



**SPECIAL NOTES:**

- LAUNCHING SCHEME OF THE ROBB STRING GIRDER WILL BE SUBMITTED SEPARATELY.
  - MAINTENANCE AGREEMENT TO BE EXECUTED BEFORE EXECUTION OF WORK.
  - NO WORK WITHIN RAILWAY BOUNDARY TO BE DONE WITHOUT PRESENCE OF RAILWAY REPRESENTATIVE.
  - GIRDERS OVER ROB PROPER TO BE FABRICATED PREFERABLY BY RDSO APPROVED FIRMS.
- NOTES:**
- ALL DIMENSIONS ARE IN MM. AND LEVELS ARE IN METERS UNLESS SPECIFIED OTHERWISE.
  - DIMENSIONS ARE NOT TO BE SCALED ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
  - ALL THE DIMENSIONS SHOWN SHOULD BE VERIFIED AT SITE BEFORE TAKING UP DESIGN WORK IN HAND. ANY DISCREPANCY NOTED SHOULD BE FORWARDED THROUGH ALTERATIONS DULY SIGNED.
  - MAINTAIN SAFE BEARING CAPACITY AT THE FOUNDING LEVEL CONSIDERING ALL PERMISSIBLE MECHANICAL REPORT. IF IT IS LESS THAN THE BASE PRESSURE, THE FOUNDATION HAS TO BE REDESIGNED.
  - DRAINAGE SLOPE SHALL BE AS PER LATEST SPECIFICATION. SHOULD BE CONSISTENT THROUGHOUT. SUBMIT SEPARATE SHEET OF DRAINAGE SLOPES AS PER LATEST NORTH STANDARDS.
  - EXPOSURE CONDITION OF THE BRIDGE AND ITS COMPONENTS SHOULD BE DECLARED AS PER IRC 21-2000/5456. ALL SPECIFICATION LAID DOWN IN IRC CODES/IS CODE FOR RELEVANT EXPOSURE CONDITION SHALL BE FOLLOWED.
  - FOR DETAILS OF SUBSTRUCTURE AND FOUNDATION REFER SEPARATE DRAWING DULY APPROVED BY RAILWAY.
  - WORK SHOULD BE CARRIED OUT UNDER THE SUPERVISION OF RAILWAY ENGINEERS WITH RAILWAY LAND LIMIT.
  - SANCTION OF CRB SHOULD BE OBTAINED PRIOR TO EXECUTION OF PROPOSED WORK.
  - TYPE OF BEARING - POT PILE.
  - SUITABLE UTILITY DUCTS IF REQUIRED SHOULD BE PROVIDED BELOW FOOTPATH SLAB WITH THE APPROVAL OF ENGINEER IN CHARGE.
  - DESIGN SHALL BE AS PER LATEST RELEVANT CODE OF IRC INCLUDING SP-33 AND OTHER CODES AS APPROVED BY M.O.S.T.
  - STATE GOVT./PRIVATE AUTHORITIES SHOULD BE ENSURED DURING EXECUTION OF WORK SAFETY OF RUNNING RAIL TRAFFIC SHOULD NOT BE AFFECTED.
  - SUITABLE IF REQUIRED SHOULD BE IMPOSED BEFORE TAKING UP THE EXECUTION OF WORK WITH THE APPROVAL OF ENGINEER IN CHARGE.
  - TEMPORARY SIGNALING ARRANGEMENT WILL BE DONE AS PER G.A. 15.09 (1) (D) & 15.09 (2) OR G.A. 15.09 (2) & 15.09 (3) OR 15.09 (3) & 15.09 (4) WHICHEVER IS APPLICABLE IF REQUIRED.
  - LOADING STANDARD OF ROB AS PER IRC-2000.
  - FULL FLEGGED LOAD TEST OF SUPER STRUCTURE SHOULD BE DONE AS PER IRC-SP-5 TO ENHANCE QUALITY WORK.
  - CONCRETE DESIGN MIX: RCC DECK SLAB - M40, PIER/PIER CAP/PILE/PILE CAP - M35, CRASH BARRIER - M40, PEDESTAL - M40, LEVELING COURSE - M15.
  - GRAVELLED LEVEL CROSSING NO EXIST AT THIS LOCATION.
  - L.C. SHALL BE CLOSED SIMULTANEOUSLY WITH COMMISSIONING OF ROB AND M.C. IN THIS REGARD HAS BEEN ISSUED BY STATE GOVT. UNDER LETTER NO. L.C. 80 - 08/02/2016 DATED 25.02.16.
  - TRU OF L.C. IS 58128 OF YEAR OCT-2015.
  - TEMPORARY DIVERSION OF ROAD TRAFFIC DURING CONSTRUCTION OF ROB/RUB WILL BE THROUGH DIVERSION ROAD. AUTHORITY WILL ENSURE DIVERSION OF EXISTING ROAD TRAFFIC THROUGH THE PROPOSED DIVERSION BEFORE EXECUTION.
  - REINFORCEMENT SHALL BE TMT DEFORMED BARS GRADE Fe 500 CONFORMING TO IS 1786.
  - PROVISION OF CLAMPS IN THE SUPERSTRUCTURE FOR SUPPORTING THE AC TRACTION WIRE TO BE MADE INVARIABLY IN CONSULTATION WITH CONCERN AUTHORITIES BASED ON TYPICAL DRAWING.
  - ALL R.C.C./M.C.C./P.C.C. WORK SHOULD CONFORM TO RELEVANT IS CODES & MOST SPECIFIED.
  - FOR FABRICATION, WORKMANSHIP, INSPECTION & TESTING, PROTECTION AGAINST CORROSION RELEVANT PROVISION OF IRC-2000 SHALL BE FOLLOWED.
  - THE TYPE OF FOUNDATION SHOWN IN THIS DRAWING IS TENTATIVE & SHOULD BE DECIDED BY STATE AUTHORITIES AS PER ACTUAL SOIL PROPERTIES AND DESIGN CALCULATION.
  - REPRESENTATIVE OF TELECOM & SIGNAL DEPARTMENTS SHOULD BE MADE AVAILABLE BEFORE COMMENCEMENT OF PROPOSED WORK. IN THE VICINITY OF SIGNAL & TELECOM CABLE.
  - TEMPORARY ARRANGEMENT DRAWING OF TELECOM DEPARTMENT TO LAUNCHING OF GIRDERS OVER RAILWAY TRACK SHOULD BE GOT APPROVED FROM RAILWAY AUTHORITY BEFORE START THE WORK.
  - DIMENSION GIVEN IN THIS DRAWING MUST BE RECONCILED AT SITE BEFORE START OF WORK FOR FEASIBILITY.
  - PRECAUTIONARY MEASURES FOR CONSTRUCTION OF ROB ON DEPOSIT WORK/COST SHARING WORK WITH STATE GOVT. AND PRIVATE AGENCY ISSUED BY ADVISOR CIVIL ENGINEERING RAILWAY BOARD LETTER NO. SVCS/1800/5870/PT.1 DATED 16.08.2008 SHOULD BE STRICTLY FOLLOWED.
  - NO CONSTRUCTION JOINT SHALL BE NORMALLY ALLOWED IN CONCRETE WORKS WITHOUT SPECIAL PRECAUTIONS AS PER THE RELEVANT BRIDGE CODES AND SUITABLE PROTECTION PAINTING OF APPROVED MAKE SHOULD BE USED TO PAINT THE UNDERSIDE OF CONCRETE ROBB GIRDERS TO ENSURE LONG LIFE.
  - CONTROLLED CONCRETE WITH WEIGH BATCHING SHALL BE USED.
  - GUARD RAIL SHOULD BE PROVIDED IN THE TRACK NEAR THE ISOLATED PIER OF ROB. NO CONSTRUCTION JOINT SHALL BE ALLOWED IN P.C. OR RCC SLAB OR GIRDERS OF ALL CONCRETE AND MASONRY WORKS AS PER THE RELEVANT CODES OF PRACTICE SHALL BE ENSURED BEFORE USE.
  - INSPECTION LADDER/STEPS SHOULD BE PROVIDED TO ENSURE PROPER INSPECTION/ACCESSIBILITY OF ROB.
  - STRUCTURAL STEEL SHALL CONFORM TO IS 2062 (GRADE - B).
  - STRIP SEAL TYPE EXPANSION JOINT DRAWING OF EXPANSION JOINTS FROM FIRMS APPROVED BY M.O.S.T. SHALL BE USED TO PAINT THE UNDERSIDE OF CONCRETE ROBB GIRDERS TO ENSURE LONG LIFE.
  - CONTRACTOR SHOULD FURNISH DESIGN DRAWING OF EXPANSION JOINTS FROM FIRMS APPROVED BY M.O.S.T. WITH LARGEST RELEVANT AMBIENT TEMPERATURE TO SUIT SITE CONDITIONS WITH THE APPROVAL OF ENGINEER IN CHARGE.
  - PROTECT THE CONCRETE FROM DAMAGE DUE TO DAMAGE OF LOCOWHEELS. 40MM WIDE STRIP WITH POLYURETHANE PAINT PREFERABLY IN BLACK COLOUR SHALL BE PROVIDED IN THE SOFFIT OF THE DECK OVER RUNNING TRACKS.
  - STANDARD MAINTENANCE AGREEMENT SHOULD BE EXECUTED WITH RAILWAY AND STATE GOVT. AUTHORITIES FOR GRANT OF PERMISSION FOR CONSTRUCTION OF ROB/RUB IN RAILWAY PORTION.
  - ROAD AUTHORITY SHOULD ENSURE THAT BEFORE LAYING OF ANY WEARING COURSE IN FUTURE EXISTING WEARING COAT SHOULD BE COMPLETELY REMOVED.
  - NO WORK SHOULD BE TAKEN UP IN HAND TILL PROPER CHECKED DESIGN AND DRAWING WITHIN RAILWAY PORTION AREA APPROVED BY RAILWAY.
  - ALL STEEL STRUCTURES SHALL HAVE ANTI - CORROSION PROTECTION OF LONG DURABILITY.
  - FOR DETAILS OF SUPER STRUCTURE OF 18.00M SPAN REFER RDSO DRG. NO. RDSO/B-11756/R. AND FOR 60M RAILWAY SPAN REFER RDSO DRG. NO. R. 04/11/R.
  - ANY CHANGE IN THE GAP FOR RAILWAY PORTION SHOULD BE DONE WITH PRIOR APPROVAL OF RAILWAY.
  - CLEAR COVER TO DECK SLAB SHALL BE AS UNDER:  
A. FOR SUPER STRUCTURE - 50MM.  
B. FOR FOUNDATION - 75MM.  
C. FOR ABUTMENT, DIRT WALL AND RETURN WALL - 50MM.
  - BACK FILLING BEHIND ABUTMENTS SHALL CONSIST OF SELECTED EARTH CONFORM TO SOIL PROPERTIES <math>= 0.90' <math>B-20 <math>= 18N/50MM.
  - FOR JACKING UP THE GIRDERS FOR ANY HANDLING REQUIREMENTS IN FUTURE SUCH AS FOR REPLACEMENT OF BEARING OR ANY OTHER WORK REQUIRED, SUITABLE FEATURES SHOULD BE PROVIDED TO FACILITATE JACKING.
  - THE DIMENSIONS & LEVELS SHOWN IN THE GAP ARE SUBJECT TO CHANGES AS PER SITE REQUIREMENT AND WILL BE DONE WITH PRIOR APPROVAL OF RAILWAY.
  - THE BRIDGE IS DESIGNED FOR SEMI-TRAILER.
  - DIMENSIONS MAY GET CHANGED AFTER ITS DETAILED DESIGN.
  - AS PER DATA GIVEN BY RDSO/CIR/CRITICAL THE DISTANCE BETWEEN PROPOSED DECK TRACK ON DN LINE AND ITS PROPOSED LEVEL HAVE BEEN SHOWN IN THE DRAWING.
  - PROVISION OF EXPANSION JOINT SHALL BE PROVIDED AT HIGHEST RAIL LEVEL.
  - GIRDER SHALL BE METALLISED AS PER IS 808-2001.
  - CLEARANCE SHALL BE MAINTAINED FROM HIGHEST RAIL LEVEL.
  - VERTICAL CURVE WILL BE PROVIDED WHEREVER THERE IS CHANGE IN GRADIENT IN APPROACHES AS PER IS 808-2001.
  - SAFE BEARING CAPACITY AT 2.0M DEPTH 13.00 T/M<sup>2</sup>.
  - BEST RATER FOR BOTH SIDE OF OUTERMOST GIRDER ON PIER CAP & ABUTMENT CAP WILL BE PROVIDED.
  - DRAWING FOR SHIFTING OF L.C. WILL BE GOT APPROVED FROM COMPETENT AUTHORITY BEFORE START OF WORK.
  - TYPE & DETAILS OF FOUNDATION SHOWN IN GAP TENTATIVE AND IT WILL BE DECIDED AS PER DESIGN.
  - SAFETY CABLE SHOULD BE SHIFTED BEFORE TAKING DIGGINGS OR TRENCHING NEAR IT TRACK BY SATCONSTRUCTION.

**OPERATION SCHEDULE FOR RAILWAY SPAN:**

- TRACK SHALL BE PROTECTED SUITABLY DURING THE CONSTRUCTION OF BRIDGE/ROB FOR SAFETY OF RUNNING TRAIN.
  - ADEQUATE MEASURES SHALL BE TAKEN AT SITE TO ENSURE SAFETY FOR WORKING MEMBERS, MATERIALS, EQUIPMENTS, TRAFFIC ETC.
  - FOR SHIFTING OF THE MASTS AND SIGNALING EQUIPMENTS, DIVISION MAY BE CONSULTED AS PER EXISTING RULES.
  - FOR LAUNCHING OF GIRDERS OVER RAILWAY TRACK, SUITABLE BLOCK WILL BE TAKEN WITH ADVANCE INTIMATION.
  - DETAILED STRUCTURAL DRAWINGS OF THE ROB SHALL BE PROVIDED BY COMPETENT AUTHORITY.
  - LAUNCHING SCHEME SHALL BE APPROVED BY CBE/C.E./H.P. BEFORE EXECUTION OF WORK.
  - DRAWING APPROVAL SHALL BE SUBJECTED TO APPROVAL OF ALIGNMENT AND LEVELS BY STATE GOVT.
- CONSTRUCTION SEQUENCE:**
- CONSTRUCTION OF SUITABLE FOUNDATION FOR PIERS.
  - CONSTRUCTION OF RCC PEDESTALS.
  - FABRICATION OF STEEL GIRDERS, CROSS GIRDERS AND DIAPHRAGMS ETC.
  - POSITIONING OF CRANES FOR LIFTING AND PLACEMENT OF GIRDERS WITH RAILWAY TRAFFIC BLOCK IMPOSED AND LAUNCHING OF GIRDERS.
  - CASTING OF RCC DECK SLAB WITH SHUTTLING SUPPORTED ON GIRDERS.
  - REMOVAL OF STAGING AND SHUTTLING OF DECK SLAB.
  - COMPLETION OF ANCI LARY WORKS LIKE CRASH BARRIER, RAILING, WEARING COURSE, EXPANSION JOINT ETC.
- ALL SILETY RULES SHALL BE FOLLOWED DURING EXECUTION OF WORK.
- RAILWAY AUTHORITIES SHALL BE INFORMED BEFORE STARTING ANY WORK. INSTRUCTIONS GIVEN BY RAILWAY AUTHORITIES TIME TO TIME DURING EXECUTION SHALL BE FOLLOWED.

**BORE HOLE DETAILS OF SOIL EXPLORATION**

LAYER	Description	HATCH	Is Symbol
LAYER-I	Medium stiff to stiff yellowish grey sandy silty clay	CL	
LAYER-II	Dense reddish brown silty fine to medium sand with traces of kankar	SM	
LAYER-III	Stiff to hard yellowish grey sandy silty clay with kankar	CL	
LAYER-IV	Very dense reddish brown silty fine to medium sand with traces of kankar	SM	
LAYER-V	Hard yellowish grey sandy silty clay with kankar	SM	
LAYER-VI		CL	

THIS DRG SUPERCEEDS CE'S DRG NO ECR/MGS/2016-17/ROB/150

ALL THE DIMENSIONS SHOWN ARE TENTATIVE AND MAY UNDERGO CHANGES DURING FINAL DESIGN.

REFERENCE RDSO DRAWING NO. RDSO/B-1041/R

DFCCIL DRG NO. MGS/EN/ROB/LC NO 49-C/2017

DESIGNATION	SIGNATURE	DESIGNATION	SIGNATURE
(A.K. MISHRA) CPM/DFCCIL/MGS		CE RWD PATNA	
DY CPM/ENGG/DFCCIL		EXECUTIVE ENGINEER	
DFCCIL/MGS		STATE GOVT. BIHAR	
		MGS DIVISION	

**EAST CENTRAL RAILWAY, MGS DIVISION**

**TITLE:** PROPOSED ROB IN LIEU OF LC NO 49/C AT KM 586/21-23 BETWEEN SSG-KWD STATION IN MUGHALSARAI-GAYA SECTION (TVU 58128 OF OCT 2015) Scale: 1:1000

**GENERAL ARRANGEMENT DRAWING**

CE'S DRG. NO.

**SWARNA COMPLEX, 2nd FLOOR, SUSUWAHI VARANASI - 221011**