

**SPECIFICATION:**

- ALL WORKS ARE TO BE CARRIED OUT AS PER THE FOLLOWING.
  - INDIAN RAILWAY UNIFIED STANDARD SPECIFICATIONS FOR WORKS AND MATERIALS 2019.
  - IRIS CONCRETE BRIDGE CODE 2014 (REPRINT) & RELEVANT 15 SPECIFICATIONS.
  - IRIS BRIDGE SUB-STRUCTURE CODE, 2013 (2ND RVSD).
  - IRIS BRIDGE RULES 2014 (REPRINT).
  - IRIS SCHEDULE OF DIMENSIONS 2022 (READ WITH UPDATED CORRECTION SLIP).
- WEEP HOLES: - WEEP HOLES TO BE PROVIDED AS PER PARA 7.6 OF SUB STRUCTURE CODE & WEEP HOLES SHALL BE OF 75/100 DIA. PVC/AC PIPES STAGGERED AT 1000 C/C ABOVE LOW WATER LEVEL IN BOTH WING WALL/RETURN WALL & EARTH RETAINER OF BOX.
- THE BOLDER FILLING SHALL CONSIST OF WELL-HAND-PAKED BOLDERS & COBBLES TO THICKNESS NOT LESS THAN 600 mm BEHIND THE BOLDER FILLING. BACKFILLING MATERIALS SHALL CONSIST OF GRANULAR MATERIALS OF GW, SW CORRECT AS PER IS 1498 - 1970.
- GRADE OF STEEL FOR RCC IS FE 500/5000 CONFORMING TO IS 1786-2008.
- LOADING STANDARD: 25T - 2008 AXLE LOAD & IRC LOADING.
- CONCRETE SHALL BE MECHANICALLY MIXED, VIBRATED & THOROUGHLY CURED.

**MODUS OPERANDI:**

- IMPOSE 200KPH SPEED RESTRICTIONS BEFORE THE EXCAVATION WORK.
- DIVERT THE TRAFFIC THROUGH NEAREST LORUB. PROPER TRAFFIC SIGNALS TO BE PROVIDED FOR DIVERSION OF TRAFFIC WITH TRAFFIC CONTROLLING PERSON. PERMISSION TO BE OBTAINED FROM COMPETENT AUTHORITY FOR DIVERSION/CLOSING OF TRAFFIC.
- EARTHWORK EXCAVATION TO BE DONE FOR PROPOSED BARREL LENGTH OF RCC BOX.
- IF MAXIMUM BASE PRESSURE AT FOUNDATION LEVEL IS LESS THAN THE SAFE BEARING CAPACITY OF SOIL THEN SOIL IMPROVEMENT TO BE DONE.
- EARTHWORK EXCAVATION TO BE DONE FOR PROPOSED BARREL LENGTH WITH 300mm SAND AND 300mm BOLDER FILL BENEATH THE BOX BOTTOM PART.
- THE PROPOSED ROB SHALL BE CONSTRUCTED RCC BOX AS PER GAD.
- RETAINING WALL WORKS TO BE DONE.
- BOLDER FILLING AND BACKFILL AS PER IRIS 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.

**GENERAL NOTES:**

- ALL DIMENSIONS SHOWN IN THIS GAD ARE IN MM AND REDUCED LEVELS (W.R.T. MSL) ARE IN UNLESS OTHERWISE SPECIFIED.
- DO NOT SCALE THE DRAWING ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- PROPOSED CONSTRUCTION SHALL BE IN CHARGE AT SITE.
- SEISMIC ZONE IS ZONE II.
- STANDARD OF RAILWAY LOADING: 25T AXLE LOADING - 2008 STANDARD AND IRC LOADING.
- EXISTING BRIDGE DETAILS ARE BASED ON DATA COLLECTED FROM SITE BY FIELD EXECUTIVES.
- THE ENTIRE WORK SHALL BE CARRIED OUT AS PER THE INSTRUCTIONS AND TO THE SATISFACTION OF THE ENGINEER IN CHARGE AT SITE.
- RAIL LEVEL, FORMATION LEVEL, ROAD LEVEL, ETC. SHOULD BE CROSS VERIFIED BY THE ENGINEER IN CHARGE BEFORE AND DURING EXECUTION OF WORK AT SITE, AS PER LATEST APPROVED WORKING SECTION PLANS AND OTHER CONNECTED DRAWINGS IF ANY.
- THIS GAD IS SUBJECT TO MAINTAINING SAME LEVELS, ALIGNMENT, GRADE & TRACK CENTER DISTANCE AS THAT OF APPROVED WORKING SECTION WORKING PLAN AND YARD PLANS IF ANY.
- ON TOP OF CONCRETE AT THE END OF EACH DAY'S WORK, DEPRESSION SHALL BE MADE TO FORM KEYS FOR ADEQUATE BOND FOR NEXT DAY CONCRETING.
- NO CONSTRUCTION JOINT SHALL BE NORMALLY ALLOWED IN CONCRETE WITHOUT SPECIAL PRECAUTIONS AS PER RELEVANT CODES.
- CONTROLLED CONCRETE WITH WEIGH BATCHING SHALL BE USED FOR CONCRETE.
- CURING OF ALL CONCRETE WORK AS PER RELEVANT CODES OF PRACTICE SHALL BE ENSURED.
- UNDERGROUND CABLE ETC. IF ANY, SHALL BE REMOVED AND REALIGNED BEFORE THE EXECUTION OF WORK STARTS. SAT CABLES SHALL BE PROTECTED AT SITE BY K-RIDE. ALL PRECAUTIONARY STEPS MUST BE TAKEN ACCORDING TO TELECOMMUNICATION CIRCULAR NO. 17/2013, ISSUED BY RAILWAY BOARD VIDE LETTER NO. 2001TELECOM/PTT/DC, DATED 28.08.2013.
- THE TYPE AND DEPTH OF THE FOUNDATION SHOWN IN GAD ARE BASED ON THE SOIL REPORT SUBMITTED AT THE TIME OF PREPARATION OF THIS GAD AND IT IS INDICATIVE ONLY. ACTUAL TYPE AND DEPTH WILL BE DECIDED BY THE ENGINEER-IN-CHARGE AS PER THE ACTUAL SOIL ENCOUNTERED AT SITE DURING EXECUTION.
- ALL STRUCTURAL DIMENSIONS OF ROB IS AS PER DESIGN AND OTHER STRUCTURES SHOWN IN THIS GAD ARE TENTATIVE. THE DIMENSIONS SHOWN IN THIS GAD ARE BASED ON THE PRELIMINARY DESIGN. THE DETAILED DESIGN DRAWING WILL BE PROCESSED SEPARATELY AFTER THE APPROVAL OF GAD.
- SBC OF SOIL AT FOUNDATION LEVEL IS APPROX. 22.0750M FOR RCC BOX SOIL IMPROVEMENT TO BE DONE WITH SAND & BOLDER FILLING.
- OPEN FOUNDATION.
- ENGINEER IN CHARGE SHALL ENSURE MAXIMUM CALCULATED FOUNDATION PRESSURE AT FOUNDATION LEVEL SHALL NOT EXCEED SAFE BEARING CAPACITY OF SOIL AT THAT LOCATION.
- NECESSARY DRAINAGE ARRANGEMENTS HAVE TO BE PROVIDED TO LEAD THE WATER FROM ROB TO LOW LYING AREAS EITHER BY LAYING UNDERGROUND PIPES / OPEN DRAINS WITH PROPER MAINTAINABILITY OR BY USING RAIN WATER HARVESTING TECHNIQUES AS PER OPERATIONAL LETTER NO. SWR/RW/POPOLICY/VOL.IV, DATED 07.01.2020.
- ALL THE FOLLOWING SAFETY MEASURES SHALL BE FOLLOWED.
  - ADAPTED SAFETY MEASURES FOR RUNNING TRAINS SHALL BE ADOPTED WHILE DOING THE EARTH WORK ADJACENT TO THE TRACK.
  - DURING CONSTRUCTION OF ROB THE EXISTING TRACK SHALL BE PROTECTED SUITABLY BY IMPOSING NECESSARY SPEED RESTRICTION BY PROVIDING TEMPORARY ENGINEERING INDICATORS.
  - DURING THE CONSTRUCTION OF THE PROPOSED ROB PROPER SAFETY PRECAUTIONS TO BE TAKEN WHILE EXCAVATING FOUNDATION WORK CLOSE TO THE EXISTING BRIDGE FOUNDATION INCLUDING IMPOSING SPEED RESTRICTIONS IF REQUIRED.
  - THE GRADUAL RELEASE OF SPEED RESTRICTION SHALL BE AS PER PARA 637 (1) (F) OF IRPMV-2020.
  - NECESSARY SHORING ARRANGEMENTS TO BE MADE TO PROTECT EXISTING ROAD STRUCTURE WHEREVER NECESSARY.
  - DURING EXECUTION OF WORK THE MATERIAL, EQUIPMENT SUCH AS RELEASED MATERIAL, ETC. SHOULD NOT INFRINGE THE TRAIN TRAFFIC. ALL SAFETY MEASURES TO BE TAKEN BY ENGINEER IN CHARGE DURING EXECUTION. SUITABLE SAFETY BARRICADING HAS TO BE PROVIDED WHENEVER WORK IS BEING EXECUTED PARALLEL TO THE RUNNING TRACK.
  - DIMENSIONS OF RCC BOX AND RETAINING WALLS, SHOWN IN GAD ARE ONLY "INDICATIVE" AND TO BE FOLLOWED AS PER APPROVED DESIGN AND DRAWINGS.
  - WHEREVER SBC IS LESS THAN FOUNDATION PRESSURE TO IMPROVE THE SBC OF SOIL TWO LAYERS OF SAND & BOLDER FILLING OF 300mm THICKNESS EACH TO BE LAD & COMPACTED BEFORE LEVELLING COURSE OF 150mm FOR RCC BOX RETAINING WALL FOUNDATION.

**SECTION NOTES:**


- RAIL LEVEL, FORMATION LEVEL, ROAD LEVEL ETC. SHOULD BE CROSS VERIFIED BY THE ENGINEER-IN-CHARGE BEFORE AND DURING EXECUTION OF WORK AT SITE, AS PER LATEST APPROVED WORKING SECTION PLANS AND OTHER CONNECTED DRAWINGS IF ANY.
  - BEFORE EXECUTION OF WORK, ENGINEER IN CHARGE SHOULD ENSURE THAT THE MAXIMUM BASE PRESSURE AT FOUNDATION LEVEL FOR EACH ELEMENT OF BRIDGE IS LESS THAN THE SAFE BEARING CAPACITY OF SOIL AT THAT LOCATION.
  - SOIL IMPROVEMENT TO BE DONE: ENGINEER IN CHARGE SHALL ENSURE THAT AFTER SOIL IMPROVEMENT, SBC OF SOIL BELOW THE BOX SHALL BE MORE THAN MAXIMUM BASE PRESSURE AT BOTTOM LEVEL OF RCC BOX i.e. 38.0 T/50M.
- ALL THE FOLLOWING SAFETY MEASURES SHALL BE FOLLOWED:
- ADAPTED SAFETY MEASURES FOR RUNNING TRAINS SHALL BE ADOPTED WHILE DOING THE EARTH WORK BELOW THE TRACK.
  - DURING CONSTRUCTION OF ROB, THE EXISTING TRACK SHALL BE PROTECTED SUITABLY BY IMPOSING NECESSARY SPEED RESTRICTION BY PROVIDING TEMPORARY ENGINEERING INDICATORS.
  - DURING THE CONSTRUCTION OF THE PROPOSED ROB PROPER SAFETY PRECAUTIONS TO BE TAKEN WHILE EXCAVATING FOUNDATION WORK CLOSE TO THE EXISTING BRIDGE FOUNDATION INCLUDING IMPOSING SPEED RESTRICTIONS IF REQUIRED.
  - THE GRADUAL RELEASE OF SPEED RESTRICTION SHALL BE AS PER PARA 637 (1) (F) OF IRPMV-2020.
  - NECESSARY SHORING ARRANGEMENTS TO BE MADE TO PROTECT EXISTING BRIDGE STRUCTURE WHEREVER NECESSARY.
  - JOINT PROCEDURE ORDER ON SAFETY RELATED ISSUES PERTAINING TO WORK SITE IN CONSTRUCTION.
  - PROJECTS (UPO NO. W-398) SAFETY PRECAUTION, DT: 10/11/2011 ISSUED VIDE CTE LR NO. SWR/RW/SAFETY AT WORK SPOT DT: 20.06.2017 HAS TO BE STRICTLY FOLLOWED.
  - DURING EXECUTION OF WORK, THE MATERIAL/EQUIPMENT SUCH AS RELEASED MATERIAL, ETC. SHOULD NOT INFRINGE THE TRAIN TRAFFIC. ALL SAFETY MEASURES TO BE TAKEN BY ENGINEER IN CHARGE DURING EXECUTION.
  - SUITABLE SAFETY BARRICADING HAS TO BE PROVIDED WHENEVER WORK IS BEING EXECUTED PARALLEL TO THE RUNNING TRACK.
  - NECESSARY PROTECTIVE ARRANGEMENTS SHALL BE MADE BY KRIIDE IN CONSULTATION WITH SBC DIVISION ELECTRICAL TROUBLESHOOTING TO AVOID ANY ELECTRICAL INDUCTION DURING EXECUTION OF PROPOSED WORK.

**REFERENCE:**

- WEEP HOLES AS PER PARA 7.6 OF BRIDGE SUBSTRUCTURE & FOUNDATION CODE.
- RCC BOX AS PER DESIGN.
- RETAINING WALL AS PER DESIGN.
- BACKFILL MATERIAL BEHIND RCC BOX AS PER PARA 7.5 OR IRIS BRIDGE SUBSTRUCTURE & FOUNDATION CODE.
- DRAINAGE ARRANGEMENTS AS PER COMPLETION DRAWINGS.

THE RAILWAY BOARD SANCTION FOR BENGALURU SUBURBAN TRANSPORT PROJECT(148.17KMS) VIDE LETTER NO:2019/JV CELL/K-RIDE/BSTP/EBR/07 DATED:21/10/2020  
AUTHORITY OF WORK: IS AS PER DFRS OF BSRP, LIST OF LC ELIMINATION AND FIRST PAGE OF DFRS IS ATTACHED IN E-DAS

**GENERAL ARRANGEMENT DRAWING**



**SOUTH WESTERN RAILWAY**  
**RAIL INFRASTRUCTURE DEVELOPMENT COMPANY (KARNATAKA) LIMITED**  
**BENGALURU DIVISION**  
BAIYAPPANAHALLI - RAJANUKUNTE SECTION OF BSRP C-4

**AUTHORITY OF WORK: AS PER BSRP DFRS**  
**PROPOSED ROB NO.538A AT BSRP CH:27+800**  
**AS 1 x 6.0 x 6.0m RCC BOX ON OLD IR SIDE OF THE EXG. BRIDGE OF 1 x 26.602m STEEL COMPOSITE GIRDER BETWEEN CHANNASANDRA AND JAKKUR STATIONS.**

K RIDE DRG.NO: KRIIDE/BSRP/C-4/PG2/ROB-538A

HQ.DRG.NO:

FOR GC

FOR K-RIDE

LEGEND:  
Total Barrel length of ROB 538A = 42 m  
Completed Barrel length = 0 m (BSRP Side)  
Remaining Barrel length yet to be Constructed.

**CONCEPTUAL / TENDER DRAWING**

GOK-RIDE	K-RIDE
FOR GC	FOR K-RIDE

SCALE - 1 : 100