



**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.
- MAXIMUM SAFE BEARING CAPACITY AT THE FOUNDING LEVEL WILL BE CONSIDERED AS PER GEOTECHNICAL REPORT. IF IT IS LESS THAN THE BASE PRESSURE, THE FOUNDATION HAS TO BE REDESIGNED.
- DRAINAGE SPOUT SHALL BE PROVIDED AS PER MOST SPECIFICATION. DESIGN CONSULTANT SHOULD SUBMIT SEPARATE SHEET OF DRAINAGE SPOUTS AS PER LATEST MOST STANDARDS.
- THE APPROACHES ARE TO BE CONSTRUCTED AT VIADUCT PORTION & RE WALL AT SOLID PORTION.
- EXPOSURE CONDITION OF THE BRIDGE AND ITS COMPONENTS SHOULD BE DECLARED AS PER IRC 21-2011 / IS - 456. ALL SPECIFICATION LAID DOWN IN IRC CODES / IS - 456 CODE FOR RELEVANT EXPOSURE CONDITION SHALL BE FOLLOWED.
- WORK SHOULD BE CARRIED OUT BY THE PARTY UNDER THE SUPERVISION OF RAILWAY ENGINEERS WITHIN RAILWAY LAND LIMIT.
- SANCTION OF CRB SHOULD BE OBTAINED PRIOR TO EXECUTION OF PROPOSED WORK.
- TYPE OF BEARING - POT-PTFE FOR ROB AND ELASTOMER FOR VIADUCT.
- SUITABLE UTILITY DUCTS IF REQUIRED, SHOULD BE PROVIDED BELOW FOOTPATH SLAB WITH THE APPROVAL OF ENGINEER IN CHARGE.
- R.C.C. CRASH BARRIER OF POINT 0.9M HEIGHT AND RAILING 1.8M HEIGHT IN RAILWAY PORTION WILL BE PROVIDED AS PER APPROVED DRAWING.
- DESIGNS SHALL BE AS PER LATEST RELEVANT CODE OF IRC INCLUDING SP - 33 AND OTHER COURSE APPROVED BY RAILWAY.
- SUITABLE SR, IF REQUIRED SHOULD BE IMPOSED BEFORE TAKING UP THE EXECUTION OF WORK WITH THE APPROVAL OF ENGINEER IN CHARGE.
- TEMPORARY SIGNAL ARRANGEMENT WILL BE DONE AS PER GR 15.09 (1) D & S. 15.09 (2) OR GR 15.09(2) B & S. 15.09(2) WHICH EVER IS ADAPTABLE IF REQUIRED.
- LOADING STANDARD OF ROB AS PER IRC - 6:2014 & SPECIAL CLASS LOADING 385 TON.
- FULL FLEDGED LOAD TEST OF SUPERSTRUCTURE SHOULD BE DONE AS PER IRC - SP-5 TO ENSURE QUALITY WORK.
- CONCRETE DESIGN MIX FOR ROB PORTION - DECK SLAB-M40, ABUTMENT / PIER-M35, PILE CAP-M35, RCC PILE-M35, FOR VIA DUCT PORTION - PSC SUPERSTRUCTURE-M40, ABUTMENT / PIER-M35, PILE CAP-M35, RCC PILE-M35, CRASH BARRIER-M40, APPROACH SLAB-M30, PEDESTAL-M35.
- NO LEVEL CROSSING EXISTS AT THIS LOCATION.
- REINFORCEMENT BARS SHALL BE H.Y.S.D. OF GRADE Fe-500 CONFORM TO IS 1786.
- THE DEPTH OF FOUNDATION SHOWN IN THE DRAWING IS TENTATIVE & SHOULD BE DECIDED BY NHA AUTHORITIES AS PER ACTUAL SOIL PROPERTIES AND DESIGN CALCULATION.
- REPRESENTATIVE OF TELECOM & SIGNALING DEPARTMENTS SHOULD BE MADE AVAILABLE BEFORE COMMENCEMENT OF PROPOSED WORK. IN THE VICINITY OF SIGNAL & TELECOM CABLES.
- BENT UP BARS (U-SHAPED) @ 32 AT 150 C/C SHALL BE EMBEDDED IN PIER FOR APPROACHING PIER / PIER CAP & BEARING FOR ROUTINE INSPECTION & MAINTENANCE.
- TEMPORARY ARRANGEMENT DRAWINGS OF METHODOLOGY OF LAUNCHING OF GIRDERS OVER RAILWAY TRACK SHOULD BE GOT APPROVED FROM RAILWAY AUTHORITY.
- ROAD AUTHORITY SHALL SUBMIT TO SR, DEN IN-CHARGE OF THE SECTION RELEVANT CREDENTIAL OF PMC (PROJECT MANAGEMENT CONSULTANCY) AND SITE IN-CHARGE TO BE APPOINTED FOR SUPERVISION AND EXECUTION OF THE BRIDGE PROPER IN RAILWAY AREA AFTER SCRUTINY OF CREDENTIALS SR, DEN SHALL ACCORD APPROVAL OF APPOINTING PMC AND SITE IN-CHARGE.
- DIMENSION GIVEN IN THIS DRAWING MUST BE RECONCILED AT SITE BEFORE START THE WORK FOR FEASIBILITY.
- PRECAUTIONARY MEASURES FOR CONSTRUCTION OF ROB ON DEPOSIT WORK / COST SHARING WORK WITH NHA / STATE GOVT. AND PRIVATE AGENCY. ISSUED BY ADVISOR CIVIL ENGINEERING RAILWAY BOARD LETTER NO.97 / CE-1 / BRO / 158 (POLICY) PT-II, DATED 16.07.2009 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 ROB GIRDERS ALSO TO ENSURE LONG LIFE.
- CONTROLLED CONCRETE WITH WEIGHT BATCHING SHALL BE USED.
- GUARD RAIL SHOULD BE PROVIDED IN THE TRACK NEAR ISOLATED PILLAR OF ROB. NO CONSTRUCTION JOINT SHALL BE ALLOWED IN PSC OR RCC SLAB OR GIRDER AND CURING 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 OF GRADE Fe 490B/490.
- STRIP SEAL TYPE EXPANSION JOINT SHALL BE PROVIDED AS PER LATEST MOST REQUIREMENT. CONTRACTOR SHOULD FURNISH DESIGN / DRAWING OF EXPANSION JOINTS FROM FIRMS APPROVED BY MOST AT VARIOUS RELEVANT AMBIENT TEMPERATURES TO SUIT CONDITIONS WITH THE APPROVAL OF ENGINEER IN CHIEF.
- TO PROTECT THE CONCRETE FROM DAMAGE DUE TO SMOKE OF LOCOMOTIVES, 4.00M WIDE STRIP WITH POLYURETHANE PAINT PREFERABLY IN BLACK COLOUR SHALL BE PROVIDED IN SOFFIT OF THE DECK OVER RUNNING TRACKS.
- METALLIC CRASH BARRIER SHOULD BE PROVIDED UP TO 30M MINIMUM LENGTH ON EITHER SIDE OF APPROACH EMBANKMENT AS PER MOST STANDARDS.
- STANDARD MAINTENANCE AGREEMENT SHOULD BE EXECUTED WITH RAILWAY AND NHA. AUTHORITIES FOR GRANT OF PERMISSION FOR CONSTRUCTION OF ROB IN RAILWAY PORTION.
- ROAD AUTHORITY SHOULD ENSURE THAT BEFORE LAYING OF ANY NEW WEARING COAT IN FUTURE EXISTING WEARING COAT SHOULD BE COMPLETELY REMOVED.
- NO WORK SHOULD BE TAKEN UP IN HAND TILL PROOF CHECKED DESIGN AND DRAWING WITHIN RAILWAY PORTION AREA APPROVED BY RAILWAY.
- ALL STEEL STRUCTURE SHOULD HAVE ANTI-CORROSIVE PROTECTION OF LONG DURABILITY.
- WAY-LEAVE CHARGES TO FACILITIES / EASEMENT RIGHT ON RAILWAY LAND SHALL BE DEPOSITED TO RAILWAY AS PER AGREEMENT SIGNED BETWEEN MINISTRY OF TRANSPORT & MINISTRY OF RAILWAY.
- QUALITY CONTROL AND SAFETY PRECAUTIONS AND MEASURES TO BE OBSERVED DURING EXECUTION OF ROB THROUGH PMC (PROJECT MANAGEMENT CONSULTANCY).
- QAP & WPBS WILL BE APPROVED BY RAILWAY PRIOR TO FABRICATION OF GIRDERS AND FABRICATION WORK WILL BE INSPECTED BY RAILWAY OFFICIALS.
- ALL THE VERTICAL CURVES SHALL BE PROVIDED IN PARABOLIC SHAPE AS PER IRC-SP-23.
- PIERS ARE FALLING IN RAILWAY LAND HENCE THESE SHOULD BE DESIGNED TO CATER ADDITIONAL LOADS OF FUTURE TRACKS.
- RECOMMENDED SAFE LOAD ON PILE TO BE CONFIRMED BY PILE LOAD TEST (PLT). MAJOR DIFFERENCE IN RESULTS BETWEEN PLT & RECOMMENDED SAFE LOAD MUST BE BROUGHT TO THE NOTICE OF ENGINEER INCHARGE IMMEDIATELY.
- FOR DETAILS OF SUBSTRUCTURE REFER SEPARATE DRAWING DULY APPROVED BY RAILWAY.
- PROPOSED RAILWAY SPAN AS PER RDSO STANDARD DRAWING NO. RDSO/B-10415 TO 10415/8 FOR 60M BOW STRING STEEL GIRDER.
- THIS DRAWING SUPERSEDES EARLIER APPROVED CE'S DRG. NO. ECR/MGS/11-18/ROB/50 TO ACCOMMODATE DFCCIL TRACKS WITH PROVISION OF VIADUCTS AS 7.5 X 5.5M, RCC 60X.
- AFTER COMMISSIONING OF PROPOSED TWO, 2-LANES ROB AT EITHER SIDE OF EXISTING ROB AND ROAD TRAFFIC DIVERTED ON ITS, REMAINING TWO 2-LANES ROB'S WORK WILL BE TAKEN IN HAND.
- (i) THE PI BUILDING & COMMISSIONING OF PI REQUIRED FOR SHIFTING OF S&T GEARS BEFORE THE TRENCHING / DIGGING IN IR LAND ZONE CAN BE STARTED.
- (ii) ANY DIGGING TO BE DONE WITH PRIOR PERMISSION FROM S&T/OPEN LINE.

**EAST CENTRAL RAILWAY, MGS DIVISION**

**TITLE:-**  
GENERAL ARRANGEMENT DRAWING FOR 4-LANING TO 6-LANING OF EXISTING ROB AT CH. 940+800 OF NH-2 AND AT RAILWAY KM. 407/31 - 408/1 BETWEEN GARHIWA ROAD TO SONE NAGAR STATION OF MUGHALSARAI DIVISION

(GENERAL ARRANGEMENT DRAWING)  
APPROVAL OF RAILWAY AUTHORITY

SIGNATURE OF DIV. OFFICER'S:-	SIGNATURE OF HQ. OFFICER'S:-
DRM /MGS	CBE /ECR/HJP
Sr. DEN/Co-Ord.	DY. CE /BR/ D
Sr. DOM/MGS	AEN /BR/D
DY. CSTE/W/MGS	
Sr. DSTE/MGS	
Sr. DEET/DR/MGS	
DEN - III	
AEN /JPL	

CE'S DRG. NO. ECR/MGS/2017-18/ROB/84

DRM /MGS PLAN NO. 118-2017 NOTE SHEET NO. 31 (NP-1/24.2/2)

CE'S CASE FILE NO. W-3/162/02/ROB/CH-940+800/NH-2.

**PROJECT:-**  
SIX LANING OF VARANASI - AURANGABAD SECTION OF NH-2 FROM KM 786.00 TO KM 978.40 (LENGTH - KM 192.40) IN THE STATES OF UTTAR PRADESH AND BIHAR UNDER PHASE - 5 ON DBFOT BASIS AND PROVIDING OF PASSAGE FOR PASSING OF 02 NOS. DFCCIL TRACK IN EXISTING 4 LANE NH-2

**THIS DRAWING SUPERSEDES CE'S DRAWING No. - ECR/MGS/2017-18/ROB/50**  
DFCCIL Drg. MGS/EN/ROB NH-2 SEB/20/2017

SIGNATURE OF DFCCIL OFFICER'S:-

APM/ENGG	DY CPM/ENGG-II	CPM/MGS	PD /NHA