



Office of The Superintending
Engineer,
Designs (R & B) Circle,
Bl:13, 2nd Floor,
Dr.Jivraj Mehta Bhavan,
Gandhinagar-382010.
Date 29-08-2023

To,

The Superintending Engineer,
GUDC LTD.,
Block -1, B1 Wing,
Karmayogi Bhavan,
Gandhinagar

**Sub: PROPOSED 2- LANE RAILWAY OVER BRIDGE IN LIEU OF LC NO. 48A
BETWEEN RLY KM. 629/3 TO 629/4, NEAR DHRANGADHRA RLY. STATION,
DHRANGADHRA.**

Ref: (1) Deputy General Manager GUDC Gandhinagar Letter No. GUDC/ Projects/ ROB/ RUB/ 2023/1229, Dated 15/04/2023 (Received on 15/04/2023).
(2) Technical Discussion with Design Consultant on Date 29/04/2023.
(3) M/S MultiMedia Consultants Pvt. Ltd. Letter No. MMCPL/05-23/983, Dated 19/05/2023 (Received on 23/05/2023).
(4) Technical Discussion with Design Consultant on Date 08/06/2023.
(5) This office Letter No. MISC/2/2134/2023, Dated 17/07/2023.
(6) M/S MultiMedia Consultants Pvt. Ltd. Letter No. MMCPL/05-23/1359, Dated 26/07/2023 (Received on 31/07/2023).
(7) Technical Discussion with Design Consultant on Date 08/08/2023.
(8) M/S MultiMedia Consultants Pvt. Ltd. Letter No. MMCPL/05-23/1453, Dated 09/08/2023 (Received on 23/08/2023).

With reference to above subject with reference to above subject Deputy General Manager GUDC Ltd., Gandhinagar had submitted GAD for scrutiny of the said project to this office vide letter under ref. (1). This office had raised technical comments under ref. (2). Compliances of these comments were received vide letter under ref. (3). This office had asked Design Consultant for implementation of IRC SP 114-2018 vide ref. (4) & this office has sought clarification for the implementation of IRC SP: 114-2018 for GUDC projects from authorities vide letter under ref. (5) for which reply is still awaited. Design Consultant submitted compliances vide letter under ref. (6). Again Due to partial compliances further comments were raised vide letter under ref. (7). M/S MultiMedia Consultants Pvt. Ltd. Has submitted duly signed GAD vide letter under ref. (8). However,

looking into urgency this office has scrutinized GAD of the said work, the General Arrangement and technical provisions in the GAD (Drg no. ROB-DHRANGADHRA - 01) of the bridge proper is generally found in the order. However, Dimensions of various structural components may vary during detailed design as per design parameter.

However, certain details shall be confirmed by GUDC Ltd. Gandhinagar before tendering.

1. Gradient of Approaches for ROB shall be preferably kept as 1:40 as per IRC:73 codal provisions with its latest amendment. However, steeper gradient up to permissible limit may be considered by GUDC Ltd. Gandhinagar as per specific site constraints.
2. Details of all type of utility and cross drainage work should be marked in GAD and submit separate drawing including all obstructions with ROW limit.
3. In curved span extra widening and super elevation should be provided as per IRC – 86 codal provisions with its latest amendment.
4. Bridge alignment shall be provided as per IRC codal provisions & seismic analysis of the bridge shall be done as per IRC SP 114- 2018 with its latest amendment.

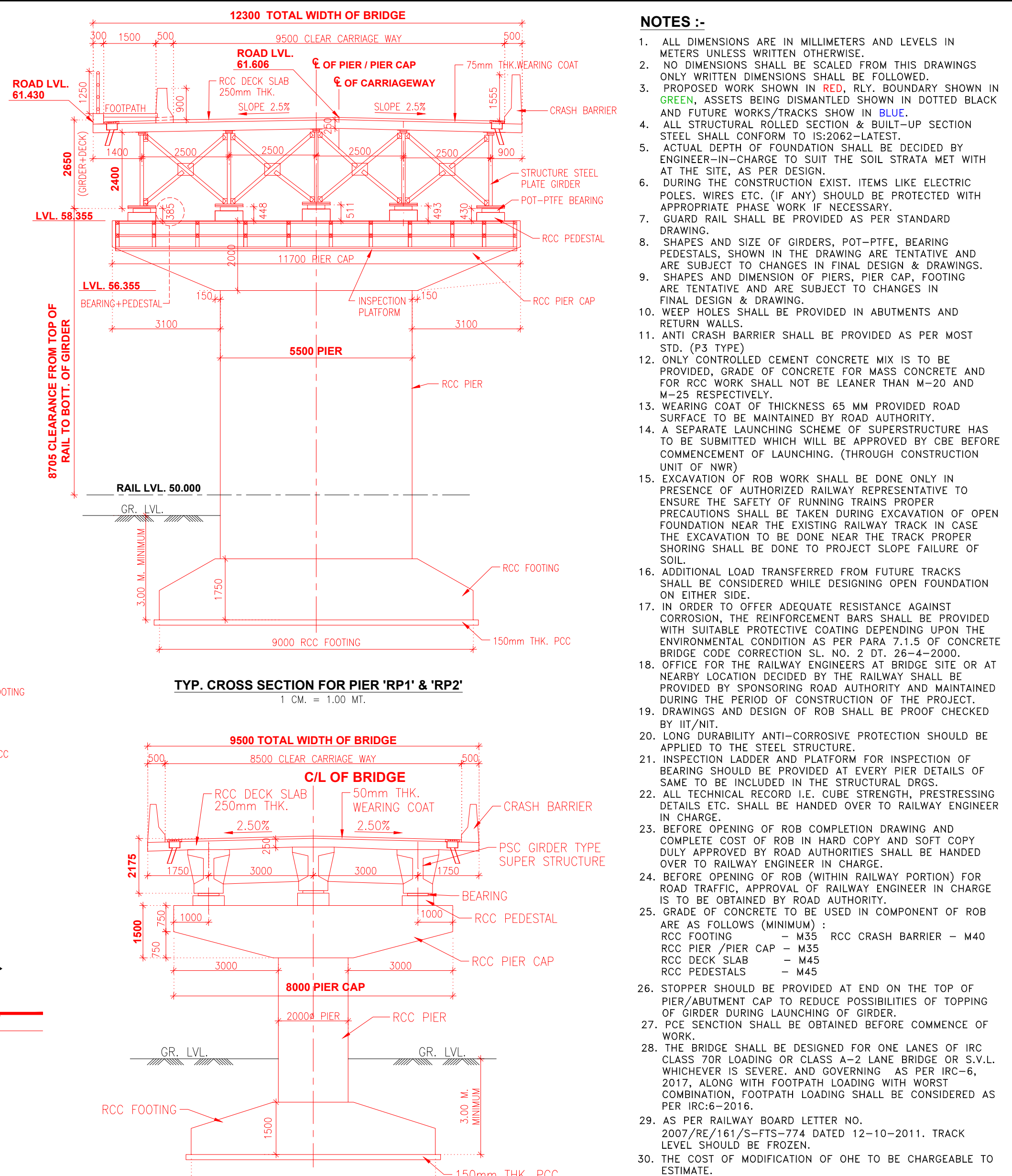
This office has checked the technical provisions of approaches only. Approaches, Levels, Measurement, rate analysis & specifications, arithmetical check etc. need to be dealt by the concerned field office also. LAQ, Traffic movement during construction, Diversion work if any, safety of all properties shall be duly addressed by the concerned field office.

However, legal and financial implications as well as contractual obligations shall be dealt by your office and approval of competent authority shall be obtained before adopting at site.

(R.K.SRIVASTAVA)
Superintending Engineer
Designs (R&B) Circle
Gandhinagar

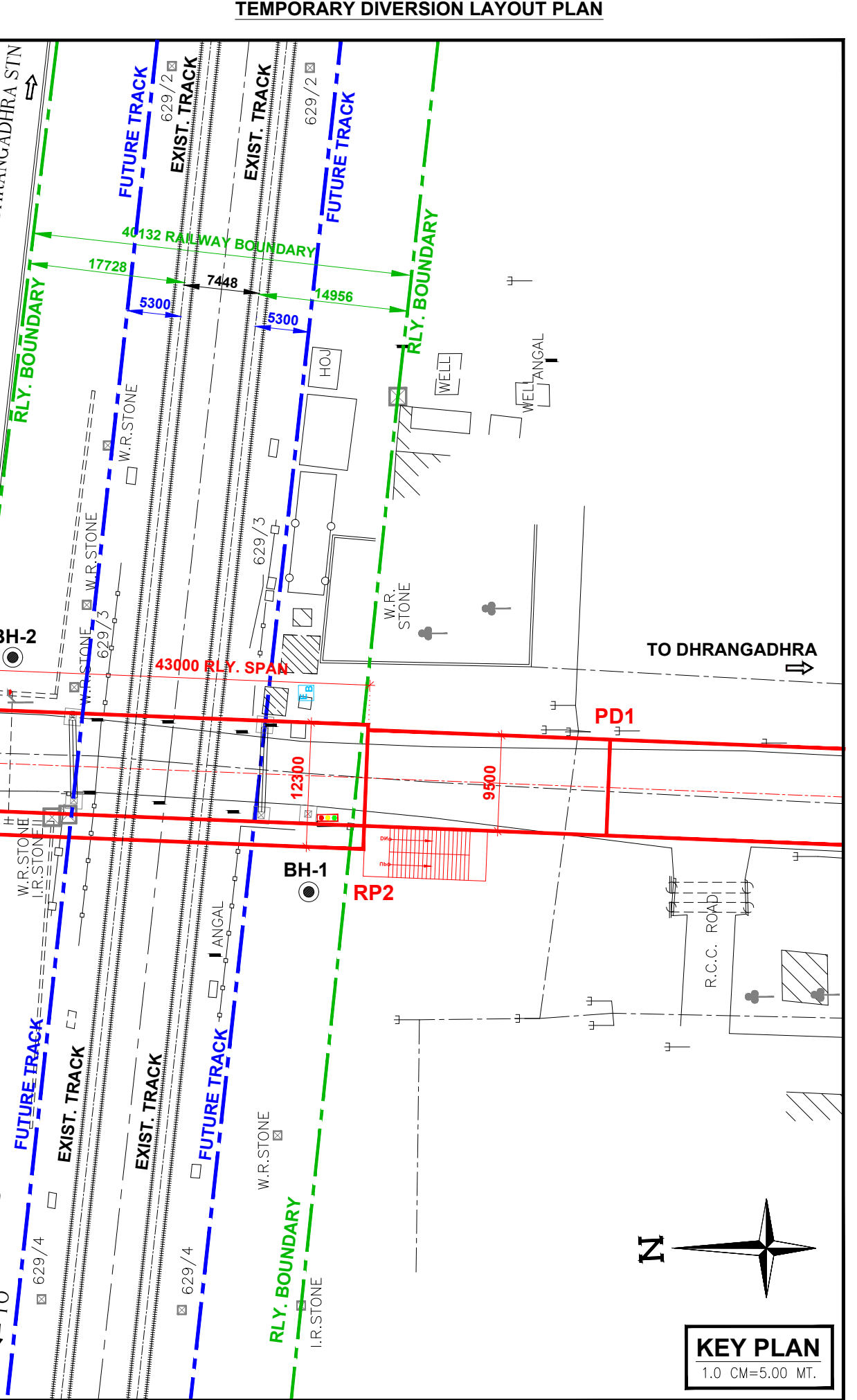
Copy to:-

M/S Multimedia Consultants Pvt. Ltd. 401/ Shivalik shilp, ISCKON Cross road , S.G. highway
Ahmedabad 380054edia Consultants Pvt. Ltd.

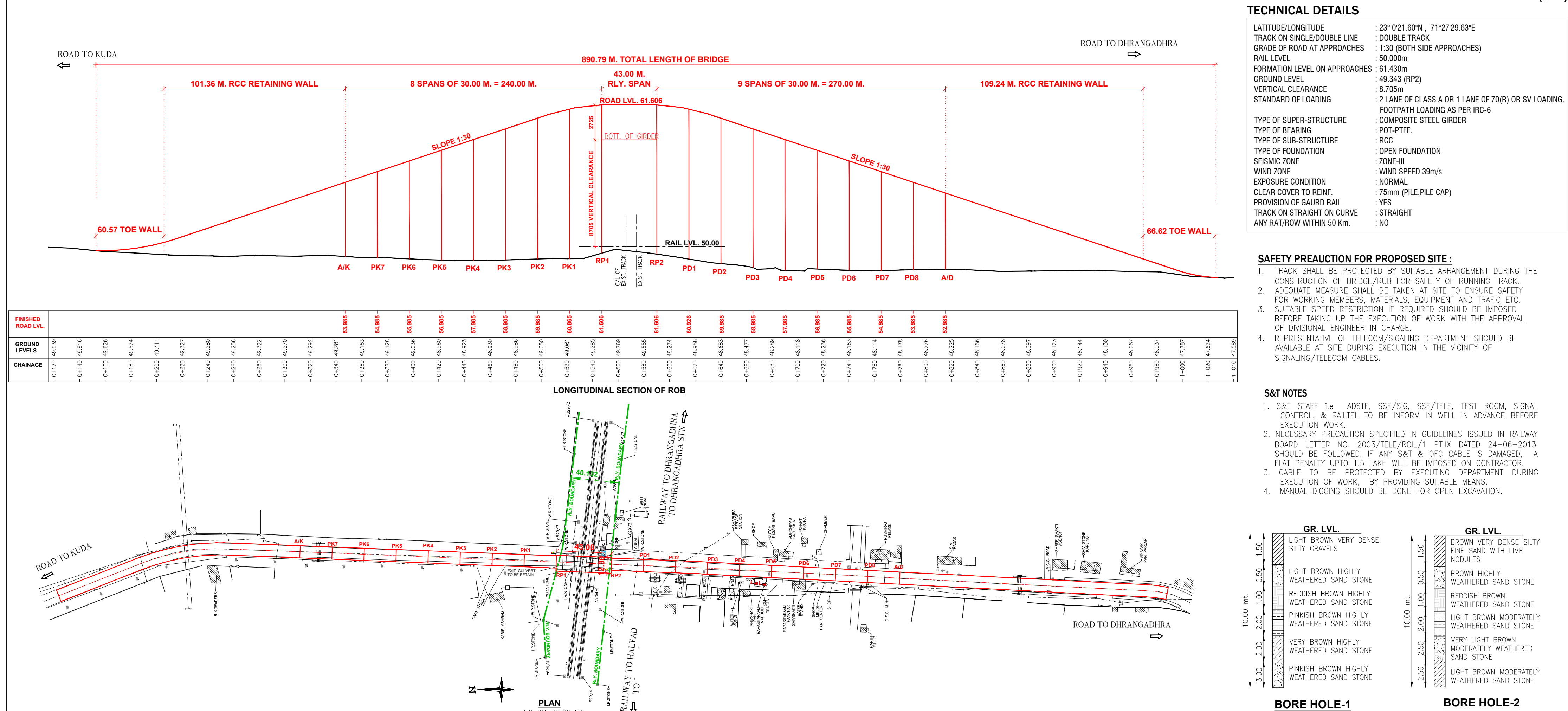


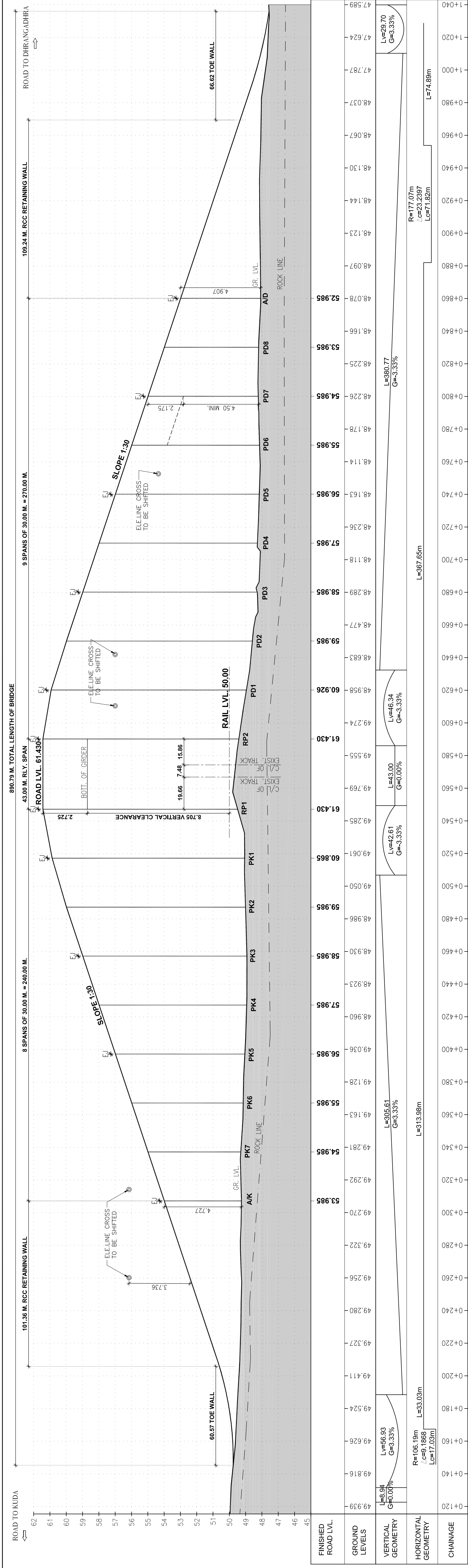
NOTES :-

- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS IN METERS UNLESS OTHERWISE STATED.
 - STRUCTURE SHALL BE SCHEDULED FROM THIS DRAWING. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 - ITEMS SHOWN IN GREEN SHALL BE AS SHOWN IN THE DRAWING. ITEMS SHOWN IN GREEN, ASSETS BEING DISMANTLED SHOWN IN DOTTED BLACK AND FUTURE WORKS/TRACKS SHOWN IN BLUE.
 - PROTECT EXISTING ROLLED STEEL JOISTS BY TOP SECTION STEEL SHALL CONFORM TO IS-2062:1982-LATE.
 - ACTUAL DEPTH OF FOUNDATION SHALL BE DECIDED BY INSPECTION REPORT TO SUIT FOR MAXIMUM CLASTIC MESH AT THE SITE, AS PER DESIGN.
 - VEGETATION TO BE REMOVED OR CUT OFF NEAR ELECTRIC POLES, WIRES ETC., (IF ANY) SHOULD BE PROTECTED WITH APPROPRIATE PHASE WORK IF NECESSARY.
 - GRADE RAIL SHALL PROVIDE STANDARD STANDARD DRAWING.
 - SHAPES & SIZE OF GIRDERS, POST-TENSILE BEARING SHAPES & SIZE SHOWN IN THE DRAWING ARE TENTATIVE AND ARE SUBJECT TO CHANGES IN FINAL DESIGN & DRAWINGS.
 - THE DIMENSION OF PILING SHALL BE AS SHOWN IN THE DRAWING ARE TENTATIVE AND ARE SUBJECT TO CHANGES IN FINAL DESIGN & DRAWING.
 - VEGETATION SHALL BE PROVIDED IN ABUTMENTS AND RETURN WALLS.
 - PROTECT GRADE RAIL SHALL BE PROVIDED AS PER MOST STD. (P3 TYPE)
 - ONLY CONTROLLED CEMENT CONCRETE MIX IS TO BE USED FOR ALL STRUCTURES FOR MASS CONCRETE AND FOR RCC WORK SHALL NOT BE LESSER THAN M-20 AND ENDS, RESPECTIVELY.
 - WEARING COURSE THICKNESS 65 MM PROVIDED ROAD SURFACE TO BE MAINTAINED BY ROAD AUTHORITY.
 - LAUNCHING SCHEME OF SUPERSTRUCTURE HAS TO BE SUBMITTED WHICH WILL BE APPROVED BY CRE BEFORE COMMENCEMENT OF LAUNCHING, (THROUGH CONSTRUCTION UNIT).
 - EXCAVATION OF ROB WORK SHALL BE DONE ONLY IN THE PRESENCE OF AUTHORIZED RAILWAY REPRESENTATIVE TO TAKE THE SAFETY OF RUNNING TRAINS INTO ACCOUNT. PRECAUTIONS SHALL BE TAKEN DURING EXCAVATION OF OPEN TRENCHES. EXCAVATION OF ROB SHALL BE DONE AFTER THE EXCAVATION TO BE DONE NEAR THE TRACK PROPER SHORING SHALL BE DONE TO PROJECT SLOPE FAILURE OF ROB.
 - ADDITIONAL LOAD TRANSFERRED FROM FUTURE TRACKS TO EXISTING BRIDGE WHILE DESIGNING OPEN FOUNDATION ON EITHER SIDE.
 - IN ORDER TO OBTAIN ADEQUATE RESISTANCE AGAINST SLIDING, REINFORCEMENT SHALL BE PROVIDED WITH SATISFACTORY PROTECTIVE COATING DEPENDING UPON THE CONDITION AS PER REQUIREMENTS OF CONCERNED BRIDGE CODE CORRECTION SL. NO. 2, DT. 28-4-2000.
 - OFFICE FOR THE RAILWAY ENGINEERS AT BRIDGE SITE OR AT THE DISTRICT OFFICE SHALL BE ADVISED BY THE PROJECT DRAWINGS BY SPONSORING ROAD AUTHORITY AND MAINTAINED DURING THE PERIOD OF CONSTRUCTION PROJECT. PROJECT DRAWINGS AND DESIGN OF ROB SHALL BE PROTECT CHECKED BY I/T/N.
 - PERMEABILITY ANTI-CORROSION PROTECTION SHOULD BE APPLIED TO THE STEEL STRUCTURE.
 - INSPECTION LADDER AND PLATFORM FOR INSPECTION OF STRUCTURE SHALL BE PROVIDED AT EVERY BAY DETAILS OF SAME TO BE INCLUDED IN THE STRUCTURAL DRGS.
 - FOR THE CASE OF GALVANIZED STEEL SHEET PILING PRESSING DETAILS ETC. SHALL BE HANDED OVER TO RAILWAY ENGINEER IN CHARGE.
 - AFTER COMPLETION OF ROB COMPLETION DRAWING AND COMPLETE COST OF ROB IN HARD COPY AND SOFT COPY SHALL BE HANDLED BY ROAD AUTHORITY SHALL BE HANDED OVER TO RAILWAY ENGINEER IN CHARGE.
 - BEFORE OPENING OF ROB (WITHIN RAILWAY PORTION) FOR THE REMOVAL OF ROB BY RAILWAY ENGINEER IN CHARGE IS TO BE OBTAINED BY ROAD AUTHORITY.
 - GRADE OF CONCRETE TO BE USED IN COMPONENT OF ROB SHALL BE AS FOLLOWS (MINIMUM)
RCC FOOTING = M35
RCC CRASH BARRIER = M40
RCC PIER /PIER CAP = M35
RCC DECK SLAB = M40
RCC PEDESTALS = M40
 - STOPPER SHOULD BE PROVIDED AT END ON THE TOP OF PIERS/ABUTMENT CAP TO REDUCE THE LIKELIHOOD OF TOPPING OF GIRDER DURING LAUNCHING OF GIRDER.
 - PCE SECTION SHALL BE OBTAINED BEFORE COMMENCE OF LAUNCHING.
 - THE BRIDGE SHALL BE DESIGNED FOR ONE LANES OF IRC CLASS II & CLASS IIIA & IVB TRUCKS (AS PER L.V.I.) WHICHEVER IS SEVERE, AND GOVERNING AS PER INC-6, 2017, ALONG WITH FOOTPATH LAUNCHING WITH WORST COMBINATION. FOOTPATH LAUNCHING SHALL BE CONSIDERED AS PER IRC-G-2016.
 - AS PER RAILWAY BOARD LETTER NO. ZOOE/181/S-P/TS-774 DATED 12-10-2011, TRACK LEVEL SHOULD BE FROZEN.
 - THE COST OF MODIFICATION OF ONE TO BE CHARGEABLE TO ESTIMATE.
 - DIMENSIONS OF ALL STRUCTURAL MEMBERS I/E. PILE, PIPE, CAP, PIER, ABUTMENT, PIER CAP ETC. SHOWN ARE TENTATIVE. THEY SHALL BE AS SHOWN IN THE DRAWING. SUBMITTED BY CONSULTANT / PARTY AND APPROVED BY RAILWAY.
 - FOR STEEL OF COMPOSITE GIRDERS/TRUSS CONFORM TO IS-2062:-2006-B0 OTHERWISE SPECIFIED IN DESIGN OR AS APPROVED BY RSDO.
 - ROAD TRAFFIC SHALL BE DIVERTED AT NEAREST L.K. IN CONSULTATION WITH ROAD AUTHORITY AS SHOWN (TEMP. DIVERSION IS ALREADY ORDERED FOR TRAFFIC).
A. THE QAP BEARING AS PER RSDO FORMAT (CIRCULATED BY RSDO VIDE LETTER NO. CBS/PBEJ/REG. DATED 16-10-2014) SHALL BE ENSURED.
B. THE STEEL COMPOSITE PLATE GIRDER FOR 43.00 M. SPAN PLEASE REFER RSDO APPROVED DRG NO. WRC/O&R/NDP/RDNO/18/001 (OF WMRCL PROJECT)
 - WORK IS TO BE EXECUTED ON DEPOSIT TERMS AND CHARGES SHALL BE (ASIED AS BID'S LETTER NO. 98/PC-I/MSC/14) BRO DR. 1-11-2010.
 - ROAD LEVEL IS FIXED & CLEARANCE FROM THE RAIL LEVEL TO SCOPE OF GIRDER IS ALSO FIXED AS PER EXIST. NORMS OF SCHEDULED OF DIMENSIONS OF RAILWAY.
 - IT SHALL BE OBTAINED FROM THE REPRESENTATIVE FROM SIGNAL & TELECOM DEPT. ARE MADE AVAILABLE BEFORE THE WORK IS COMMENCED IN THE VICINITY OF SIGNALLING AND OR CROSSING, ETC.
 - CLEARANCE OF MINIMUM 8705mm KIPS FROM TOP OF RAIL LEVEL AND BOTTOM OF ROADS MUST BE PERMISSIBLE OF DIMENSION OF RAILWAY IN RAILY CONSTRUCTION.
 - ALL FILLET WELDED ARE TO BE EXAMINED BY DYE.
 - TENSILE TEST SHALL BE CONDUCTED TO VERIFY NON DESTRUCTIVE TEST METHOD.
 - ALL WELDS TO BE MADE BY WELDERS USING APPROVED WELDING PROCEDURE.
 - FABRICATION SHALL BE DONE AS PER IRC-24 & IS-816.
 - INSPECTION OF ROB SHALL BE DONE BY RLY. IT NOT DONE AS PER INSTRUCTION OF RAILWAY BOARD ISSUED VIDE LETTER NO. 2013/CE-II/BR/IRRM/DT. 17.12.2019
 - FABRICATION OF STEEL GIRDER SUPER STRUCTURE SHALL BE DONE BY RSDO APPROVED VENDORE (WORK SHOP) ONLY.
 - TORQUE BASED TIGHTENING ALIAS SHALL NOT BE PERMITTED DURING TIGHTENING. ACCEPTED TORQUE VALUE SHALL BE ENSURED AS PER GUIDELINES ISSUED BY RSDO VIDE BS-111 (REV).
 - G.A.P. AS PER BS-111-(REV-V) SHALL BE OBTAINED AND APPROVED BY COMPETENT AUTHORITY OF RLY. QUALITY CONTROL SHALL BE DONE BY RLY.
 - ACTUAL LOCATION OF ROB SHALL BE DECIDED BY RLY. ENGINEER-IN-CHARGE IN CONSULTATION WITH ROAD AUTHORITY.
 - STRUCTURAL STEEL OF COMPOSITE GORDERS CONFORM TO IS-2062:-2006-B0.
 - EXISTING LC WILL BE CLOSED AFTER COMPLETION OF ROB WORK.
 - CONCEPT LETTER FROM DISTRICT COLLECTOR GURUDHARA/RAIPUR FOR THE RAILWAY CROSSING NO. 48A HAS BEEN OBTAINED LETTER NO. GENERAL/VASHI/3022/05/2023.
 - THE G.A.P. SHALL BE CALIBRATED TO MATCH THE PREVAILING GROUND CONDITION IF THE WORK IS NOT COMMENCED WITHIN 2 YEARS OF COMMENCEMENT.
 - STEEL GIRDER SHALL BE INSPECTED BY INSPECTION CLASS II RAILWAY OR THIRD PARTY INSPECTION AGENCY LIKE RITES/WRI or ICE, AS ADVISED IN RAILWAY BOARD VIDE LETTER NO. (Mo) No. 246/CE-I/CI/BR/RSDO MSC DATED 15/07/2019 (I/nb). 2017/16/54/CE-II/BRIDGE GIRDER INSPECTION DATED 21/07/2019.
 - STRUCTURAL STEEL OF COMPOSITE GIRDER CONFIRMED TO IS 2062:2006.
 - E + 0.00 FOR RSDO DRAWING OF COMPOSITE GIRDERS
 - A SEPARATE LAUNCHING SCHEME OF SUPERSTRUCTURE HAS TO BE SUBMITTED WHICH WILL BE APPROVED BY CRE BEFORE COMMENCEMENT OF LAUNCHING.
 - SPEED RESTRICTION TO BE APPLIED UP TO 30KM/HOUR DURING INITIAL DIVERSION PERIOD AS DECIDED BY ENGINEERING IN CHARGE.
 - DURING CONSTRUCTION TRAFFIC WILL DIVERTED ON N.H. ROAD, TEMPORARY DIVERSION PLAN SHALL BE SUBMITTED BY ENGINEERING IN CHARGE.
 - STANDARD CRASH BARRIER UP TO 30M BEYOND RAILWAY LAND BOUNDARY SHALL BE PROVIDED ON BOTH APPROACHES OF ROB AS PER IRC-05-2016.
 - ROB DRAINAGE AS PER TYPE PLAN NO. TP-BR-92/-10/-2022



WESTERN RAILWAY					
AHMEDABAD DIVISION		VG-SIOB	SECTION		
LC NO. 48A IN DHANGADHRA YARD					
PROPOSED CONSTRUCTION OF TWO LANE ROAD OVER BRIDGE AT Km. 629/3-4 IN LIEU OF 'C' CLASS MANNED TRAFFIC LEVEL CROSSING NO.48A AT Km. 629/3-4					
Signature block					
CBE-CCG	BHAWESH KUMAR JHA		Digitally signed by BHAWESH KUMAR JHA Date: 2024.07.26 16:30:13 +05'30"		
DYCE-DESIGN-CCG	HIMANSHU SHARMA		Digitally signed by HIMANSHU SHARMA Date: 2024.07.12 15:17:49 +05'30"		
AXEN-DESIGN-CCG	NAND KISHOR CHAUDHARY		Digitally signed by NAND KISHOR CHAUDHARY Date: 2024.07.11 15:21:46 +05'30"		
DRM-AHMEDABAD	SUDHIR KUMAR SHARMA Digitally signed by SUDHIR KUMAR SHARMA Date: 2024.03.13 06:19:39 +05'30"				
SRDEN(Co)-ADI	VIKAS GARHWAL Digitally signed by VIKAS GARHWAL Date: 2024.02.29 12:29:22 +05'30"				
SRDOM-ADI	DR ZENIA GUPTA Digitally signed by DR ZENIA GUPTA Date: 2024.02.28 01:04:02 +05'30"				
SRDSTE(SIG)-ADI	ABHINAV YADAV Digitally signed by ABHINAV YADAV Date: 2024.03.01 12:58:18 +05'30"				
SRDEE(TRO)-ADI	KALLARAM MEENA Digitally signed by KALLARAM MEENA Date: 2024.03.12 02:07:25 +05'30"				
SRDEN(WEST)-ADI	VAIBHAV SAKLECHA Digitally signed by VAIBHAV SAKLECHA Date: 2024.02.28 11:37:57 +05'30"				
ADEN(DHG)-ADI	RAM NATH MEENA Digitally signed by RAM NATH MEENA Date: 2024.02.29 07:37:16 +05'30"				
JE-DRG-II-CCG	SAGAR DIPAKKUMAR RANA Digitally signed by SAGAR DIPAKKUMAR RANA Date: 2024.07.10 16:55:11 +05'30"				
DRM NO-DRM-ADI-8053			PCE NO-e-32034-DRM-I-D		
NO	DATE	DESCRIPTION		REV. BY	CHK. BY
PROJECT					
PROPOSED 2-LANE RAILWAY OVER BRIDGE IN LIEU OF LC. No. 48A BETWEEN RLY KM. 629/3 TO 629/4, NEAR DHRANGADHRA RLY. STATION, DHRANGADHRA.					
CLIENT					
GUJARAT URBAN DEVELOPMENT COMPANY LTD.					
GANDHINAGAR.					
SUB-CUSTOMER					
WESTERN RAILWAY, AHMEDABAD DRM OFFICE					
CONSULTANT					
Multi Media Consultants Pvt. Ltd.					
401, Shivalki Ship, Iskcon Cross Road, S.G. Highway, Ahmedabad - 380 054.					
TITLE					
GENERAL ARRANGEMENT DRAWING FOR RAILWAY PORTION.					
DRAWN BY : DHARMESH		DESIGNED BY : D. K. PARIKH		CHECKED BY : A. N. P.	
SIGN :		SIGN :		SIGN :	
DORC. NO : ROB - DHRANGADHRA - RLY - GAD - 01				SHEET :	





	LIST OF CODES:
1. ALL DIMENSIONS AND LEVELS ARE IN METER, UNLESS OTHERWISE MENTIONED.	RC 5-2015
2. THE DIMENSIONS SHOWN ARE TENTATIVE AND THE SAME SHALL BE REVISD AS PER DETAILED DESIGN.	RC 6-2017
3. THE LAYOUT AND DIMENSIONS OF THE BRIDGE MAY CHANGE DURING DETAILED DESIGN.	RC 112-2020
4. THE FORMATION LEVEL OF THE BRIDGE IS TENTATIVE AND MAY CHANGE DURING DESIGN, IF REQUIRED.	RC 78-2014
5. THE SPAN ARRANGEMENT, DIMENSIONS, NUMBER OF GIRDERS ETC. ARE TENTATIVE AND SHALL BE REVISD AS PER DETAILED DESIGN.	RC 5P 114-2018

LIST OF CODES:

EXPOSURE CONDITION	= SEVERE
SEISMIC ZONE	= IV
WIND SPEED	= 39m/Sec.
DESIGN SPEED	= 50 kmph

GRADE TABLE

LEVEL NAME	PIEDestal No.	PIEDestal	TOP OF PIEDestal	TOP OF PIER	GR. LEVEL	BOIT OF FINL
P1	60.985	57.340	58.640	59.005	47.665	46.065
P2	59.985	57.340	58.640	59.005	47.508	46.008
P3	58.985	56.640	58.005	58.370	47.423	45.923
P4	57.985	55.640	57.005	48.309	47.439	45.939
P5	56.985	54.640	56.005	48.309	47.439	45.939
P6	55.985	53.640	55.005	51.600	48.309	47.439
P7	54.985	52.640	54.005	50.600	48.309	47.439
P8	53.985	51.640	53.005	49.300	47.439	46.050
P9	52.985	50.640	52.005	48.309	47.439	45.958
P10	51.985	49.640	51.005	47.309	47.439	45.958
P11	50.985	48.640	50.005	46.309	47.439	45.958
P12	49.985	47.640	49.005	45.309	47.439	45.958
P13	48.985	46.640	48.005	44.309	47.439	45.958
P14	47.985	45.640	47.005	43.309	47.439	45.958
P15	46.985	44.640	46.005	42.309	47.439	45.958
P16	45.985	43.640	45.005	41.309	47.439	45.958
P17	44.985	42.640	44.005	40.309	47.439	45.958
P18	43.985	41.640	43.005	39.309	47.439	45.958
P19	42.985	40.640	42.005	38.309	47.439	45.958
P20	41.985	39.640	41.005	37.309	47.439	45.958
P21	40.985	38.640	40.005	36.309	47.439	45.958
P22	39.985	37.640	39.005	35.309	47.439	45.958
P23	38.985	36.640	38.005	34.309	47.439	45.958
P24	37.985	35.640	37.005	33.309	47.439	45.958
P25	36.985	34.640	36.005	32.309	47.439	45.958
P26	35.985	33.640	35.005	31.309	47.439	45.958
P27	34.985	32.640	34.005	30.309	47.439	45.958
P28	33.985	31.640	33.005	29.309	47.439	45.958
P29	32.985	30.640	32.005	28.309	47.439	45.958
P30	31.985	29.640	31.005	27.309	47.439	45.958
P31	30.985	28.640	30.005	26.309	47.439	45.958
P32	29.985	27.640	29.005	25.309	47.439	45.958
P33	28.985	26.640	28.005	24.309	47.439	45.958
P34	27.985	25.640	27.005	23.309	47.439	45.958
P35	26.985	24.640	26.005	22.309	47.439	45.958
P36	25.985	23.640	25.005	21.309	47.439	45.958
P37	24.985	22.640	24.005	20.309	47.439	45.958
P38	23.985	21.640	23.005	19.309	47.439	45.958
P39	22.985	20.640	22.005	18.309	47.439	45.958
P40	21.985	19.640	21.005	17.309	47.439	45.958
P41	20.985	18.640	20.005	16.309	47.439	45.958
P42	19.985	17.640	19.005	15.309	47.439	45.958
P43	18.985	16.640	18.005	14.309	47.439	45.958
P44	17.985	15.640	17.005	13.309	47.439	45.958
P45	16.985	14.640	16.005	12.309	47.439	45.958
P46	15.985	13.640	15.005	11.309	47.439	45.958
P47	14.985	12.640	14.005	10.309	47.439	45.958
P48	13.985	11.640	13.005	9.309	47.439	45.958
P49	12.985	10.640	12.005	8.309	47.439	45.958
P50	11.985	9.640	11.005	7.309	47.439	45.958
P51	10.985	8.640	10.005	6.309	47.439	45.958

