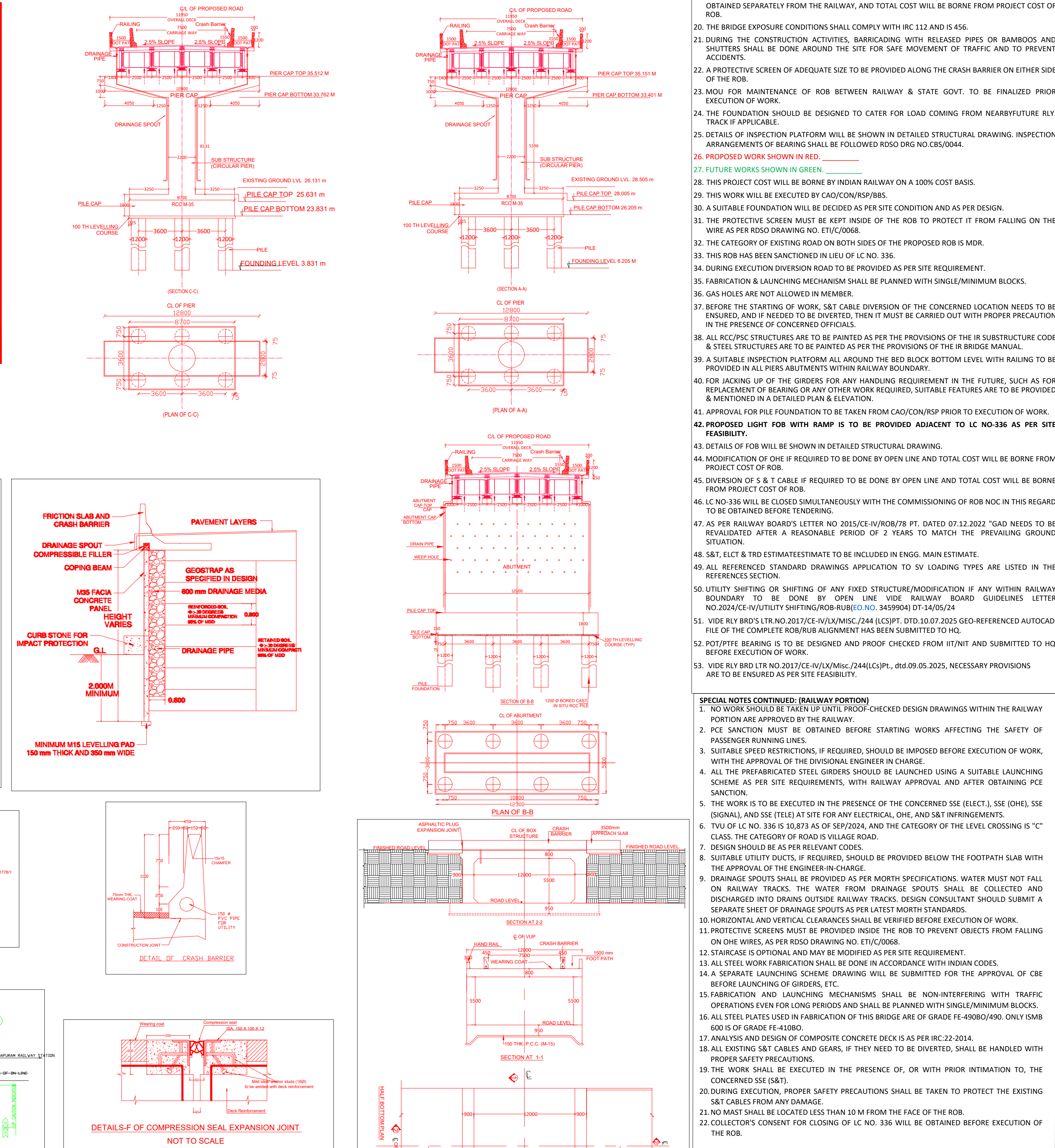


FRL CALCULATION AT ROB	
Rail top Level:	29.262m
Existing Track Vertical Clearance:	6.550m
Girder/Beam:	1.581m
Bottom Plate:	0.036m
Slab Thickness:	0.250m
Camber Height:	0.145m
Pedestal Ad ustment Level :	0.125m
Wearing Coat:	0.080m
Finished Road Level:	38.029m
Railway Boundary:	41.22m



- NOTES:
- SECTION OF PCE TO BE OBTAINED PRIOR TO EXECUTION OF WORK
 - ALL DIMENSIONS ARE SHOWN IN MILLIMETERS AND ALL LEVELS ARE SHOWN IN METERS UNLESS OTHERWISE MENTIONED.
 - ALL DIMENSIONS AND LEVELS MUST BE VERIFIED AND RECORDED BEFORE EXECUTION.
 - DIMENSIONS AND TYPES OF SUBSTRUCTURE & FOUNDATION SHOWN ARE TENTATIVE AND MAY CHANGE AFTER FINAL DESIGN.
 - THE DRAWINGS SHOULD NOT BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
 - SLOPE OF 2.5% SHALL BE PROVIDED FOR THE DECK SLAB.
 - THIS DRAWING IS PREPARED BASED ON (IR:500) HYDRAULIC DESIGN OF 30.0M COMPOSITE GIRDER AND (RSO:1178) FOR 30.0M COMPOSITE GIRDER. FOR APPROACH PORTION: CAST IN SITU SLAB M-40
 - DIMENSIONS OF PIER ARE TENTATIVE. DETAILED DESIGN OF ROOF WILL BE PREPARED AND WILL BE APPROVED BY CEE. DIMENSIONS MARKED MAY VARY AT THE TIME OF DETAILED DESIGN.
 - CONCRETE SHALL BE A DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTICS STRENGTH ON 150 MM CUBES AS FOLLOWS:
 - FOR ROAD PORTION: FOR APPROACH PORTION: CAST IN SITU SLAB M-40
 - FOR ROOF PORTION: CAST IN SITU SLAB M-40
 - CRASH BARRIER M-40. CRASH BARRIER M-40
 - LEVELLING COURSE M-15. LEVELLING COURSE M-15
 - RED BLOCK M-40. PILE CAP M-15
 - CORROSION RESISTANT TMT (FE 500 D) HYDRAULIC DESIGN OF 30.0M COMPOSITE GIRDER AND (RSO:1178) FOR 30.0M COMPOSITE GIRDER. FOR APPROACH PORTION: CAST IN SITU SLAB M-40
 - FOR FABRICATION WORKMANSHIP, INSPECTION AND TESTING, PROTECTION AGAINST CORROSION, ETC., RELEVANT PROVISIONS OF THE IRC 21-2008 SHALL BE FOLLOWED.
 - TRIP SLOPE EXPANSION JOINTS OF PROVEN QUALITY SHALL BE PROVIDED IN ACCORDANCE WITH IRC-69-2005 GUIDELINES AND SPECIFICATIONS FOR EXPANSION JOINTS.
 - GRADE OF CONCRETE FOR PEDESTAL SHALL BE M-40 FOR ROB PORTION.
 - WATER TO BE USED IN CONCRETING, GROUTING AND CURING SHALL CONFORM TO IRC:112/IRC:78.
 - TYPE OF BEARING - POT/PIE BEARING IN RAILWAY SPAN.
 - ALL SAFETY MEASURES, INCLUDING SUITABLE SPEED RESTRICTION/CAUTION ORDERS, MAY BE TAKEN DURING EXECUTION OF WORK OVER THE TRACK.
 - SUITABLE PRECAUTIONS SHALL BE TAKEN DURING THE EXECUTION OF WORK, SO THAT SIGNALING AND TELECOMMUNICATION CABLES ARE NOT DAMAGED.
 - RAILS ARE TO BE PROVIDED ON TRACKS BELOW ROAD OVER BRIDGE ON LINES ADJACENT TO PIERS TO PROTECT FROM DAMAGES OF ROAD OVER BRIDGE AGAINST DERAILMENT.
 - 17.1) TIGHT LEUGH POWER LINE CROSSINGS, IF ANY, TO BE MODIFIED BY STATE GOVT. AS PER THE REGULATION FOR ELECTRICAL CROSSING OF RAILWAY TRACK-1987. AND PRIOR APPROVAL SHOULD BE OBTAINED SEPARATELY FROM THE RAILWAY, AND TOTAL COST WILL BE BORNE FROM PROJECT COST OF ROB.
 - THE BRIDGE EXPOSURE CONDITIONS SHALL COMPLY WITH IRC 112 AND IS 456.
 - DURING THE CONSTRUCTION ACTIVITIES, BARBICING WITH RELEASED PIPES OR BAMBOOS AND SHUTTERS SHALL BE DONE AROUND THE SITE FOR SAFE MOVEMENT OF TRAFFIC AND TO PREVENT ACCIDENTS.
 - A PROTECTIVE SCREEN OF ADEQUATE SIZE TO BE PROVIDED ALONG THE CRASH BARRIER ON EITHER SIDE OF THE ROB.
 - MU FOR MAINTENANCE OF ROB BETWEEN RAILWAY & STATE GOVT. TO BE FINALIZED PRIOR TO EXECUTION OF WORK.
 - THE FOUNDATION SHOULD BE DESIGNED TO CATER FOR LOAD COMING FROM NEARBY RAILWAY TRACK IF APPLICABLE.
 - DETAILS OF INSPECTION PLATFORM SHALL BE SHOWN IN DETAILED STRUCTURAL DRAWING. INSPECTION ARRANGEMENTS OF BEARINGS SHALL BE FOLLOWED RSO: DRG NO. C85/0044.
 - PROPOSED WORK SHOWN IN RED.
 - FUTURE WORKS SHOWN IN GREEN.
 - THIS PROJECT COST WILL BE BORNE BY INDIAN RAILWAY ON A 100% COST BASIS.
 - THIS WORK WILL BE EXECUTED BY CAO/CON/SP/BS.
 - A SUITABLE FOUNDATION WILL BE DECIDED AS PER SITE CONDITION AND AS PER DESIGN.
 - THE PROTECTIVE SCREEN MUST BE KEPT INSIDE OF THE ROB TO PROTECT IT FROM FALLING ON THE WIRE AS PER RSO: DRAWING NO. ETC/0068.
 - THE CATEGORY OF EXISTING ROAD ON BOTH SIDES OF THE PROPOSED ROAD IS MDR.
 - THIS ROB HAS BEEN SANCTIONED IN LIEU OF LC NO. 336.
 - DURING EXECUTION DIVERSION ROAD TO BE PROVIDED AS PER SITE REQUIREMENT.
 - FABRICATION & LAUNCHING MECHANISM SHALL BE PLANNED WITH SINGLE/MINIMUM BLOCKS.
 - 600 IS NOT ALLOWED IN NUMBER.
 - BEFORE THE STARTING OF WORK, SET CABLE DIVERSION OF THE CONCERNED LOCATION NEEDS TO BE INITIATED AND IT NEEDS TO BE DIVERGED, THEN IT MUST BE CARRIED OUT WITH PROPER PRECAUTION IN THE PRESENCE OF CONCERNED OFFICIALS.
 - ALL R/C/C STRUCTURES ARE TO BE PARTED AS PER THE PROVISIONS OF THE IR SUBSTRUCTURE CODE.
 - A SUITABLE INSPECTION PLATFORM ALL AROUND THE BED BLOCK BOTTOM LEVEL WITH RAILING TO BE PROVIDED IN ALL PIER ABUTMENTS WITHIN RAILWAY BOUNDARY.
 - FOR JACKING UP OF THE GIRDERS FOR ANY HANDLING REQUIREMENT IN THE FUTURE, SLOTT AS FOR REPLACEMENT OF BEARING OR ANY OTHER WORK REQUIRED, SUITABLE FEATURES ARE TO BE PROVIDED AS MENTIONED IN A DETAILED PLAN & ELEVATION.
 - APPROVAL FOR PILE FOUNDATION TO BE TAKEN FROM CAO/CON/SP PRIOR TO EXECUTION OF WORK.
 - PROPOSED LIGHT FOR WITH RAMP IS TO BE PROVIDED ADJACENT TO LC NO-336 AS PER SITE FEASIBILITY.
 - DETAILS OF ROB WILL BE SHOWN IN DETAILED STRUCTURAL DRAWING.
 - MODIFICATION OF ONE IF REQUIRED TO BE DONE BY OPEN LINE AND TOTAL COST WILL BE BORNE FROM PROJECT COST OF ROB.
 - DIVERSION OF S & T CABLE IF REQUIRED TO BE DONE BY OPEN LINE AND TOTAL COST WILL BE BORNE FROM PROJECT COST OF ROB.
 - LC NO-336 WILL BE CLOSED SIMULTANEOUSLY WITH THE COMMISSIONING OF ROB NOC IN THIS REGARD TO BE OBTAINED BEFORE TENDERING.
 - AS PER RAILWAY BOARD'S LETTER NO. 2012/CE-V/MD/78 DT. DATED 07.12.2022. "SAD NEEDS TO BE RE-EVALUATED AFTER A REASONABLE PERIOD OF 2 YEARS TO MATCH THE PREVAILING GROUND SITUATION."
 - SET S&T A TWO ESTIMATE/ESTIMATE TO BE INCLUDED IN ENGL. MAIN ESTIMATE.
 - ALL REFERENCED STANDARD DRAWINGS APPLICATION TO SV LOADING TYPES ARE LISTED IN THE REFERENCES SECTION.
 - UTILITY SHIFTING OR SHIFTING OF ANY FIXED STRUCTURE/MODIFICATION IN ANY WITHIN RAILWAY BOUNDARY TO BE DONE BY OPEN LINE VIDE RAILWAY BOARD GUIDELINES LETTER NO. 2024/CE-V/MD/78 DT. DATED 07.12.2022. "SAD NEEDS TO BE RE-EVALUATED AFTER A REASONABLE PERIOD OF 2 YEARS TO MATCH THE PREVAILING GROUND SITUATION."
 - VIDE RLY B'D'S LTR NO. 2017/CE-V/MD/MSC/244 (LC/PT) DTD 10.07.2020 GED REFERENCED AUTOCAD FILE OF THE COMPLETE ROB/RU ALIGNMENT HAS BEEN SUBMITTED TO HQ.
 - NOTIFIE BEARING IS TO BE DESIGNED AND PROOF CHECKED FROM M/T/NT AND SUBMITTED TO HQ BEFORE EXECUTION OF WORK.
 - VIDE RLY B'D'S LTR NO. 2017/CE-V/MD/MSC/244 (LC/PT) DTD 10.07.2020 GED, NECESSARY PROVISIONS ARE TO BE ENSURED AS PER SITE FEASIBILITY.

- SPECIAL NOTES CONTINUED: (RAILWAY PORTION)
- NO WORK SHOULD BE TAKEN UP UNTIL PROOF CHECKED DESIGN DRAWINGS WITHIN THE RAILWAY PORTION ARE APPROVED BY THE RAILWAY.
 - PCE SANCTION MUST BE OBTAINED BEFORE STARTING WORKS AFFECTING THE SAFETY OF PASSENGER RUNNING LINES.
 - SUITABLE SPEED RESTRICTIONS, IF REQUIRED, SHOULD BE IMPOSED BEFORE EXECUTION OF WORK, WITH THE APPROVAL OF THE DIVISIONAL ENGINEER IN CHARGE.
 - ALL THE PREFABRICATED STEEL GIRDERS SHOULD BE LAUNCHED USING A SUITABLE LAUNCHING SCHEME AS PER SITE REQUIREMENTS, WITH RAILWAY APPROVAL AND AFTER OBTAINING PCE SANCTION.
 - THE WORK IS TO BE EXECUTED IN THE PRESENCE OF THE CONCERNED S&T SELECT, SSE (OHL) SSE (SIGNAL) AND SSE (ELE) AT SITE FOR ANY ELECTRICAL, CIE AND S&T REFINEMENTS.
 - TYU OF LC NO. 336 IS 10.873 AS OF SEP/2024, AND THE CATEGORY OF THE LEVEL CROSSING IS "C" CLASS. THE CATEGORY OF ROAD IS VEHICLE ROAD.
 - DESIGN SHOULD BE AS PER RELEVANT CODES.
 - SUITABLE UTILITY DUCTS, IF REQUIRED, SHOULD BE PROVIDED BELOW THE FOOTPATH SLAB WITH THE APPROVAL OF THE ENGINEER-IN-CHARGE.
 - DRAINAGE SLOPES SHALL BE PROVIDED AS PER NORTH SPECIFICATIONS. WATER MUST NOT FALL ON RAILWAY TRACKS. THE WATER FROM DRAINAGE SLOPES SHALL BE COLLECTED AND DISCHARGED INTO DRAINER OUTSIDE RAILWAY TRACKS. DESIGN CONSULTANT SHOULD SUBMIT A SEPARATE SHEET OF DRAINAGE SLOPES AS PER LATEST NORTH STANDARDS.
 - HORIZONTAL AND VERTICAL CLEARANCES SHALL BE VERIFIED BEFORE EXECUTION OF WORK.
 - PROTECTIVE SCREENS MUST BE PROVIDED INSIDE THE ROB TO PREVENT OBJECTS FROM FALLING ON THE WIRE, AS PER RSO: DRAWING NO. ETC/0068.
 - STAIRCASE IS OPTIONAL AND MAY BE MODIFIED AS PER SITE REQUIREMENT.
 - ALL STEEL WORK FABRICATION SHALL BE DONE IN ACCORDANCE WITH INDIAN CODES.
 - A SEPARATE LAUNCHING SCHEME DRAWING WILL BE SUBMITTED FOR THE APPROVAL OF C&E BEFORE LAUNCHING OF GIRDERS, ETC.
 - FABRICATION & LAUNCHING MECHANISM SHALL BE NON-INTERFERING WITH TRAFFIC OPERATIONS EVEN FOR LONG PERIODS AND SHALL BE PLANNED WITH SINGLE/MINIMUM BLOCKS.
 - ALL STEEL PLATES USED IN FABRICATION OF THIS BRIDGE ARE OF GRADE FE-400B/450, ONLY (SMB 600 IS OF GRADE FE-400B).
 - ANALYSIS AND DESIGN OF COMPOSITE CONCRETE DECK IS AS PER IRC-22-2004.
 - ALL EXISTING S&T CABLES AND GEARS, IF THEY NEED TO BE DIVERGED, SHALL BE HANDLED WITH PROPER SAFETY PRECAUTIONS.
 - THE WORK SHALL BE EXECUTED IN THE PRESENCE OF, OR WITH PRIOR INTIMATION TO, THE CONCERNED S&T (S&T).
 - DURING EXECUTION, PROPER SAFETY PRECAUTIONS SHALL BE TAKEN TO PROTECT THE EXISTING S&T CABLES FROM ANY DAMAGE.
 - NO MAST SHALL BE LOCATED LESS THAN 10 M FROM THE FACE OF THE ROB.
 - COLLECTOR'S CONSENT FOR CLOSING OF LC NO. 336 WILL BE OBTAINED BEFORE EXECUTION OF THE ROB.

