				
0	10	1080	@ 100 c/c	19.440	12.05				
	25	2033	11 NOS.	22.358	86.08				
\	12	3002	4 NOS.	12.008	10.69				
]	10	4030	@ 100 c/c	40.300	24.99				
305	10	1790	@ 100 c/c	32.220	19.98				
0	10	1080	@ 100 c/c	9.720	6.03				

NOTES:

- 1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE NOTED.
- 2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- 3. MATERIAL:

А

- GRADE OF PEDESTAL & SEISMIC ARRESTOR : M40
- 4. MINIMUM CONCRETE CLEAR COVER TO ANY REINFORCEMENT SHALL BE 40mm.
- 5. DEVELOPMENT LENGTH INSIDE PIER CAP IS NOT CONSIDERED IN QUANTITY.
- 6. DIMENSIONS IN THE SCHEDULE ARE GIVEN AS PER IS:2502-1963. 7. THE EXACT LENGTH OF THE BARS WILL BE DETERMINED BY THE ACTUAL
- LAPS/SPLICES ADOPTED AT SITE.

REFERENCE DRAWINGS:

1. MORTH/LSM/ RCC-T/GN/0001	RCC T BEAM AND SLAB SUPERSTRUCTURE GENERAL NOTES
2. MORTH/LSM/ 32m/13.0m/00/1001	RCC T BEAM AND SLAB SUPERSTRUCTURE 32m SPAN, 13m WIDTH AND 0 DEGREE SKEW GENERAL ARRANGEMENT
332m/13.0m/00/1012	DETAILS OF PEDESTAL AND SEISMIC REACTION BLOCK
432m/13.0m/00/1014	REINFORCEMENT DETAILS OF PEDESTAL AND LONGITUDINAL SEISMIC REACTION BLOCK

MKD	DATE		DESCRIPTION		BY		
	REVISION						
	सङ्क परिवहन और राजमार्ग मंत्रालय MINISTRY OF ROAD TRANSPORT & HIGHWAYS मरत सरकार Government of India						
	STAN	IDARD DRAWING	s for road bri	DGES			
R	CC T B	EAM AND SLA	B SUPERSTRU	JCTURE	Ē		
	FOR REI	32m SPAN, 13.0m NFORCEMENT DET SEISMIC REA	n WIDTH AND 0° SI FAILS OF TRANSVE CTION BLOCK	KEW RSE			
DESIGN	IED BY	RECOMMENDED BY	APPROVED BY	JANUAR	Y 2025		
K. GANE GENERAL I ASSYSTE	SH IYER MANAGER EM STUP	Digitally signed by SANJAY KUMAR JAIN Date: 2025-01-15 17:52:405:30 SANJAY KUMAR JAIN TEAM LEADER VKS INFRATECH MGT. PVT. LTD.	PANKAJ Digitally signed by PANKAJ AGGARWAL AGGARWAL Date: 2025.01.17 11:40:49 +05'30' CE (S&R)	SHEET SIZE: A2			
DRG. NO.	DRG. NO. MORTH/LSM/32m/13.0m/00/1013						

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REINFORCEMEN	T (FOR 15	50mm PED	ESTAL HE	IGHT)		
SHAPE OF BARS	DIA OF BARS (mm)	LENGTH OF EACH BAR (mm)	NO. OF BARS OR SPACING	TOTAL LENGTH (m)	WEIGHT (kg)	REMARK
M LONGITUDINAL SEISMIC 425	C REACTION B	LOCK (FOR 150r	nm PEDESTAL	HEIGHT)		
ñ	20	1435	5 NOS.	7.175	17.72	
	16	1856	3 NOS.	5.568	8.80	
800 425	10	2630	@ 100 c/c	18.410	11.41	
400 425	10	1830	@ 100 c/c	12.810	7.94	
	25	1283	5 NOS.	6.413	24.69	
800	20	1810	3 NOS.	5.430	13.41	
800 300	10	2380	@ 100 c/c	16.660	10.33	
400 300	10	1580	@ 100 c/c	11.060	6.86	
800	12	972	7 NOS.	6.804	6.06	
	12	1022	5 NOS.	5.110	4.55	
800	10	3480	@ 100 c/c	6.960	4.32	
800 1375	10	4530	@ 100 c/c	9.060	5.62	
e 870	10	1050	@ 100 c/c	4.200	2.60	
800 2200	10	6180	@ 100 c/c	12.360	7.66	
800x800	8	15900	2 NOS.	31.800	12.40	
M LONGITUDINAL SEISMIC	C REACTION B	LOCK (FOR 230r	nm PEDESTAL	HEIGHT)	1	1
\prod^{425}	20	1595	5 NOS.	7.975	19.70	
800	16	2016	3 NOS.	6.048	9.56	
800 425	10	2630	@ 100 c/c	21.040	13.04	
400 425	10	1830	@ 100 c/c	14.640	9.08	
300	25	1443	5 NOS.	7.213	27.77	
800	20	1970	3 NOS.	5.910	14.60	
800 300	10	2380	@ 100 c/c	19.040	11.80	
400 300	10	1580	@ 100 c/c	12.640	7.84	
800	12	1132	7 NOS.	7.924	7.05	
850	12	1182	5 NOS.	5.910	5.26	
800	10	3480	@ 100 c/c	10.440	6.47	
800 1375	10	4530	@ 100 c/c	13.590	8.43	
8 70	10	1050	@ 100 c/c	6.300	3.91	
800	10	6180	@ 100 c/c	18.540	11.49	
800x800	8	15900	2 NOS.	31.800	12.40	
1		800				



DESIGN CONSIDERATIONS:

GRADE OF CONCRETE (GIRDER)	M30
GRADE OF CONCRETE (SLAB / DIAPHRAGM)	M30
GRADE OF STEEL	FE 500D
EXPOSURE CONDITION	MODERATE
SEISMIC ZONE	111

NOTES:

А

- 1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE NOTED.
- 2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- 3. MATERIAL:
- GRADE OF PEDESTAL & SEISMIC ARRESTOR : M40
- 4. MINIMUM CONCRETE CLEAR COVER TO ANY REINFORCEMENT SHALL BE 40mm.
- 5. DEVELOPMENT LENGTH INSIDE PIER CAP IS NOT CONSIDERED IN QUANTITY.
- 6. DIMENSIONS IN THE SCHEDULE ARE GIVEN AS PER IS:2502-1963.
- 7. THE EXACT LENGTH OF THE BARS WILL BE DETERMINED BY THE ACTUAL LAPS/SPLICES ADOPTED AT SITE.

REFERENCE DRAWINGS:

1. MORTH/LSM/ RCC-T/GN/0001	RCC T BEAM AND SLAB SUPERSTRUCTURE GENERAL NOTES
2. MORTH/LSM/ 32m/13.0m/00/1001	RCC T BEAM AND SLAB SUPERSTRUCTURE 32m SPAN, 13m WIDTH AND 0 DEGREE SKEW GENERAL ARRANGEMENT
332m/13.0m/00/1012	DETAILS OF PEDESTAL AND SEISMIC REACTION BLOCK
432m/13.0m/00/1013	REINFORCEMENT DETAILS OF TRANSVERSE SEISMIC REACTION BLOCK

LEGENDS:

ę	CENTER LINE
EXP	EXPANSION JOINT
тнк	THICK

ТҮР	TYPICAL	

ABBREVIATIONS

PLSRB-P	PEDESTAL CUM LONGITUDINAL SEISMIC REACTION BLOCK AT PIER
PLSRB-A	PEDESTAL CUM LONGITUDINAL SEISMIC REACTION BLOCK AT ABUTMENT
TSRB-P	TRANSVERSE SEISMIC REACTION BLOCK AT PIER
TSRB-A	TRANSVERSE SEISMIC REACTION BLOCK AT ABUTMENT

MKD	DATE	DESCRIPTION	BY		
REVISION					
	31.5				

सङ्क परिवहन और राजमार्ग मंत्रालय MINISTRY OF ROAD TRANSPORT & HIGHWAYS आगरत सरकार Government of India

STANDARD DRAWINGS FOR ROAD BRIDGES

RCC T-BEAM AND SLAB SUPERSTRUCTURE

32m SPAN, 13.0m WIDTH AND 0° SKEW REINFORCEMENT DETAILS OF PEDESTAL AND LONGITUDINAL SEISMIC REACTION BLOCK

DESIGNED BY	RECOMMENDED BY	APPROVED BY	JANUARY 2025
land	Digitally signed by SANJAY KUMAR JAIN Date: 2025-01-15 17:52+05:30	PANKAJ Digitally signed by PANKAJ AGGARWAL	SHEET SIZE:
K. GANESH IYER GENERAL MANAGER ASSYSTEM STUP	SANJAY KUMAR JAIN TEAM LEADER VKS INFRATECH MGT. PVT. LTD.	AGGARWAL Date: 2025.01.17 11:41:10 +05'30' CE (S&R)	A2
DRG. NO.	/IORTH/LSM/32m/	13.0m/00/1014	

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SI NO	BAR MARK	SHAPE OF BARS	DIA OF BARS (mm)	LENGTH OF EACH BAR (mm)	NO. OF BARS OR SPACING	TOTAL LENGTH (m)	WEIGHT (kg)	REMARK
		CRASH BARRIER (L = 2000)						
1		200 530 313 305 265	12	1284	@250 c/c	11.556	10.26	ALTERNATE WITH 1a
2	(la)	200 530 313 205 200 530 313 265	10	1288	@250 c/c	10.304	6.35	ALTERNATE WITH 1
3	2	410 19 1100 74	12	1542	@250 c/c	13.878	12.32	ALTERNATE WITH 2a
4	(2a)	410 1100 19 74	10	1550	@250 c/c	12.400	7.65	ALTERNATE WITH 2
5	3	$1044 \begin{bmatrix} 47\\ 1044\\ 275 \end{bmatrix}$	10	1516	@125 c/c	25.772	15.89	
6	4		10		16 Nos	32.000	19.73	
		PER APPROACH SLAB (FOR 13.0n	n WIDTH)	1				
7	5	200 200	12	13252	@150 c/c	636.096	564.73	
8	6	150 150	12	3652	@150 c/c	642.752	570.64	

1. STEELHSD BARS(Fe 500D)	36.1
2. CONCRETE	0.3

1. STEELHSD BARS(Fe 500D)	1135
2. CONCRETE	13.6
3. PCC	6.57

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