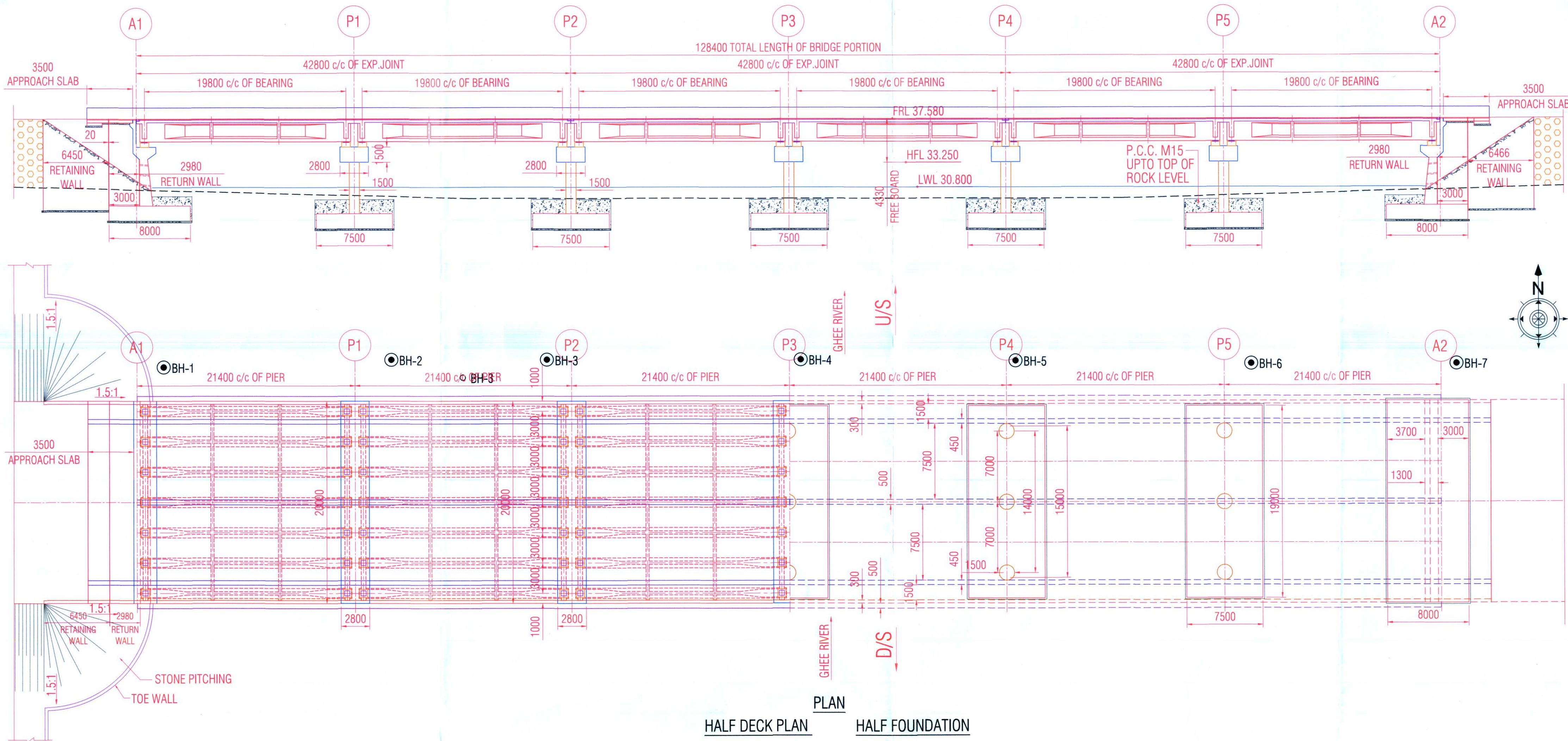
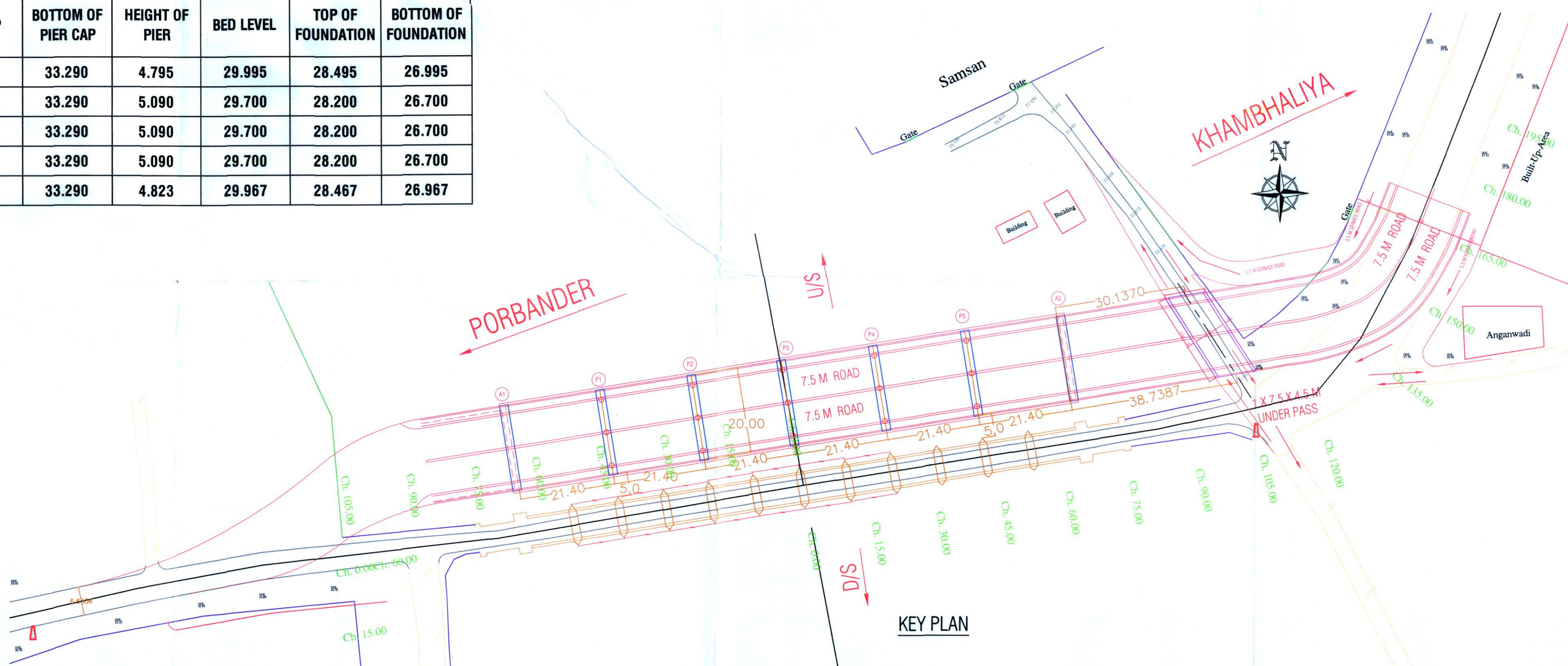


TO PORBANDAR

TO KHAMBHALIYA



LEVEL TABLE							
LOCATION	F.R.L.	TOP OF ABUTMENT CAP	BOTTOM OF ABUTMENT CAP	HEIGHT OF ABUTMENT WALL	BED LEVEL	TOP OF FOUNDATION	BOTTOM OF FOUNDATION
A1	37.580	34.790	33.590	4.599	30.491	28.991	27.491
A2	37.580	34.790	33.590	4.587	30.503	29.003	27.503
LOCATION	F.R.L.	TOP OF PIER CAP	BOTTOM OF PIER CAP	HEIGHT OF PIER	BED LEVEL	TOP OF FOUNDATION	BOTTOM OF FOUNDATION
P1	37.580	34.790	33.290	4.795	29.995	28.495	26.995
P2	37.580	34.790	33.290	5.090	29.700	28.200	26.700
P3	37.580	34.790	33.290	5.090	29.700	28.200	26.700
P4	37.580	34.790	33.290	5.090	29.700	28.200	26.700
P5	37.580	34.790	33.290	4.823	29.967	28.467	26.967



KEY PLAN

BORE LOG DETAILS (BH - 01)

THK. OF LAYER	NOTATION	SOIL DESCRIPTION	DEPTH	"N" VALUE
0.5		MADE UP SOIL	0.00	
1.0		HIGHLY WEATHERED ROCK OF WEAK IN STRENGTH RECOVERED IN THE FORM OF POWDER & CORE	1.00	
7.5		HIGHLY WEATHERED ROCK OF MEDIUM STRONG IN STRENGTH	2.00	
3.0		HIGHLY WEATHERED ROCK OF STRONG IN STRENGTH	10.00	

BORE LOG DETAILS (BH - 03)

THK. OF LAYER	NOTATION	SOIL DESCRIPTION	DEPTH	"N" VALUE
0.5		MADE UP SOIL	0.00	
2.5		HIGHLY WEATHERED ROCK OF WEAK IN STRENGTH RECOVERED IN THE FORM OF POWDER & CORE	1.00	
6.0		HIGHLY WEATHERED ROCK OF MEDIUM STRONG IN STRENGTH	2.00	
1.0		HIGHLY WEATHERED ROCK OF STRONG IN STRENGTH	10.00	

BORE LOG DETAILS (BH - 05)

THK. OF LAYER	NOTATION	SOIL DESCRIPTION	DEPTH	"N" VALUE
0.5		MADE UP SOIL	0.00	
2.5		HIGHLY WEATHERED ROCK OF WEAK IN STRENGTH RECOVERED IN THE FORM OF POWDER & CORE	1.00	
6.0		HIGHLY WEATHERED ROCK OF MEDIUM STRONG IN STRENGTH	2.00	
1.0		HIGHLY WEATHERED ROCK OF STRONG IN STRENGTH	10.00	

BORE LOG DETAILS (BH - 07)

THK. OF LAYER	NOTATION	SOIL DESCRIPTION	DEPTH	"N" VALUE
0.5		MADE UP SOIL	0.00	
1.0		HIGHLY WEATHERED ROCK OF WEAK IN STRENGTH RECOVERED IN THE FORM OF POWDER & CORE	1.00	
7.5		HIGHLY WEATHERED ROCK OF MEDIUM STRONG IN STRENGTH	2.00	
3.0		HIGHLY WEATHERED ROCK OF STRONG IN STRENGTH	10.00	

BORE LOG DETAILS (BH - 02)

THK. OF LAYER	NOTATION	SOIL DESCRIPTION	DEPTH	"N" VALUE
0.5		MADE UP SOIL	0.00	
1.0		HIGHLY WEATHERED ROCK OF WEAK IN STRENGTH RECOVERED IN THE FORM OF POWDER & CORE	1.00	
6.0		HIGHLY WEATHERED ROCK OF MEDIUM STRONG IN STRENGTH	2.00	
2.5		HIGHLY WEATHERED ROCK OF STRONG IN STRENGTH	10.00	

BORE LOG DETAILS (BH - 04)

THK. OF LAYER	NOTATION	SOIL DESCRIPTION	DEPTH	"N" VALUE
0.5		MADE UP SOIL	0.00	
2.5		HIGHLY WEATHERED ROCK OF WEAK IN STRENGTH RECOVERED IN THE FORM OF POWDER & CORE	1.00	
6.0		HIGHLY WEATHERED ROCK OF MEDIUM STRONG IN STRENGTH	2.00	
1.0		HIGHLY WEATHERED ROCK OF STRONG IN STRENGTH	10.00	

BORE LOG DETAILS (BH - 06)

THK. OF LAYER	NOTATION	SOIL DESCRIPTION	DEPTH	"N" VALUE
0.5		MADE UP SOIL	0.00	
1.0		HIGHLY WEATHERED ROCK OF WEAK IN STRENGTH RECOVERED IN THE FORM OF POWDER & CORE	1.00	
6.0		HIGHLY WEATHERED ROCK OF MEDIUM STRONG IN STRENGTH	2.00	
2.5		HIGHLY WEATHERED ROCK OF STRONG IN STRENGTH	10.00	

- 1) GENERAL:  
A) ALL DIMENSIONS ARE IN MILLIMETER & LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.  
B) WRITTEN DIMENSIONS SHALL NOT BE SCALED FROM THE DRAWING.  
C) DESIGN CRITERIA:  
THE DESIGN IS ACCORDING TO THE FOLLOWING LATEST CODES:  
a. IRC 78-2014  
b. SP 15-2004  
c. IRC 6-2017  
d. IRC 5-2015  
e. IRC 112-2020  
f. IRC 83-2016(PART-III)  
g. SP 114-2018  
D) THE DESIGN ARE APPLICABLE FOR "SEVERE" EXPOSURE CONDITIONS & SEISMIC ZONE IV.  
E) THE STRUCTURE DESIGN (IRC 6-2017 CLAUSE) FOR:  
1. TWO LANE OF CLASS A  
2. ONE LANE OF CLASS TOP  
3. IRC SV LOADING  
F) WIND LOAD DETAILS CONSIDERED IN DESIGN:  
1. BASIC WIND SPEED - 40 m/s  
2. TYPE OF TERRAIN - PLAIN TERRAIN  
2) CONCRETE:  
A) CEMENT SHALL BE OF OPC 53 GRADE WITH CSA CONTENT FROM 5% TO 8% AS PER NOTE (N) UNDER CLAUSE 14.4.2 OF IRC 112-2020 & CONFORMING TO IS 12269 CAPABLE OF ACHIEVING THE REQUIRED DESIGN CONCRETE STRENGTH SHALL ONLY BE USED.  
B) TO IMPROVE WORKABILITY OF CONCRETE, ADMIXTURE CONCRETE FORMING TO IS 9829 AND IS 9103 MAY BE PERMITTED SUBJECT TO SATISFACTORY PROVEN USE, ADMIXTURES GENERATING HYDROGEN, NITROGEN ETC. SHOULD NOT BE USED.  
3) REINFORCEMENT:  
A) GRADE: F4500 CONFORMING TO IS 1786-2008.  
B) JUNCTION BONDED EPOXY COATED STEEL SHALL BE USED.  
4) WATER:  
A) WATER TO BE USED IN CONCRETING AND CURING SHALL CONFORM TO CLAUSE 18.4.5 OF IRC 112-2020.  
5) BEARING:  
A) ELASTOMERIC BEARING SHALL BE USED.  
6) EXPANSION JOINT:  
A) MODULAR TYPE EXPANSION JOINT SHALL BE USED. THE EXPANSION JOINTS MUST BE ROBUST, DURABLE, WATER TIGHT AND REPLACEABLE. IT MUST BE PROVIDED OVER THE FULL WIDTH OF SUPER STRUCTURE INCLUDING KERB AND FOOTPATH FOLLOWING THE PROFILE OF THE SAME. (WHERE RELEVANT) EXPANSION JOINTS SHALL BE OBTAINED ONLY FROM APPROVED MANUFACTURERS AND BE OF PROVEN TYPE. DETAILS OF EXPANSION JOINT MAY BE GOT APPROVED BEFORE COMMENCEMENT OF CONSTRUCTION, SITE FABRICATED EXPANSION JOINTS SHALL BE PROHIBITED.  
7) WORKMANSHIP DETAILING:  
A) FOR ENSURING PROPER COVER OF CONCRETE TO REINFORCEMENT SPECIALLY MADE POLYMER COVER BLOCKS SHALL ONLY BE USED.  
B) CONCRETE GRADE:  
NO. DESCRIPTION GRADE OF CONCRETE MIN. COVER GRADE OF STEEL  
01 RCC GIRDER M45 40mm  
02 DECK SLAB M45 25mm  
03 ABUTMENT M45 50mm  
04 ABUTMENT FOUNDATION M45 50mm  
05 ABUTMENT CAP M45 50mm  
06 PIER M45 50mm  
07 PIER FOUNDATION M45 50mm  
08 PIER CAP M45 50mm  
09 SEISMIC ARRESTER M45 50mm  
10 PEDESTAL M45 50mm  
11 LEVELING COURSE M45 50mm  
12 CRASH BARRIER M45 50mm  
13 APPROACH SLAB M45 50mm  
14 WEARING COURSE (100mm THICK) M45 50mm  
C) BONDING OF REINFORCEMENT BARS SHALL BE AS PER IS 2502 - 1963.  
D) PROPER COMPACTION OF CONCRETE SHALL BE ENSURED BY USE OF FORM AND/OR NEEDLE VIBRATORS. USE OF FULL WIDTH ACREED VIBRATORS FOR COMPACTION OF CONCRETE IN DECK SLAB SHALL BE ENSURED.  
E) SHUTTERING PLATES SHALL BE STIFFENED TO ENABLE THE COMPACTION BY FORM VIBRATORS.  
F) SHARP EDGES OF CONCRETE SHALL BE CHAMFERED.  
G) BACKFILL MATERIAL BEHIND END WALL SHALL BE SELECTED SOIL HAVING PROPERTIES AS C-0.6kg/sq. m, 0-30°, DENSITY OF EARTH FILL γ = 1800 N/m³ TO 2000 N/m³ IT SHALL BE CONFORM WITH IRC-78-2014.  
8) SPECIFICATIONS:  
A) THE WORK SHALL BE EXECUTED IN ACCORDANCE WITH MORTH (5TH REV.) SPECIFICATION FOR ROAD & BRIDGE WORKS.  
9) DRAINAGE SPOUT:  
A) THE SPOUT SHALL OF 100mm DIA @ 0.5m C/C AND MADE UP OF CORROSION RESISTANT MATERIAL.  
B) DRAINAGE SPOUTS AS PER MORTH STANDARD DRG NO. SD-303.  
10) IF ANY DISCREPANCY IS FOUND BETWEEN BORE HOLE DATA, OF SOIL INVESTIGATION REPORT AND SITE SAME SHALL BE IMMEDIATELY REPORTED TO ENGINEER-IN-CHARGE.  
11) RED LEVEL SHOULD BE CHECKED WITH GAD BEFORE EXECUTION AT SITE. IF ANY DISCREPANCY FOUND, IMMEDIATELY BROUGHT TO THE NOTICE OF DESIGN ENGINEER FOR NECESSARY MODIFICATION IN THE DRAWING.  
12) IF ANY DISCREPANCY FOUND IN GAD & AT SITE CONDITION THE CONTRACTOR/CLIENT SHALL MUST INFORM TO DESIGN CONSULTANT BEFORE EXECUTION OF WORK.  
13) KEEP HOLES SHALL BE 100mm Ø PVC @ 1000mm C/C IN STAGGERED FASHION.  
14) TWO COAT OF SEAL TAR OR BITUMEN CONFORMING TO IS-3117 APPLY INSIDE ABUTMENT @ 1:17 KG/50.0M.  
15) GEO GRID SHALL BE PROVIDED BEHIND APPROACH SLAB AS PER GR OF NO. FROM 10/20/201/29/01 DATED-17/02/2021.  
16) MINIMUM FOUNDATION DEPTH SHALL BE 1.5m MODERATELY WEAK ROCK AND 0.6m IN MODERATELY STRONG ROCK AS PER IRC 78 - 2024 CODAL PROVISION AND SAME SHALL BE VERIFIED.  
17) SOIL ENGINEERING WAS CARRIED OUT BY TATVEN ENGINEERING SERVICES PVT. LTD. AND SOIL INVESTIGATION REPORT WAS SUBMITTED TO EXECUTIVE ENGINEER DEVBHUMI - DWARKA R&B DIVISION KHAMBHALIYA VIDE REPORT NO. T.SA/IT/25121995/9833.  
18) MINIMUM FOUNDATION DEPTH SHALL BE 1.5m MODERATELY WEAK ROCK AND 0.6m IN MODERATELY STRONG ROCK AS PER IRC 78 - 2024 CODAL PROVISION AND SAME SHALL BE VERIFIED.  
19) SBC CONSIDERED IN DESIGN IS 33 T/M² AT 3.0m BELOW GROUND LEVEL SAME SHALL BE VERIFIED AT SITE BEFORE EXECUTION OF WORK.

HYDRAULIC DATA	
A) CATCHMENT AREA	: 1428.87 SQ.KM
B) DESIGN DISCHARGE	: 1686.087 CUM/SEC
C) AFFLUX	: 0.300m
D) AHFL	: 33.550m
E) LWL	: 30.800m
F) RUGOSITY CO-EFFICIENT	: 0.030
G) OBSTRUCTED VELOCITY	: 4.104m/s

STRUCTURAL AND OTHER DATA	
A) SPAN ARRANGEMENT	: A SPAN OF 21.4m C/C OF PIER & RCC OPEN FOUNDATION RCC PIERS, RCC ABUTMENT, R.C.C. ABUTMENT CAP
B) SUB STRUCTURE	: ELASTOMERIC BEARING
C) BEARING/SUPPORT	: RCC I-GIRDER
D) WEARING COAT	: 100 mm THICK RCC WEARING COAT
E) EXPANSION JOINT	: MODULAR TYPE EXPANSION JOINT
F) WATER SPOUTS	: AT 5m C/C

MANTHAN  
SETU PATH ENGINEER & CONSULTANT

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W.app +91 94 28 72 58 58  
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CLIENT:-EXECUTIVE ENGINEER, DEVBHUMI - DWARKA R&B DIVISION, KHAMBHALIYA  
NAME OF WORK:-

RECONSTRUCTION OF MAJOR BRIDGE NEAR KHAMNATH BRIDGE IN PLACE OF DAMAGED  
BRIDGE ON RIVER GHEE ON KHAMBHALIYA PORBANDAR ROAD IN KHAMBHALIYA NAGAR  
PALUKA LIMIT ON NEW ALIGNMENT (MAJOR BRIDGE PORTION ONLY)  
GENERAL ARRANGEMENT DRAWING

TITLE:-PLAN AND ELEVATION DETAIL FOR MAJOR BRIDGE 6 x 21.40m SPAN  
DRAWING NO.: - KHAMBHALIYA BRIDGE GAD SH - 01 OF 02

DEPUTY EXECUTIVE ENGINEER  
R. & B. SUB DIVISION  
JAM-KHAMBHALIYA.

Executive Engineer  
Dev. Bhumi Dwarka (R&B) Division  
Khambhaliya