

- SPECIFICATION:**
- ALL WORKS ARE TO BE CARRIED OUT AS PER THE FOLLOWING:
 - I) INDIAN RAILWAY UNIFIED STANDARD SPECIFICATIONS FOR WORKS AND MATERIALS 2019.
 - II) IRS CONCRETE BRIDGE CODE 2014 (REPRINT) & RELEVANT I.S. SPECIFICATIONS.
 - III) IRS BRIDGE SUB-STRUCTURE CODE, 2013 (2ND RVSD).
 - IV) IRS BRIDGE RULES 2014 (REPRINT).
 - V) IRS SCHEDULE OF DIMENSIONS 2022 (REPRINT WITH UPDATED CORRECTION SLIP).
 - WING WALL/RETURN WALL: - MASS CEMENT CONCRETE OF GRADE M35 WITH MAX. 20 MM SIZE GRADED OF APP. QUALITY.
 - COPING - CC M25 GRADE USING 20MM MAX. SIZE GRADED HARD STONE AGGREGATE OF APP. QUALITY.
 - PITCHING - DRY STONE PITCHING 230MM THICK OVER 150MM THICK SAND MIXED WITH STONE CHIPS (AS PER PARA 205 OF INDIAN RAILWAY BRIDGE MANUAL ANNEXURE 23).
 - RCC - REINFORCED CEMENT CONCRETE M35 GRADE USING 20MM MAXIMUM SIZE GRADED HARD STONE AGG. OF APPROVED QUALITY.
 - LEVELLING COURSE - 150 MM THICK USING 20 MM MAX. SIZE GRADED HARD STONE AGGREGATE WITH APPROVED QUALITY.
 - WEEP HOLES - WEEP HOLES TO BE PROVIDED AS PARA 7.6 OF SUB STRUCTURE CODE & WEEP HOLES SHALL BE OF 75/100 DIA PVC/AC PIPES SPACED AT 1000 CM ABOVE LOW WATER LEVEL IN BOTH WING WALL/RETURN WALL & EARTH RETAINER OF BOX.
 - LOADING STANDARD - 25 T - 2008 AXLE LOAD.
 - TOE WALL - GRADE M25 WITH DESIGN MIX.
 - GRADE OF STEEL FOR RCC IS FE 500/500D CONFORMING TO IS 1786-2008.
 - MASS CONCRETE TO BE OF M 25 WITH 20MM GRADED STONE AGGREGATE FOR WEARING COURSE.
 - CONCRETE SHALL BE MECHANICALLY MIXED, VIBRATED & THOROUGHLY CURED.
 - PROVIDE SKIN REINFORCEMENT FOR WING & RETURN WALL AS PER DESIGN.
 - BAR BENDING SHALL CONFORM TO IS:1786 - 2008 SHALL BE USED AS REINFORCEMENT.
 - FLOORING - ROUGH STONE FLOORING 300MM THICK WITH CM:1:3.
 - DROP WALL / CURTAIN WALL - GRADE M25 WITH DESIGN MIX.
 - GROUND IMPROVED SOIL SHALL BE OF SOIL QUALITY CLASS SQ2 & SQ3 AS PER RDSO GUIDELINES.
 - THE DIMENSION OF RETURN WALL SHOWN IN GAD ARE ONLY INDICATIVE AND TO FOLLOW AS PER APPROVAL DESIGN AND DRAWING.
 - TYPICAL COLLAR SHALL BE PROVIDED BETWEEN THE EXISTING AND PROPOSED STRUCTURE AS PER LETTER BEARING NO. SWR/W/70/POLICY/2022 DATED ON 08.09.2022 ISSUED BY SWR.
 - ALL RCC SURFACES COMING IN CONTACT WITH SOIL SHOULD BE PAINTED WITH BITUMEN OR COAL-TAR OF APPROVED QUALITY @ 1.464 KG/SQM AS MENTIONED IN RDSO DRAWING.
- MODUS OPERANDI:**
- DIVERT OR RESTRICT THE WATER FLOW BY PROVIDING BUND ON UPSTREAM SIDE OF THE BRIDGE.
 - SHORING ARRANGEMENTS WILL BE DONE FOR PROTECTION OF BANK AND EXT. TRACK. IF REQUIRED AS PER SITE CONDITION.
 - EARTHWORK EXCAVATION TO BE DONE FOR PROPOSED BARREL LENGTH OF RCC BOX.
 - IF MAXIMUM BASE PRESSURE AT FOUNDATION LEVEL IS GREATER THAN THE SAFE BEARING CAPACITY OF SOIL THEN SOIL IMPROVEMENT TO BE DONE.
 - EARTHWORK EXCAVATION TO BE DONE FOR THE PROPOSED BARREL LENGTH AND FILL WITH SAND LAYER / BOULDERS AS RECOMMENDED IN G.T. REPORT.
 - RETAINING WALL, DROP WALL, TOE WALL, STONE FLOORING WITH CM 1:3.
 - OTHER BRIDGE PROTECTION WORKS TO BE DONE.
 - DIVERT FILLING AND BACKFILL AS PER RS SUBSTRUCTURE AND FOUNDATION CODE TO BE DONE.
 - COMPLETE THE REMAINING WORK IN ALL RESPECTS WITHOUT INFRINGING TRAIN TRAFFIC & RESTORE THE NORMAL SPEED IN EXG. LINE AFTER ATTAINING THE REQUIRED CONSOLIDATION IN NEW EMBANKMENTS.
 - ALSO RE-DIVERT THE WATER THROUGH THE BRIDGE.
- REFERENCE:**
- RCC BOX SIMILAR TO DRG NO. RDSO-B-10155 & RDSO-B-10155/2 (SIZE 4.00 x 2.00m & FILL 1.0m).
 - RETAINING WALL REFER DRAWING NO-02408-BSRR-CR4-CAG-ERS-20-6001.
 - WEEP HOLES AS PER PARA 7.6 OF SUB-STRUCTURE CODE.
 - BALLAST RETAINER AS PER DESIGN MONOLITHIC WITH THE BOX REFER DRAWING NO-02408-BSRR-CR4-CAG-ERS-10-6005.
 - DROP/CURTAIN WALL AS PER DESIGN.
 - BACKFILL MATERIAL BEHIND RCC BOX TO PROVIDE AS PER PARA 7.5 OF IRS BRIDGE SUBSTRUCTURE FOUNDATION CODE.
 - SHORING ARRANGEMENT ARE AS PER DESIGN AS PER SITE REQUIREMENT.
 - DETAILS OF EXISTING STRUCTURE SHOWN ARE AS PER COMPLETION DRAWING.
 - FOR FENCING AND CABLE TRAY REFER SEPARATE DRAWING.
 - HYDROLOGY REPORT NO-DOC-BSRR-CR4-AG-DGN-GEN-10-3049.
 - GEOTECH REPORT NO-DOC-BSRR-CR4-AG-DGN-GB-10-2058.
- ABBREVIATIONS:**
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|------|--------------------|
| C | - CENTER LINE |
| TYP | - TYPICAL |
| THK. | - THICKNESS |
| UIS | - UP STREAM SIDE |
| D/S | - DOWN STREAM SIDE |
| DN | - DOWN |
| BR | - BRIDGE |
| FL | - FORMATION LEVEL |
| PRO. | - PROPOSED |
| EXG. | - EXISTING |

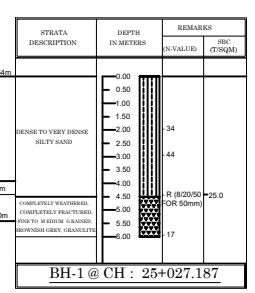
WATERWAY PARTICULARS		
CATCHMENT AREA	: 0.049 SQKM	
ALTITUDE	: 13° 1' 2.99" N	
LONGITUDE	: 77° 39' 45.73" E	
TOPOSHEET NO	: D43RT2 (57H9)	
Q50 DISCHARGE	: 0.817 CUM/SEC	
VELOCITY	: 1.796 M/S	
DEPTH OF FLOW	: 0.149 M	
OHFL	: 905.164	
OSHL (DESIGN HFL)	: 905.164	
REQUIRED PROVIDED		
WATERWAY AREA, Sqm	: 0.455	: 5.535
FREE BOARD, m	: 1.000	: 2.126
VERTICAL CLEARANCE, m	: 0.000	: 1.666
SCOUR DEPTH		
From OHFL, m	: 0.800	
Scour Level	: 905.164	
From B.L., m	: 0.626	: 1.350
EXISTING WATERWAY PARTICULARS		
WATERWAY AREA, Sqm	: 5.530	
FREE BOARD, m	: 1.795	
VERTICAL CLEARANCE, m	: 1.385	

TRACK DETAILS (PRO. BRIDGE)	
LOADING	: 25 T-AXLE LOAD
ALIGNMENT	: 2008-STD
GRADIENT	: CURVE
RAIL LEVEL	: 908.828m
FORMATION LEVEL	: 908.066m

DEPTH OF CONSTRUCTION FOR 1x3.050x1.815m RCC BOX	
RAIL TO FORMATION	: 172 mm
GR PAD	: 10 mm
PSC SLEEPER	: 230 mm
BALLAST CUSHION	: 350 mm
EARTH CUSHION	: 10 mm
TOP SLAB	: 450 mm
BOX CLEAR HEIGHT	: 1815 mm
TOTAL	: 3037 mm

EXIST. DEPTH OF CONSTRUCTION FOR 1x3.050x1.815m RCC SLAB	
RAIL TO FORMATION	: 688 mm
EARTH CUSHION	: 0 mm
THICKNESS	: 410 mm
CLEAR HEIGHT	: 1815mm
TOTAL	: 2913 mm

BRIDGE DETAILS		
DESCRIPTION	EXISTING IR BRIDGE: 544	PROPOSED BSRR BRIDGE: 544
CHAINAGE AT CENTER OF BRIDGE (m)	: 3+880.909	: 25+027.187
RAIL LEVEL AT CENTER OF BRIDGE (m)	: 908.703	: 908.828
FORMATION LEVEL AT CENTRE OF BRIDGE (m)	: 908.015	: 908.066
DIMENSIONS (Nos x SPAN) x HEIGHT (m)	: 1x3.050x1.815	: 1x3.050x1.665
STRUCTURE CONFIGURATION	: RCC SLAB	: RCC BOX



CONCEPTUAL / TENDER DRAWING

GENERAL CONSULTANTS:

RAIL INFRASTRUCTURE DEVELOPMENT COMPANY (KARNATAKA) LIMITED

BENGALURU DIVISION

BAIYAPPANAHALI - RAJANUKUNTE SECTION OF BSRR C-4

PROPOSED MINOR BRIDGE NO. 544 AT BSRR CH 25+037 AS 1X3.050X1.665m RCC BOX(CAST-IN-SITU) ON DOWN STREAM SIDE OF THE EXG. BRIDGE OF 1x1.3.050x1.815m RCC SLAB BETWEEN CHANNASANDRA AND JAKKUR STATIONS.

AUTHORITY OF WORK: AS PER BSRR DFR

DRG.NO: K.RIDE DRG.NO: KRIDE/BSRR/C-4/PKG2/MB-544

HQ.DRG.NO:

SCALE - 1 : 100