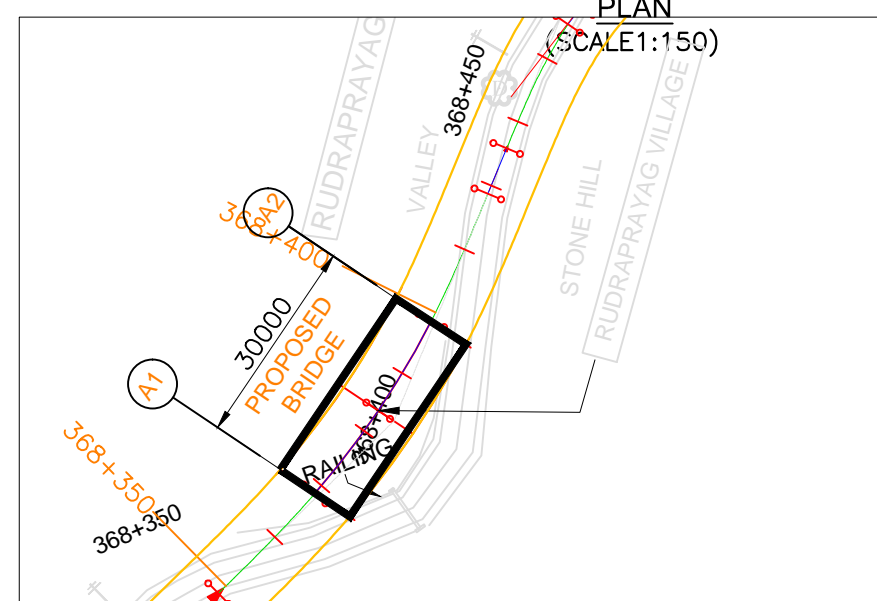
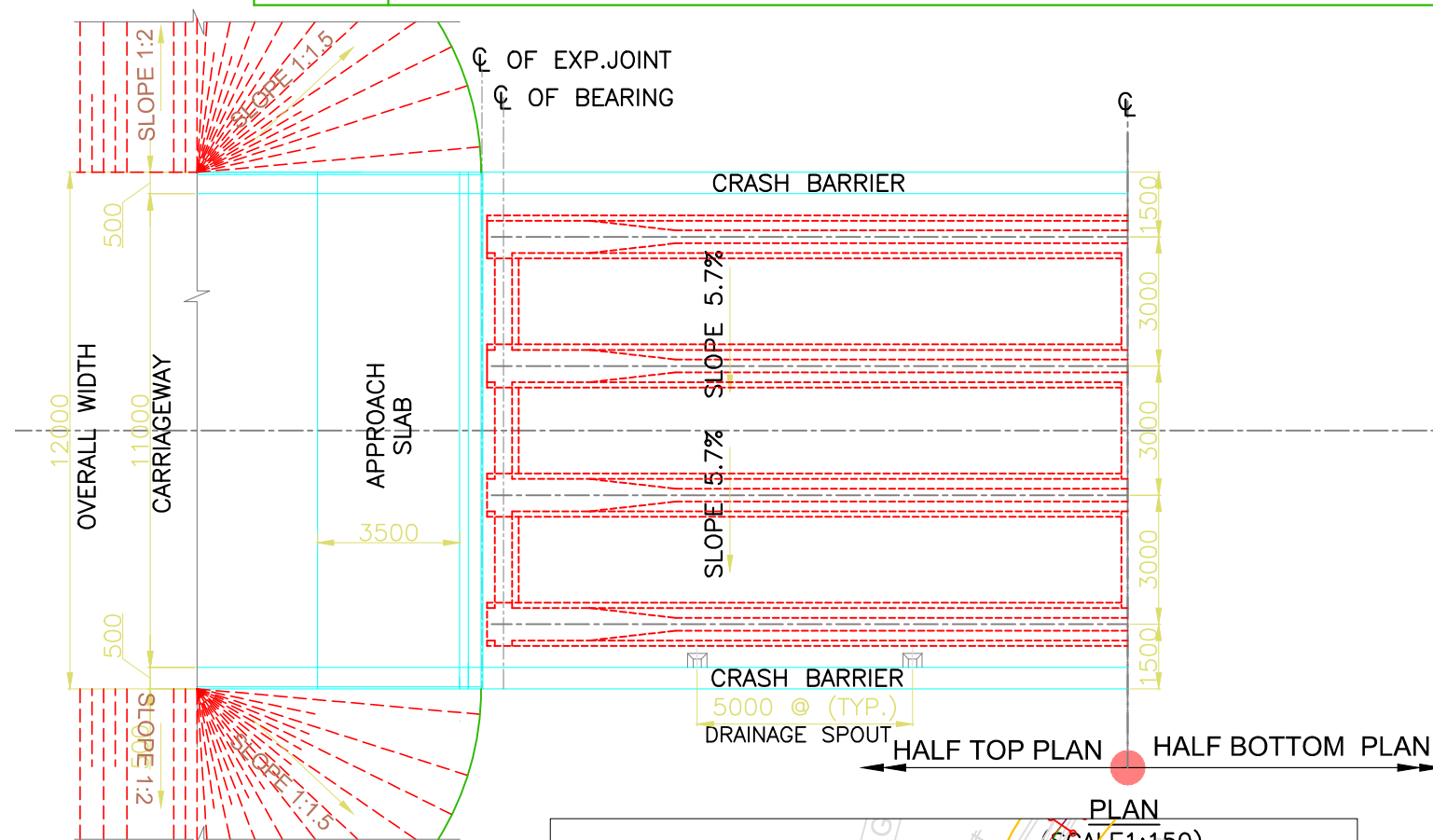
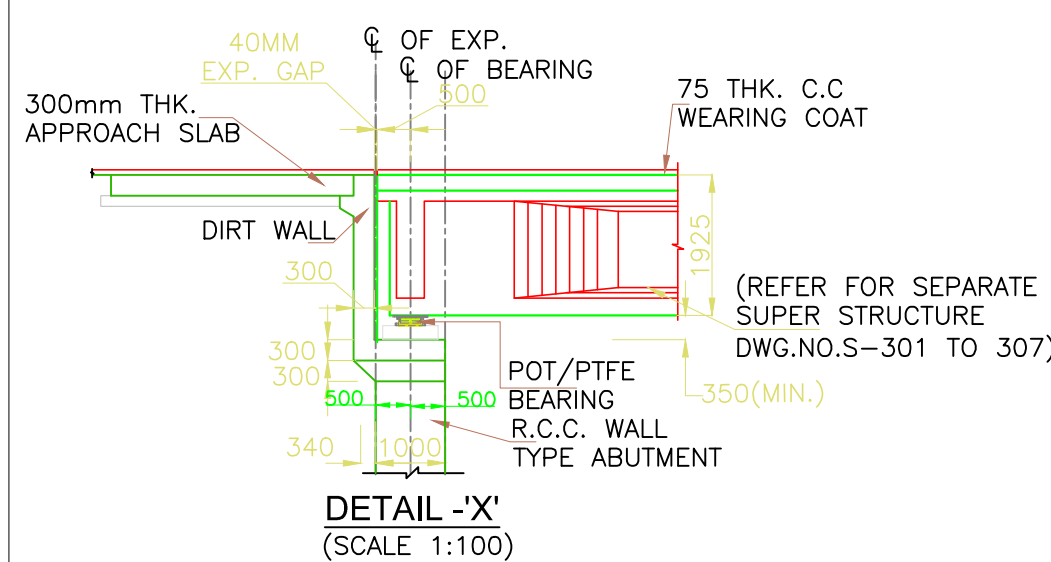


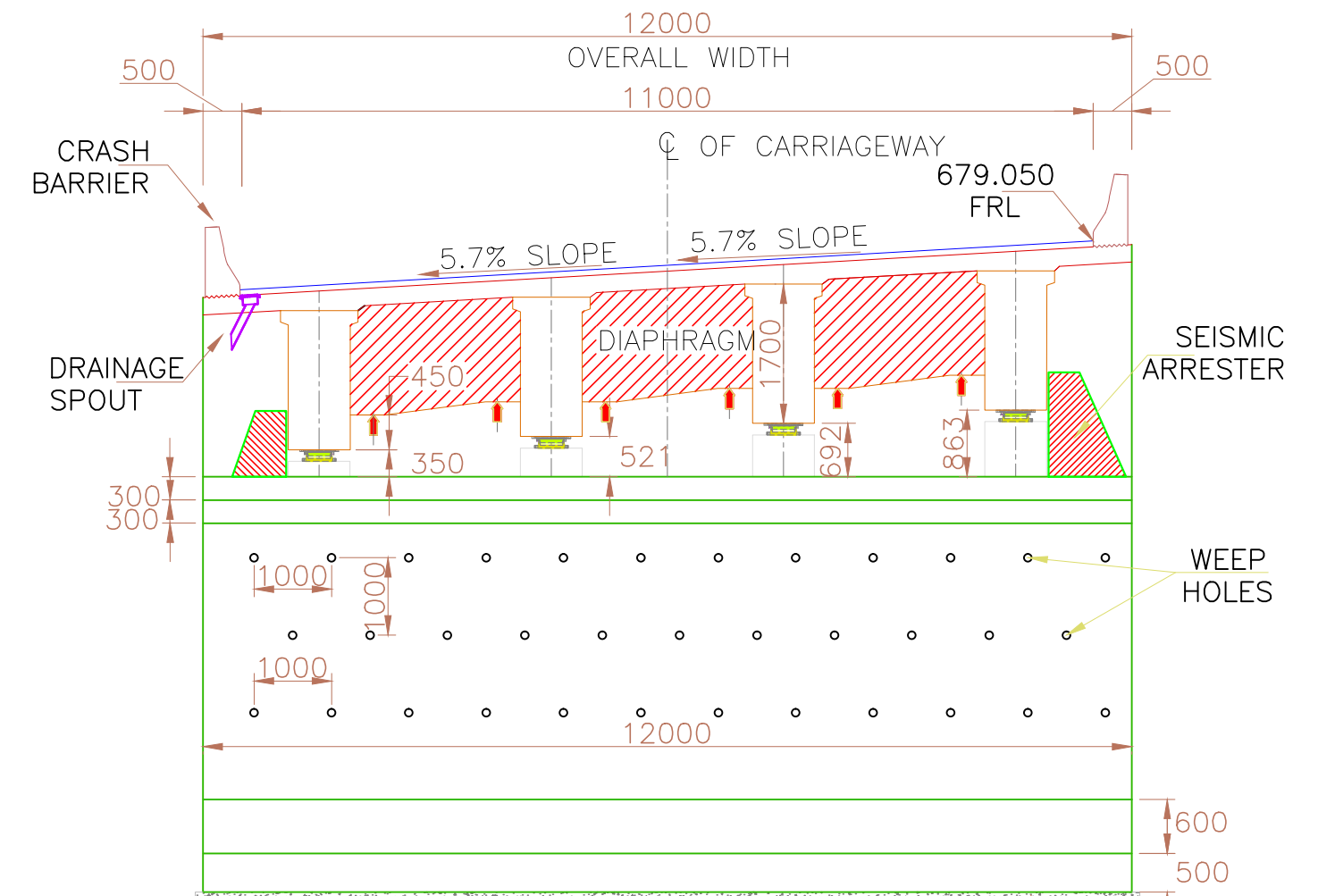
FRL.(M)	679.050	679.050	679.050
G.L.(M)	673.641	673.123	673.123
CH.(M)	368+370	368+385	368+400



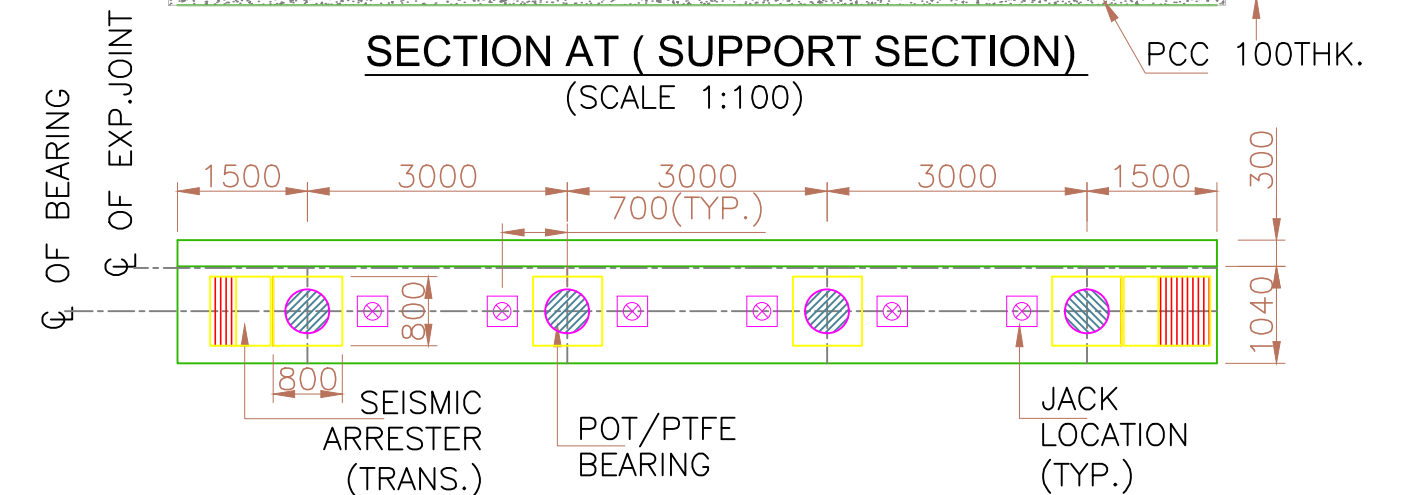
KEY PLAN



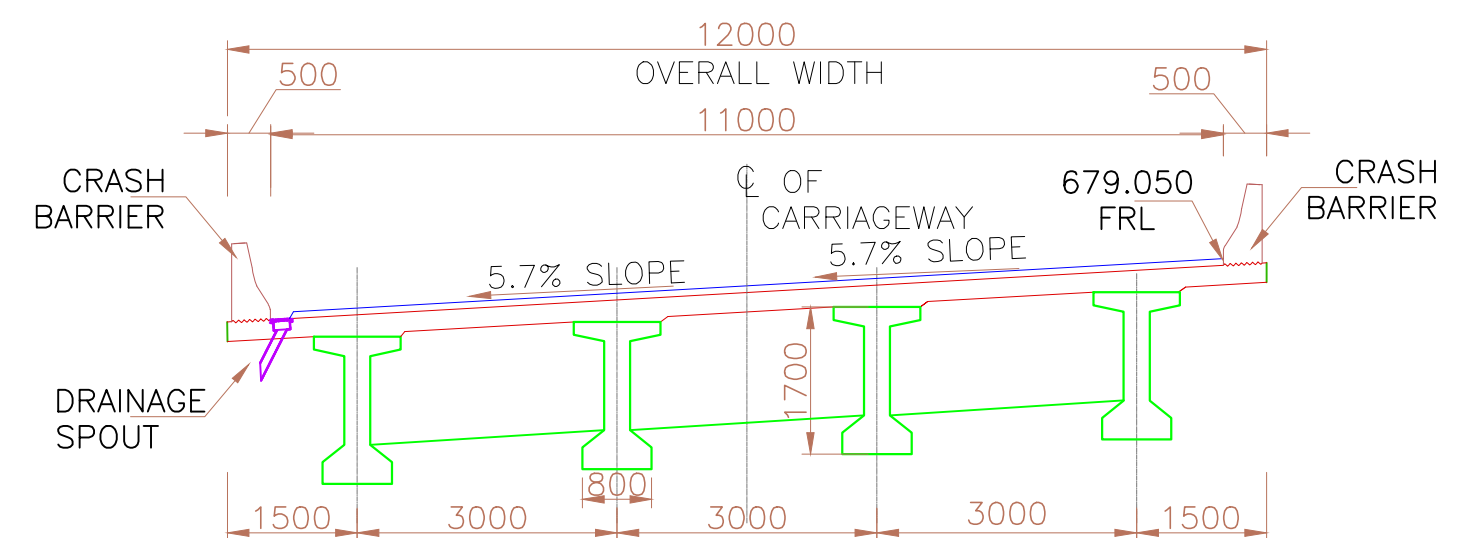
DETAIL -X'  
(SCALE 1:100)



SECTION AT ( SUPPORT SECTION )  
(SCALE 1:100)

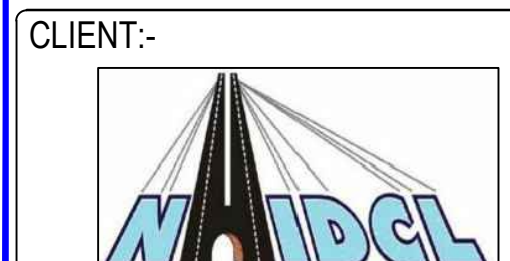


ABUTMENT CAP PLAN  
(SCALE 1:100)



SECTION AT ( MID SECTION )  
(SCALE 1:100)

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<input type="radio"/>	FOR APPROVAL
<input type="radio"/>	FOR CONSTRUCTION
<input type="radio"/>	AS BUILT



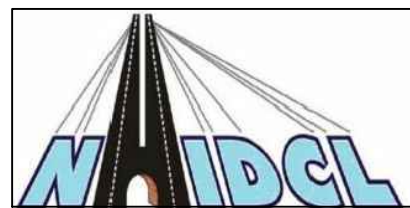
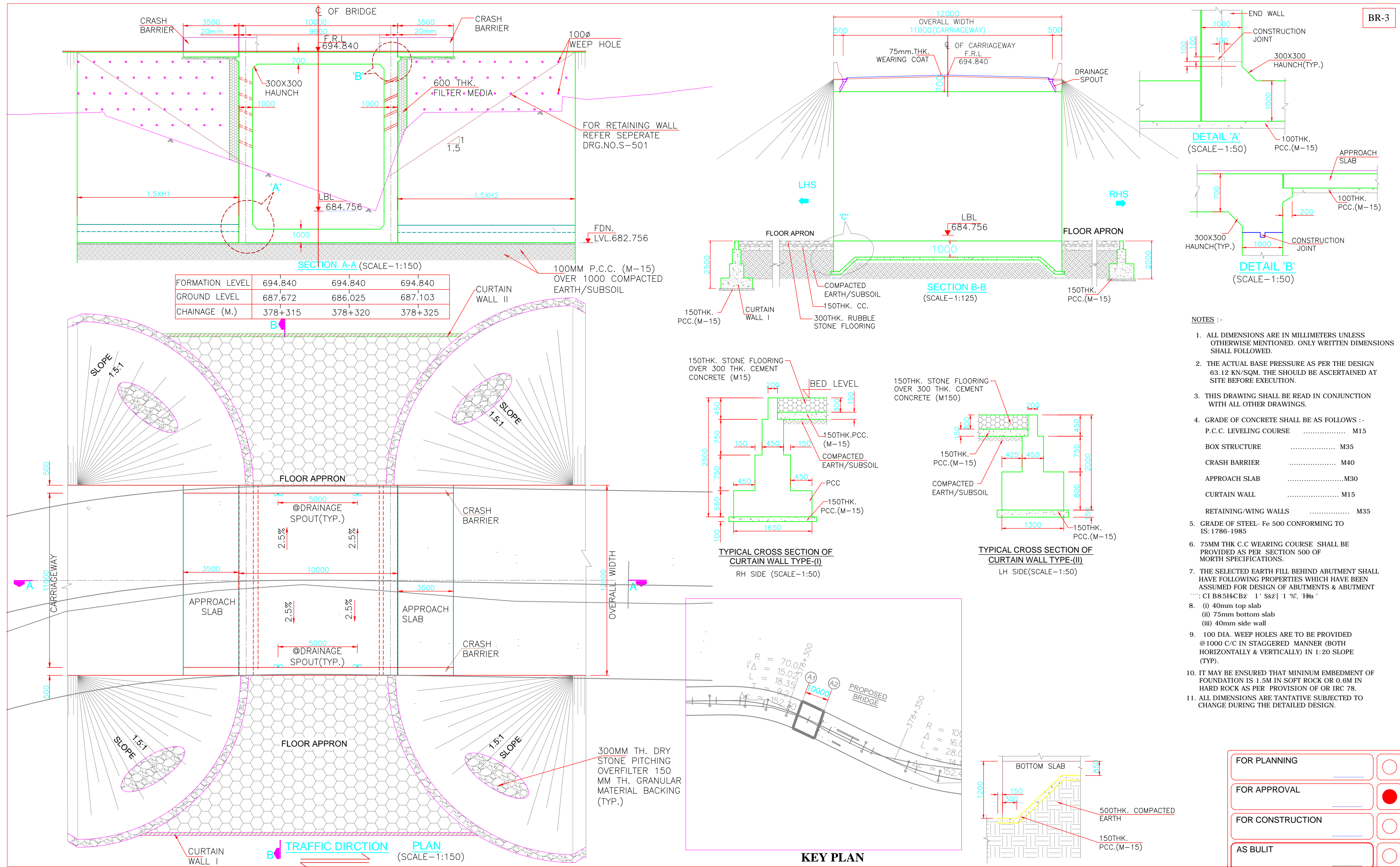
National Highways and Infrastructure  
Development Corporation

PROJECT TITLE :-

CONSTRUCTION & UPGRADATION OF EXISTING ROAD TO 2-LANE  
WITH PAVED SHOULDERS FROM KM 368.000 TO KM 399.000 OF  
LAMERI TO KARANPRAYG (EXCLUDING KM 379.100 TO KM 380.275)  
OF NH-07 UNDER CHARDHAM PARIYOJNA ON EPC BASICS IN THE  
STATE OF UTTARAKHAND (PKG-I)

REV	DATE	DESCRIPTION	SIGN
R1	JAN.2017	CARRIAGEWAY REVISED	Y.P.S

TITLE :- GENERAL ARRANGEMENT DRAWING MNB 1X30M PSC AT (CH.368+385)					
DWG. NO. MORTH /CASTA /NH-58 /MNB /CH.368+385-S-101					
DRN:-	DGN:-	CHK:-	DATE:-	SCALE:-	SHEET SIZE
PRAVEEN	P.V.M	V.P.S	JAN. 2018	AS SHOWN	A2
					SHEET NO:- 01 OF 01



National Highways and Infrastructure  
Development Corporation

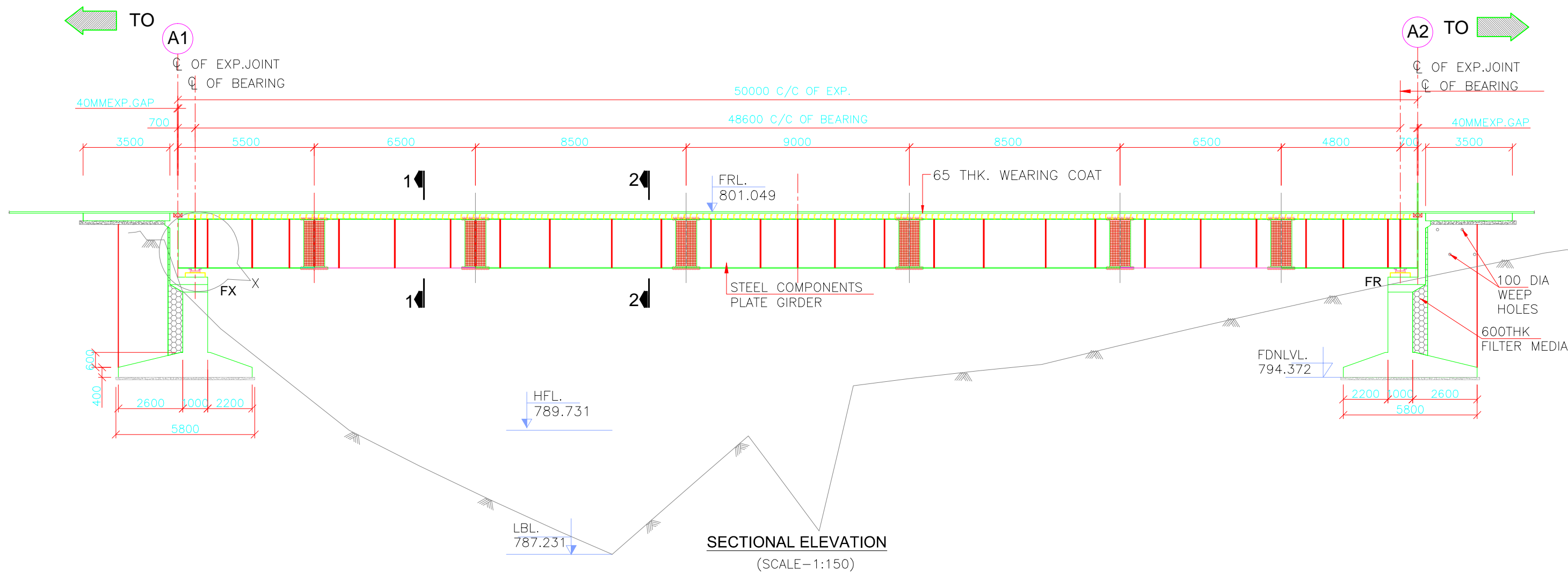
PROJECT TITLE :-

**CONSTRUCTION & UPGRADATION OF EXISTING ROAD TO 2-LANE  
WITH PAVED SHOULDERS FROM KM 368.000 TO KM 399.000 OF  
LAMERI TO KARANPRAYG (EXCLUDING KM 379.100 TO KM 380.275)  
OF NH-07 UNDER CHARDHAM PARIYOJNA ON EPC BASICS IN THE  
STATE OF UTTARAKHAND (PKG-I)**

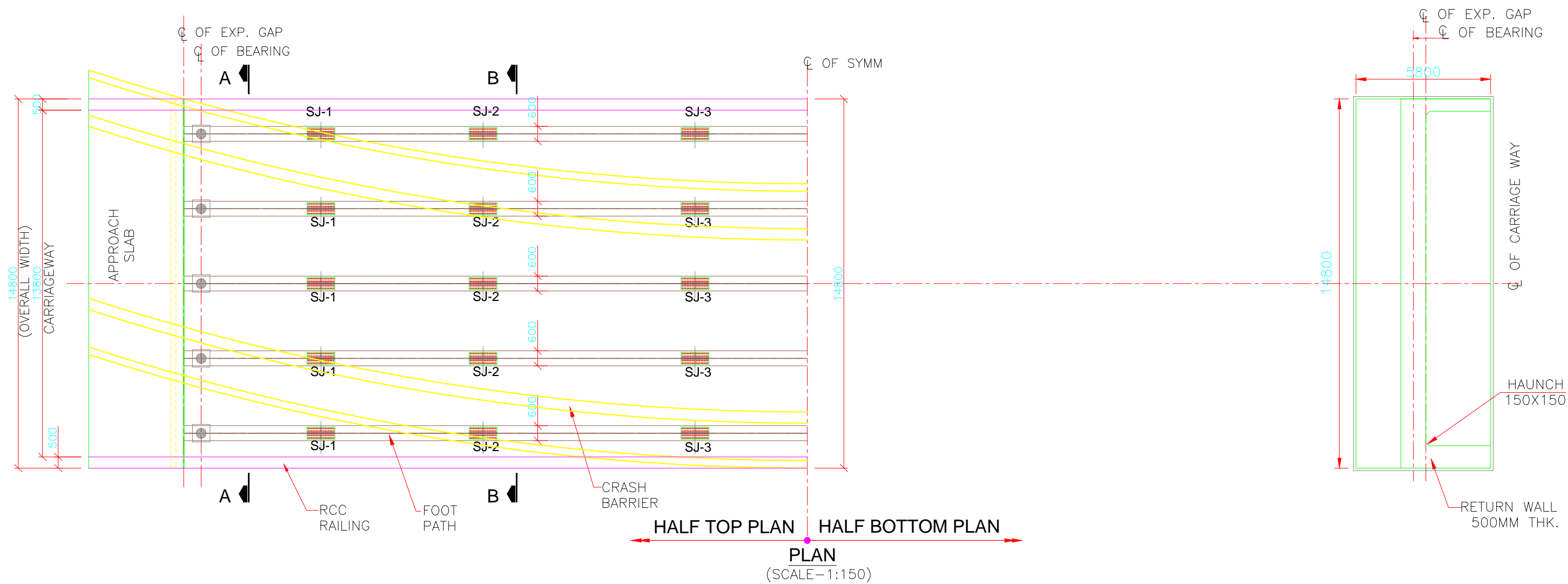
REV	DATE	DESCRIPTION	SIGN

TITLE :- GENERAL ARRANGEMENT DRAWING FOR SOLID SLAB 10M AT CH.378+320 BOX CULVERT					
DWG. NO. MORTH /CASTA /NH-58 /MNB/ CH.378+320.10M.S-101					
DRN:-	DGN:-	CHK:-	DATE:-	SCALE:-	SHEET SIZE
ALI	P.V.M	V.P.S	JAN 2018	AS SHOWN	SHEET NO:- A2 01 of 01





FORMATION LEVEL	801.049	801.049	801.049
GROUND LEVEL	797.346	789.335	798.200
CHAINAGE (m)	384+685	384+710	384+735



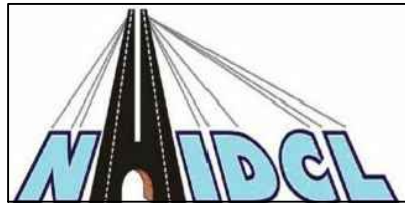
## NOTES:- COMPOSITE SUPERSTRUCTURE :

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS IN METRES.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
3. STRUCTURE STEEL
  - \* STEEL PLATE GIRDER – HIGH STRENGTH STEEL (GRADE E 410 Fe 450 CONFORMING TO IS : 2062)
- 4.THE PROPOSED BRIDGE HAS BEEN DESIGNED FOR 4 LANE OF IRC CLASS A OR 2 LANE CLASS A & 70R OR 70R & 2 LANE CLASS A OR IRC S.V. (G.V.M.385t.) LOADING WHICHEVER GOVERNS.
5. SHEAR CONNECTOR ARE PROPOSED.
6. POT CUM PTFE BEARINGS SHALL BE USED.
7. (a) BOLTS
  - \* FOR SPlicing – 24Ø BOLTS
8. (b) BOLTS ACTING IN FRICTION
  - \* HSFG – BOLTS, ACTING IN FRICTION TO CONFORM WITH BSS400–3. THE NOMENCLATURE OF THESE BOLTS, WHILST BEING DESCRIBED IN DRAWINGS IS TO FOLLOW IS:4000 – 1992.
  - \* SLIP FACTORS FOR FAYING SURFACES TO CONFORM TO BS:5400 PART 3.
9. BOLTS ACTING IN TENSION
  - \* HSFG – BOLTS, NOT ACTING IN FRICTION – BUT PRESTRESSED TO PREVENT LOOSENING OF BOLTS / NUTS DUE TO VIBRATION TO CONFORM TO IS : 3757 – 1985, GR 10.9 BOLTS. DESIGN TO CONFORM TO BS : 5400 PART – 3, BUT AT ULS ONLY.
10. WELDING CONSUMABLES
  - \* THE WELDING CONSUMABLES TO CONFORM TO IS : 814 – 1991 AND OF STRENGTH REQUIREMENTS APPROPRIATE FOR PREHEATED HT STEEL OR UN-HEATED MILD STEEL.
11. ALL FILLET WELDS ARE TO BE EXAMINED BY DYE PENETRANT TEST OR ANY EQUALLY EFFECTIVE NON DESTRUCTIVE TEST METHOD.
12. ALL WELDS TO BE MADE BY WELDERS USING APPROVED WELDING PROCEDURES.
13. MEMBERS SHALL BE RIGIDLY SECURED IN JIGS & FIXTURES WITH TEMPORARY BOLTS DURING WELDING TO AVOID DISTORTION.
14. DURING WELDING POSITION OF MEMBERS AND ASSEMBLY SHOULD BE SUCH THAT OVERHEAD WELDING SHALL BE AVOID/ MINIMISED.
15. FABRICATION SHALL BE DONE AS PER IRC: 24, IS: 816 & IS: 1024.
16. ALL THE MEMBERS MEETING AT A JOINTS SHOULD BE CONNECTED AS PER DETAILS.
17. ALL STRUCTURAL ROLLED SECTIONS & BUILT UP SECTIONS STEEL SHALL CONFORM TO IS: 2062.
18. ALL BRACING GUSSETS SHALL BE 12 THICK UNLESS SPECIFIED OTHERWISE.
19. PAINTING OF STEEL STRUCTURE SHOULD BE DONE IN ACCORDANCE WITH MORTH SPECIFICATIONS FOR ROADS & BRIDGES RIVISION IV.
20. ALL OBTUSE ANGLE CUTTING SHOULD BE DONE IN PROPER SHAPE AND WITHOUT DAMAGE.
21. OVERHANGING MEMBER TO BE SUITABLY SUPPORTED TO AVOID DISTORTION DURING TRANSPORTATION.
22. IN CASE THE MEMBERS OF SPECIFIED LENGTH ARE NOT AVAILABLE,SPICE JOINTS TO BE PROVIDED AFTER PRIAR APPROVAL OF ENGINEER INCHARGE.
23. CONCRETE SHALL BE DESIGN MIX AND SHALL BE OF GRADE AS INDICATED BELOW:–

PCC LEVELLING COURSE	:	M–15
SUBSTRUCTURE	:	M–35
APPROACH SLAB	:	M–30
FOUNDATION	:	M–35
24. ALL DIMENSIONS ARE TENTATIVE SUBJECT TO CHANGE DURING DETAIL DESIGN.

## LEGENDS:–

FR FREE BEARING  
FX FIXED BEARING



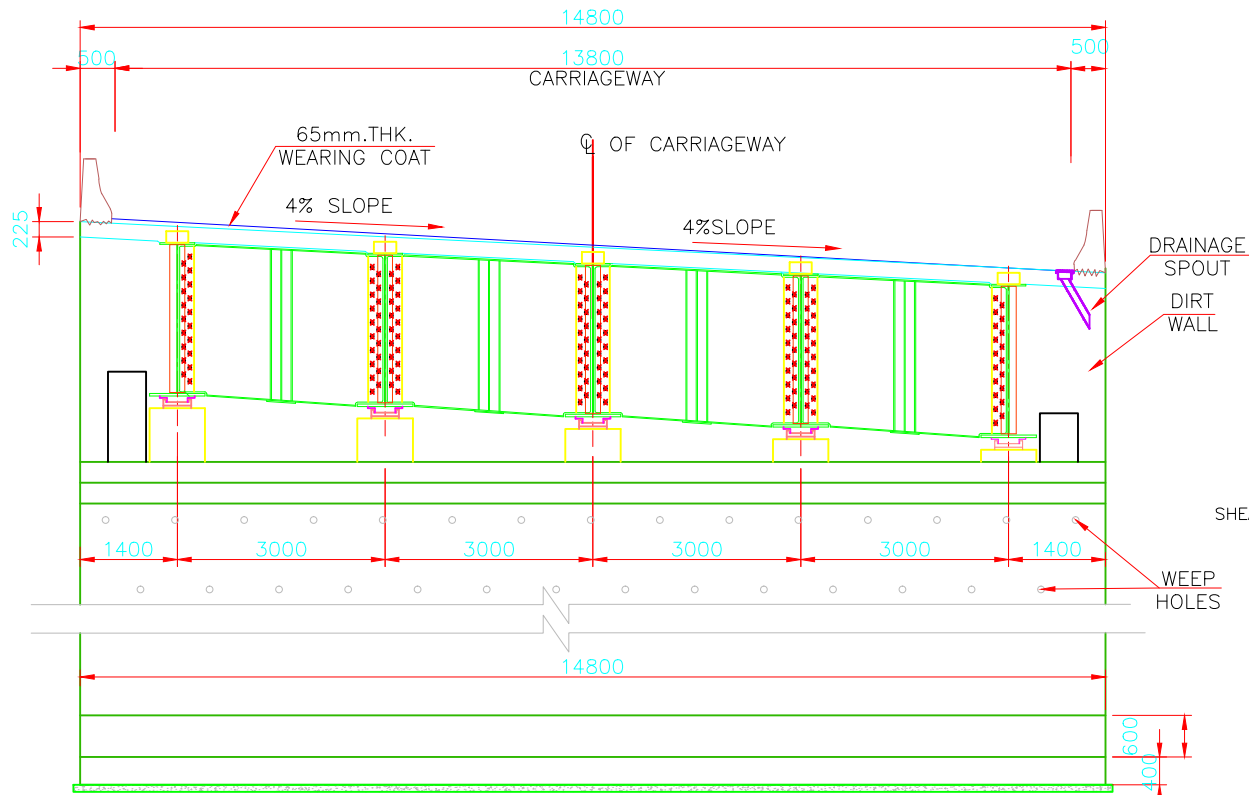
National Highways and Infrastructure  
Development Corporation

PROJECT TITLE :-

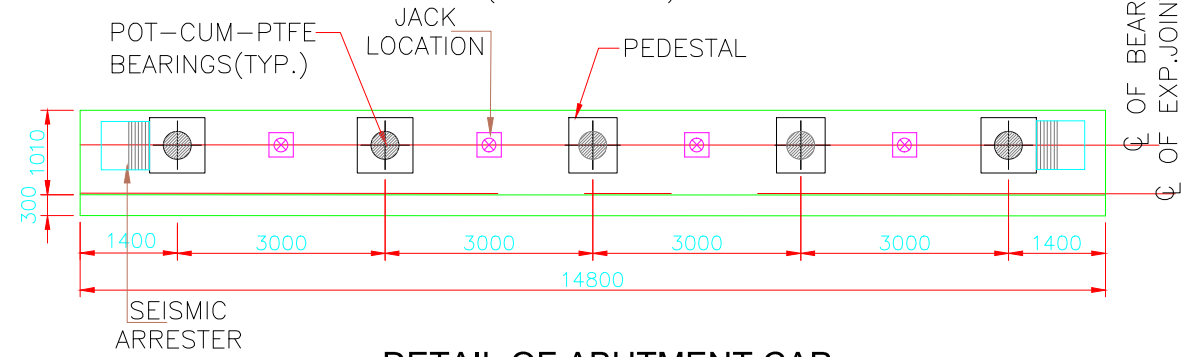
**CONSTRUCTION & UPGRADATION OF EXISTING ROAD TO 2-LANE WITH PAVED SHOULDERS FROM KM 368.000 TO KM 399.000 OF LAMERI TO KARANPRAYG (EXCLUDING KM 379.100 TO KM 380.275) OF NH-07 UNDER CHARDHAM PARIYOJNA ON EPC BASICS IN THE STATE OF UTTARAKHAND (PKG-I)**

REV	DATE	DESCRIPTION	SIGN
R1	JAN.2017	CARRIAGEWAY REVISED	ALI

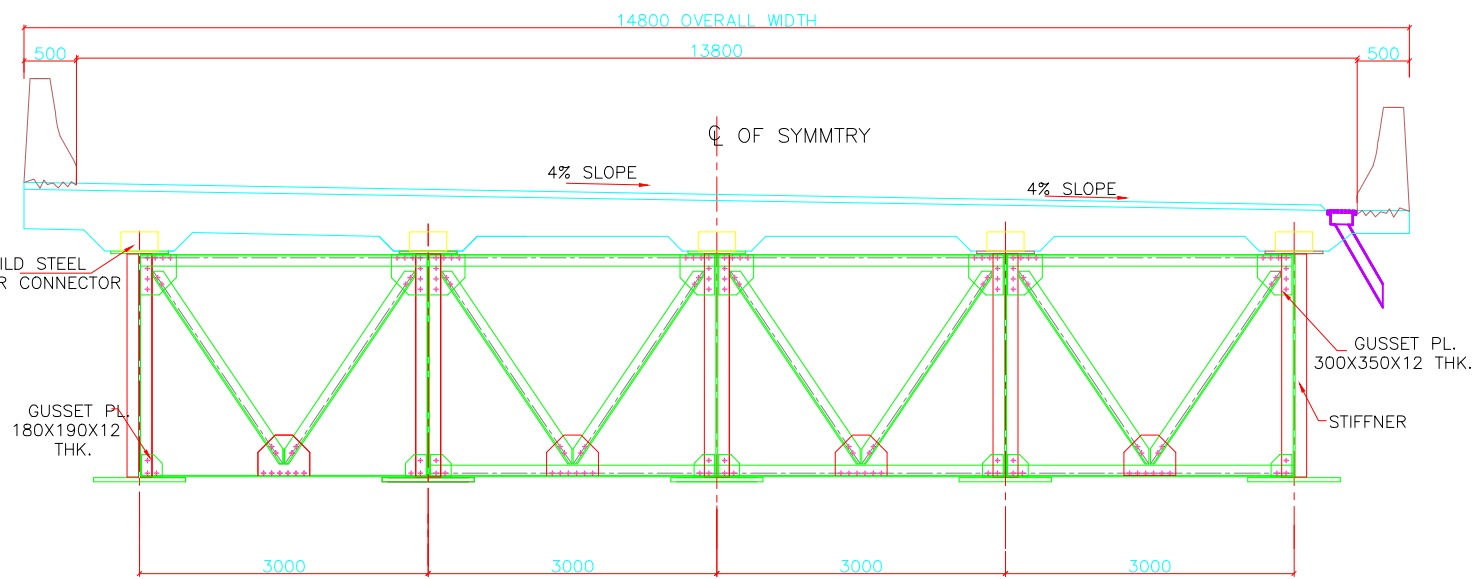
TITLE :- GENERAL ARRANGEMENT DRAWING 1X50M AT (CH.384+710)					
DWG. NO. MORTH /CASTA /NH-58 /MNB /CH.384+710					
DRN:-	DGN:-	CHK:-	DATE:-	SCALE:-	SHEET SIZE
PRAVEEN	P.V.M	V.P.S	JAN 2018	SHOWN AS	SHEET NO:- A2 01 OF 02



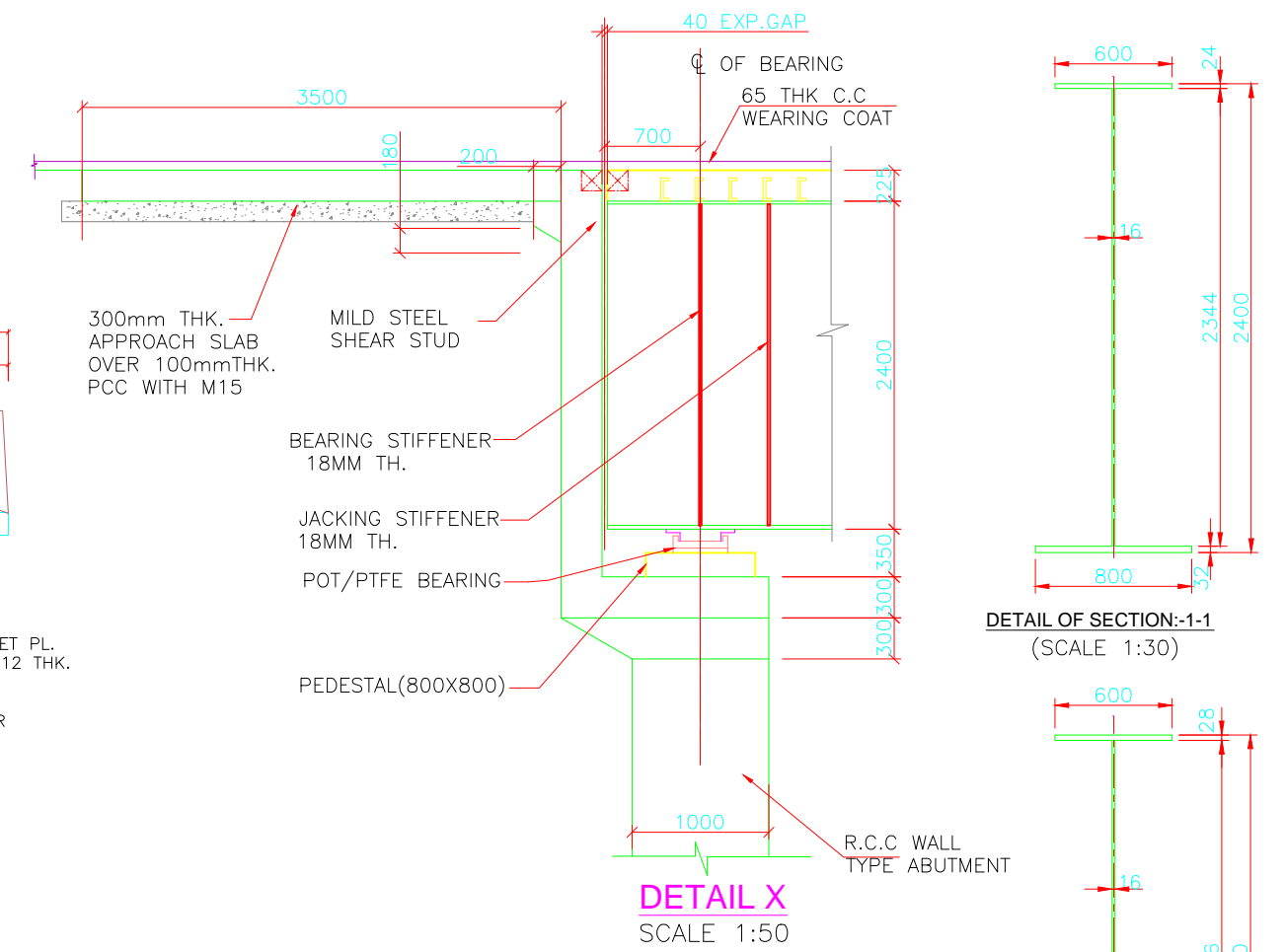
SECTION A-A  
(SCALE 1:100)



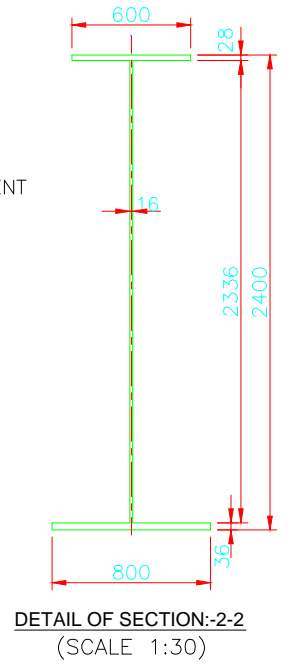
DETAIL OF ABUTMENT CAP  
(SCALE 1:100)



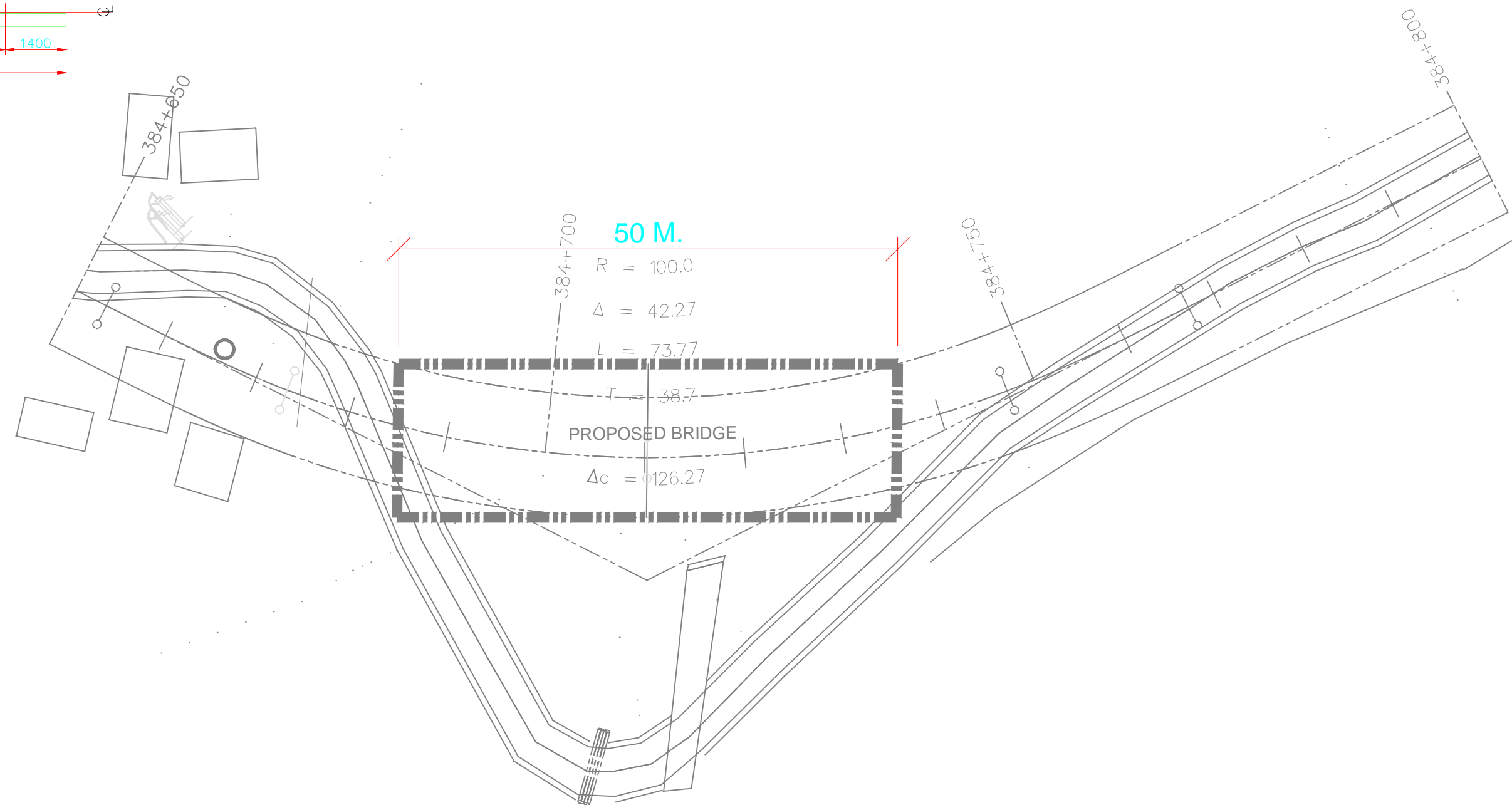
SECTION AT MID SECTION OF BRIDGE



DETAIL OF SECTION-1-1  
(SCALE 1:30)



DETAIL OF SECTION-2-2  
(SCALE 1:30)



CLIENT:-



National Highways and Infrastructure  
Development Corporation

PROJECT TITLE :-

CONSTRUCTION & UPGRADATION OF EXISTING ROAD TO 2-LANE  
WITH PAVED SHOULDERS FROM KM 368.000 TO KM 399.000 OF  
LAMERI TO KARANPRAYG (EXCLUDING KM 379.100 TO KM 380.275)  
OF NH-07 UNDER CHARDHAM PARIYOJNA ON EPC BASICS IN THE  
STATE OF UTTRAKHAND (PKG-I)

REV	DATE	DESCRIPTION	SIGN
R1	JAN.2017	CARRIAGEWAY REVISED	ALI

TITLE :-

GENERAL ARRANGEMENT DRAWING  
1X50M AT (CH.384+710)

DWG. NO. MORTH /CASTA /NH-58 /MNB /CH.384+710

DRN:-

DGN:-

CHK:-

DATE:-

SCALE:-

SHEET SIZE

PRAVEEN

P.V.M

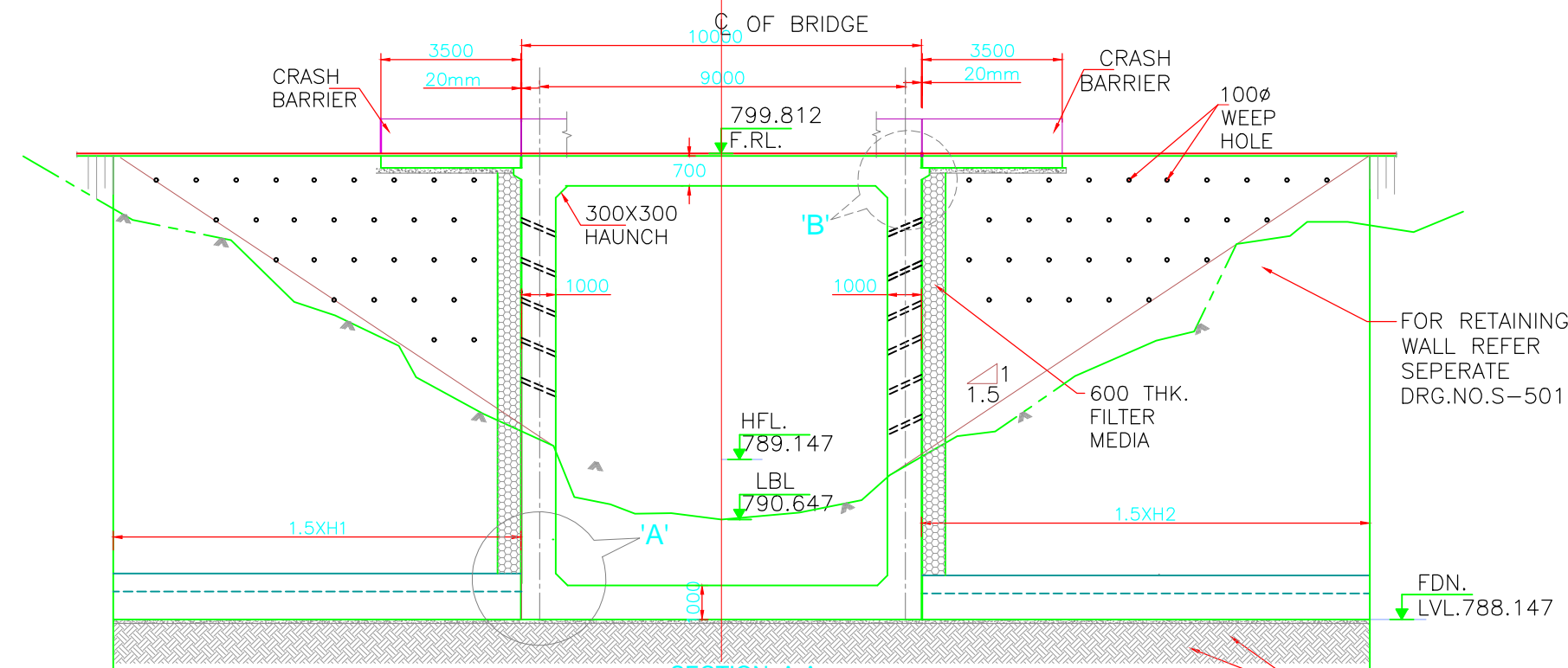
V.P.S

JAN  
2018

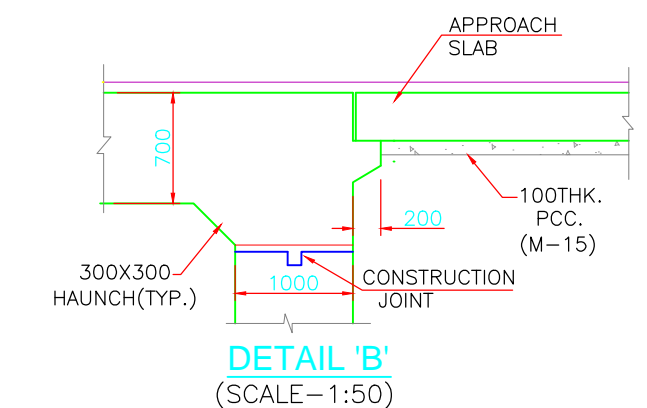
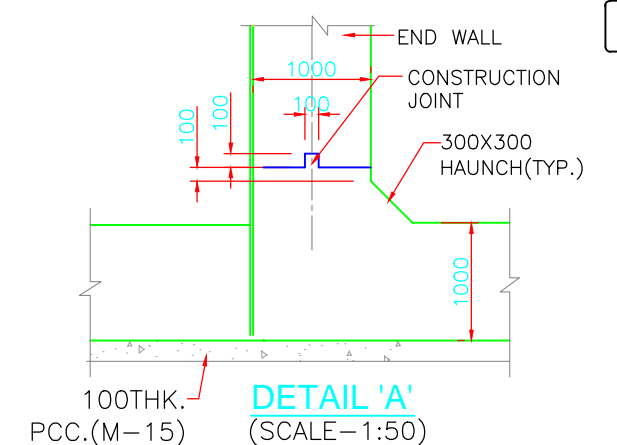
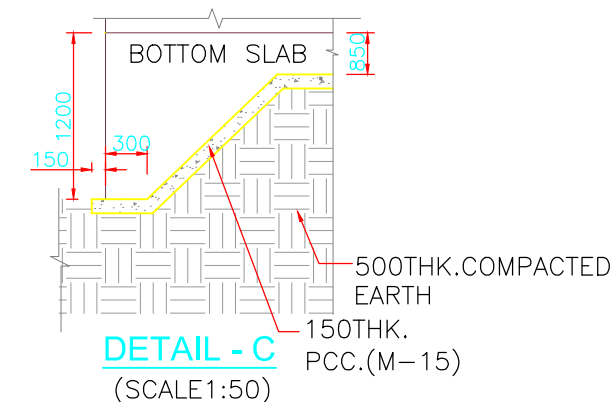
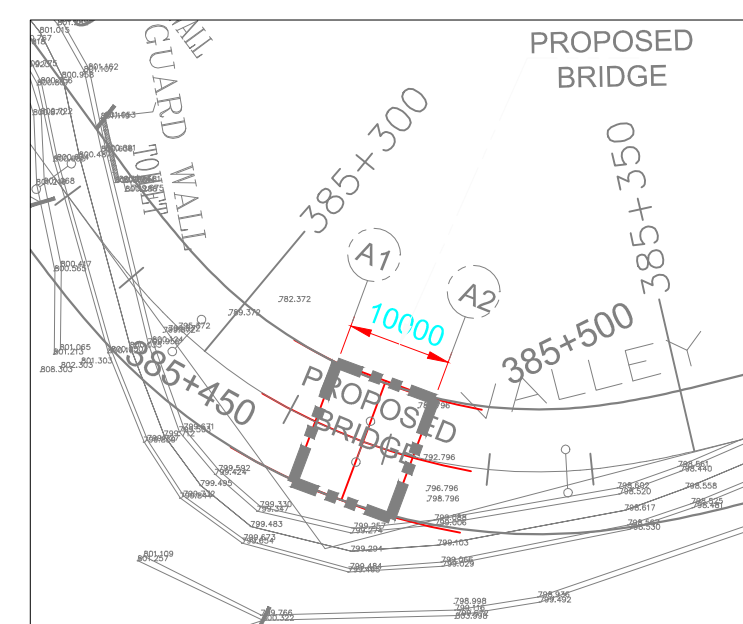
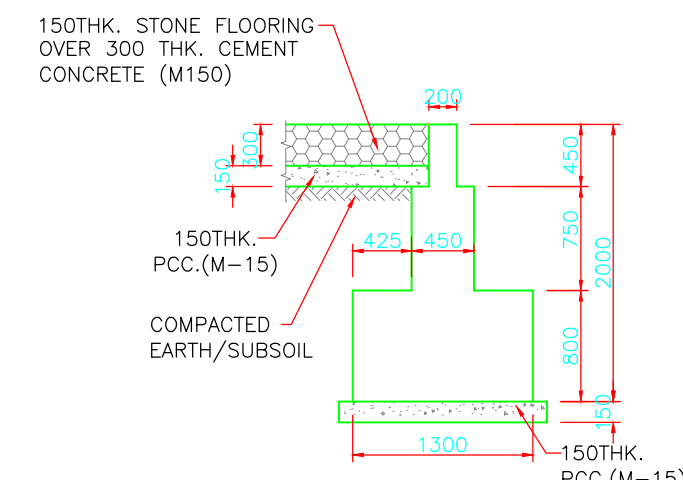
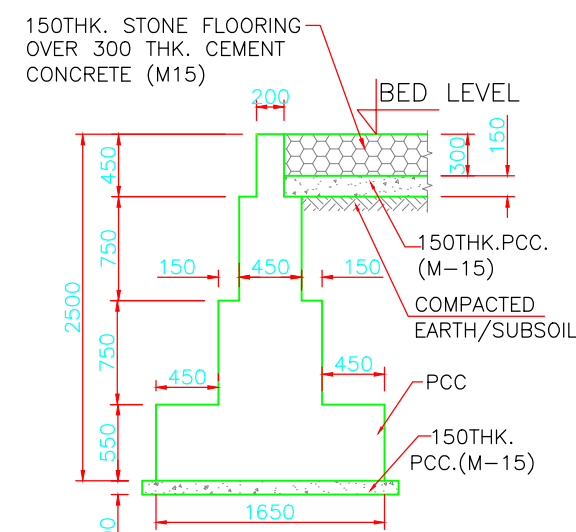
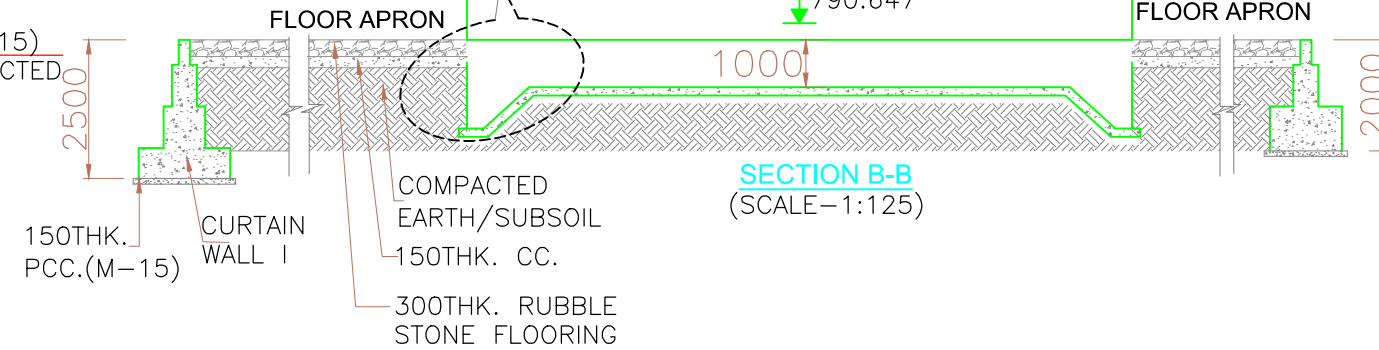
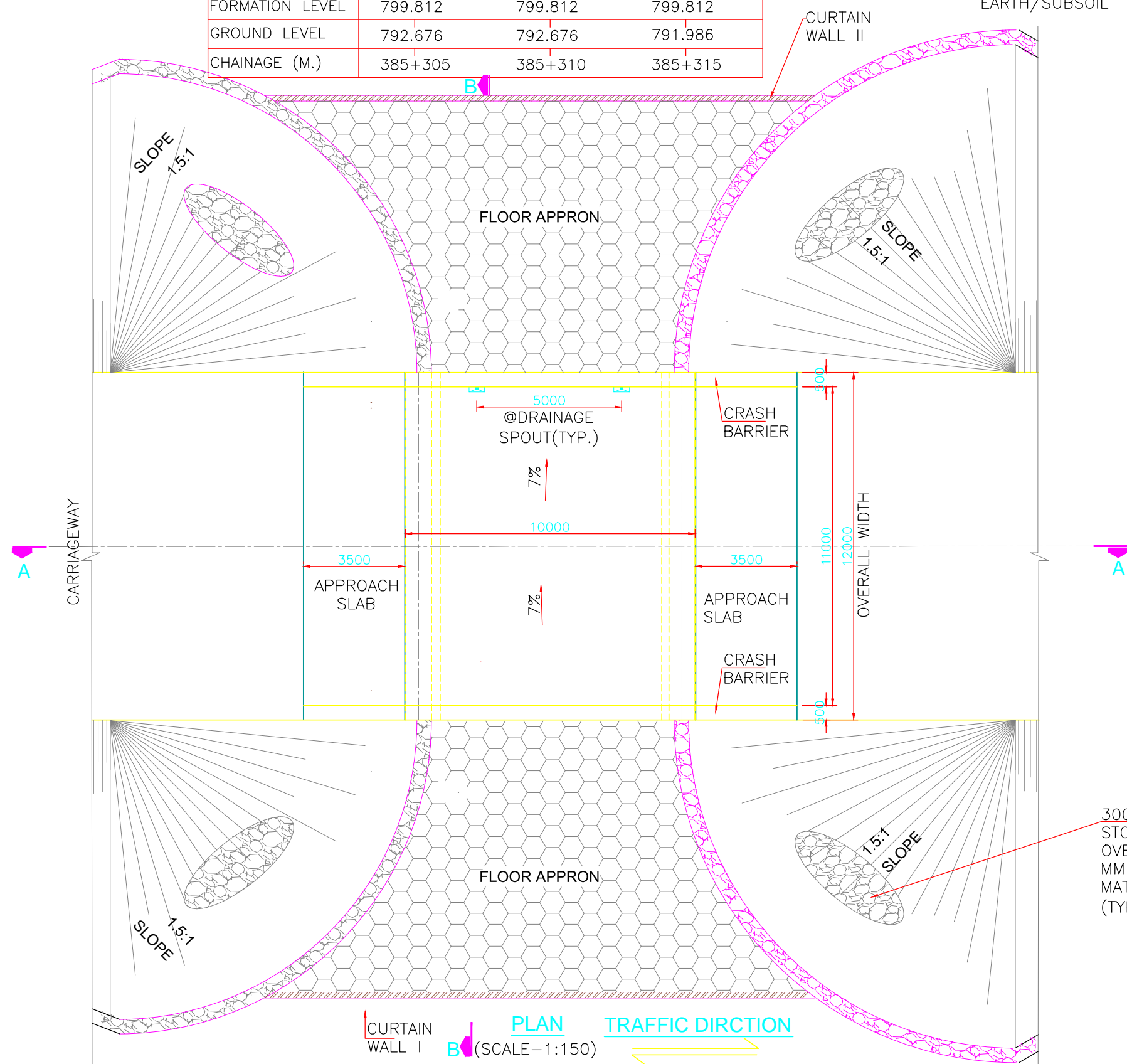
SHOWN  
AS

SHEET NO:-  
A2  
02 OF 02





FORMATION LEVEL	799.812	799.812	799.812
GROUND LEVEL	792.676	792.676	791.986
CHAINAGE (M.)	385+305	385+310	385+315



## NOTES :-

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS SHALL FOLLOWED.
- THE ACTUAL BASE PRESSURE AS PER THE DESIGN 63.12 KN/SQM. THE SHOULD BE ASCERTAINED AT SITE BEFORE EXECUTION.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS.
- GRADE OF CONCRETE SHALL BE AS FOLLOWS :-  
P.C.C. LEVELING COURSE ..... M15  
BOX STRUCTURE ..... M35  
CRASH BARRIER ..... M40  
APPROACH SLAB ..... M30  
CURTAIN WALL ..... M15  
RETAINING/WING WALLS ..... M35
- GRADE OF STEEL- Fe 500 CONFORMING TO IS: 1786-1985
- 75MM THK C.C WEARING COURSE SHALL BE PROVIDED AS PER SECTION 500 OF MORTH SPECIFICATIONS.
- THE SELECTED EARTH FILL BEHIND ABUTMENT SHALL HAVE FOLLOWING PROPERTIES WHICH HAVE BEEN ASSUMED FOR DESIGN OF ABUTMENTS & ABUTMENT  
CI B85HCBZ 1' 88Z 1' 1% 1H
- (i) 40mm top slab  
(ii) 75mm bottom slab  
(iii) 40mm side wall
- 100 DIA. WEEP HOLES ARE TO BE PROVIDED @ 1000 C/C IN STAGGERED MANNER (BOTH HORIZONTALLY & VERTICALLY) IN 1:20 SLOPE (TYP).
- IT MAY BE ENSURED THAT MINIMUM EMBEDMENT OF FOUNDATION IS 1.5M IN SOFT ROCK OR 0.6M IN HARD ROCK AS PER PROVISION OF OR IRC 78.
- ALL DIMENSIONS ARE TENTATIVE SUBJECT TO CHANGE DURING THE DETAILED DESIGN.

FOR PLANNING

FOR APPROVAL

FOR CONSTRUCTION

AS BUILT



National Highways and Infrastructure  
Development Corporation

PROJECT TITLE :-

**CONSTRUCTION & UPGRADATION OF EXISTING ROAD TO 2-LANE WITH PAVED SHOULDERS FROM KM 368.000 TO KM 399.000 OF LAMERI TO KARANPRAYG (EXCLUDING KM 379.100 TO KM 380.275) OF NH-07 UNDER CHARDHAM PARIYOJNA ON EPC BASICS IN THE STATE OF UTTARAKHAND (PKG-I)**

REV	DATE	DESCRIPTION	SIGN

TITLE :-

GENERAL ARRANGEMENT DRAWING  
SOLID SLAB 10M AT CH-385+310

DWG. NO. MORTH /CASTA /NH-58 /MNB/ CH.385+310. 10M.S-101

Drm:-

Dgn:-

Chk:-

Date:-

Scale:-

Sheet no:-

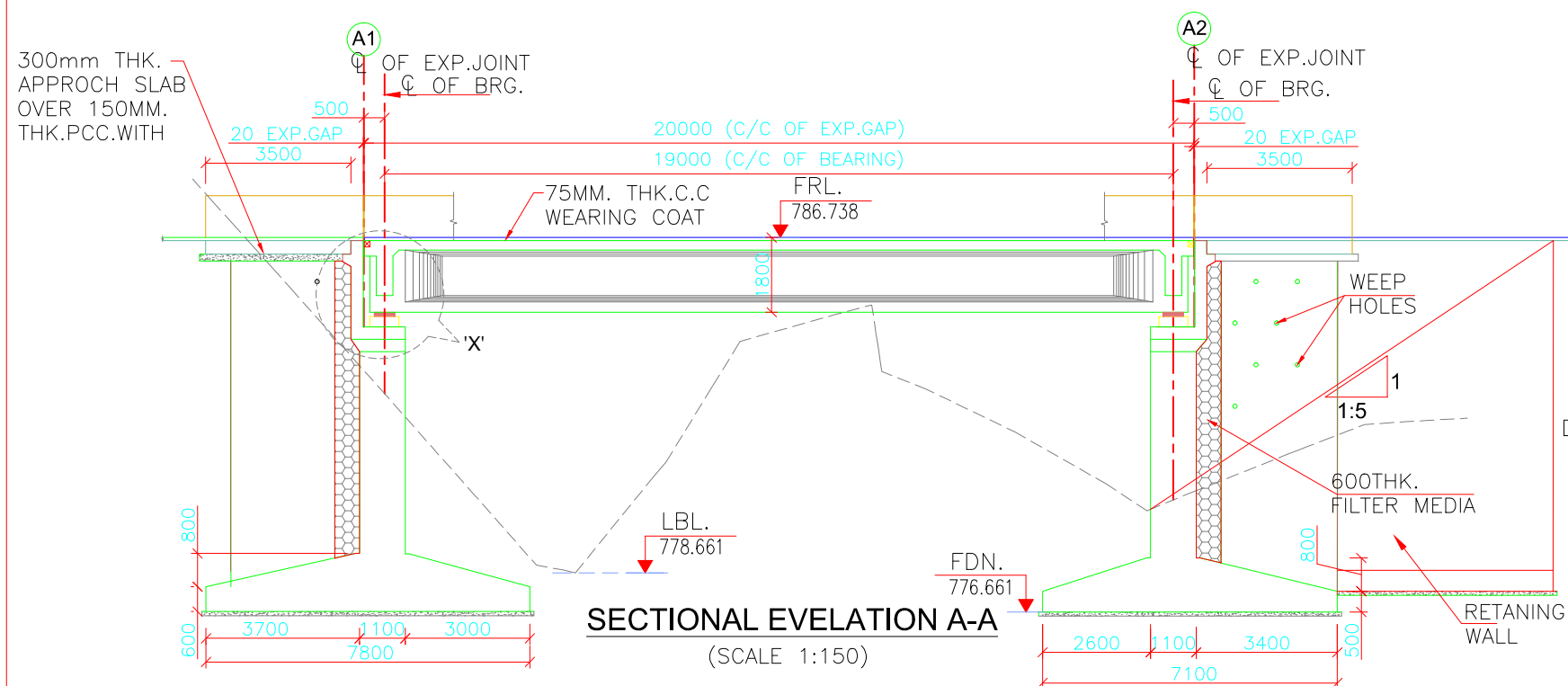
ALI

S.P

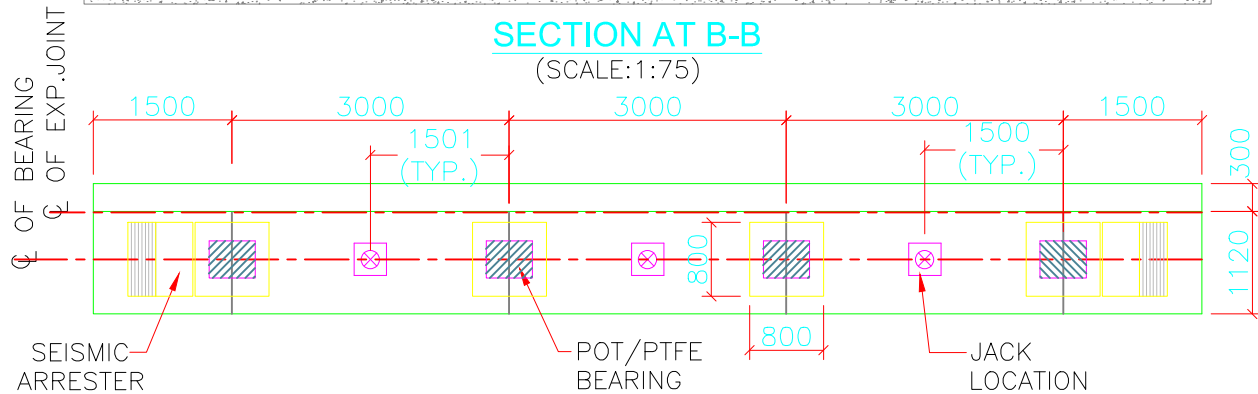
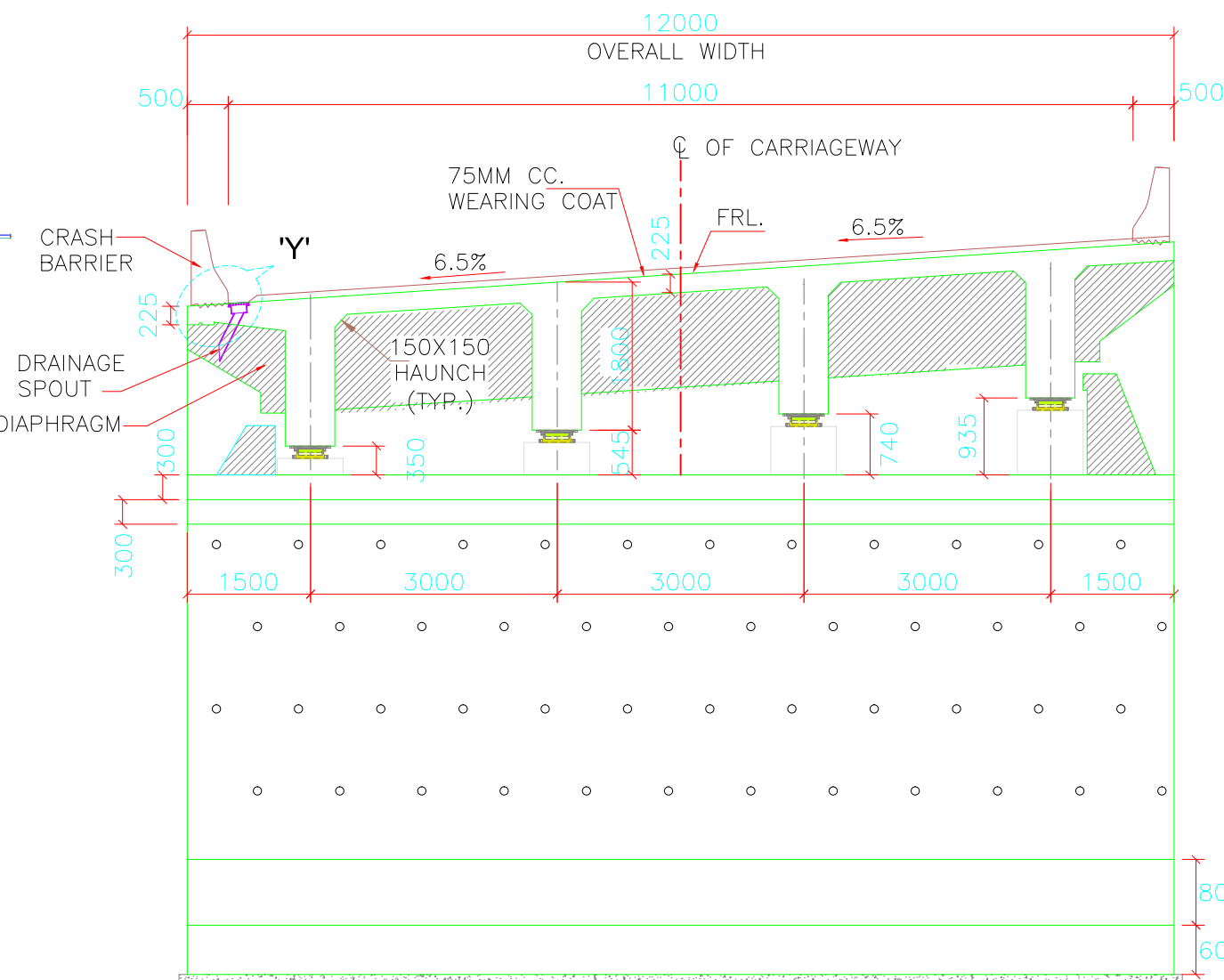
V.P.S

JAN  
2018AS  
SHOWN

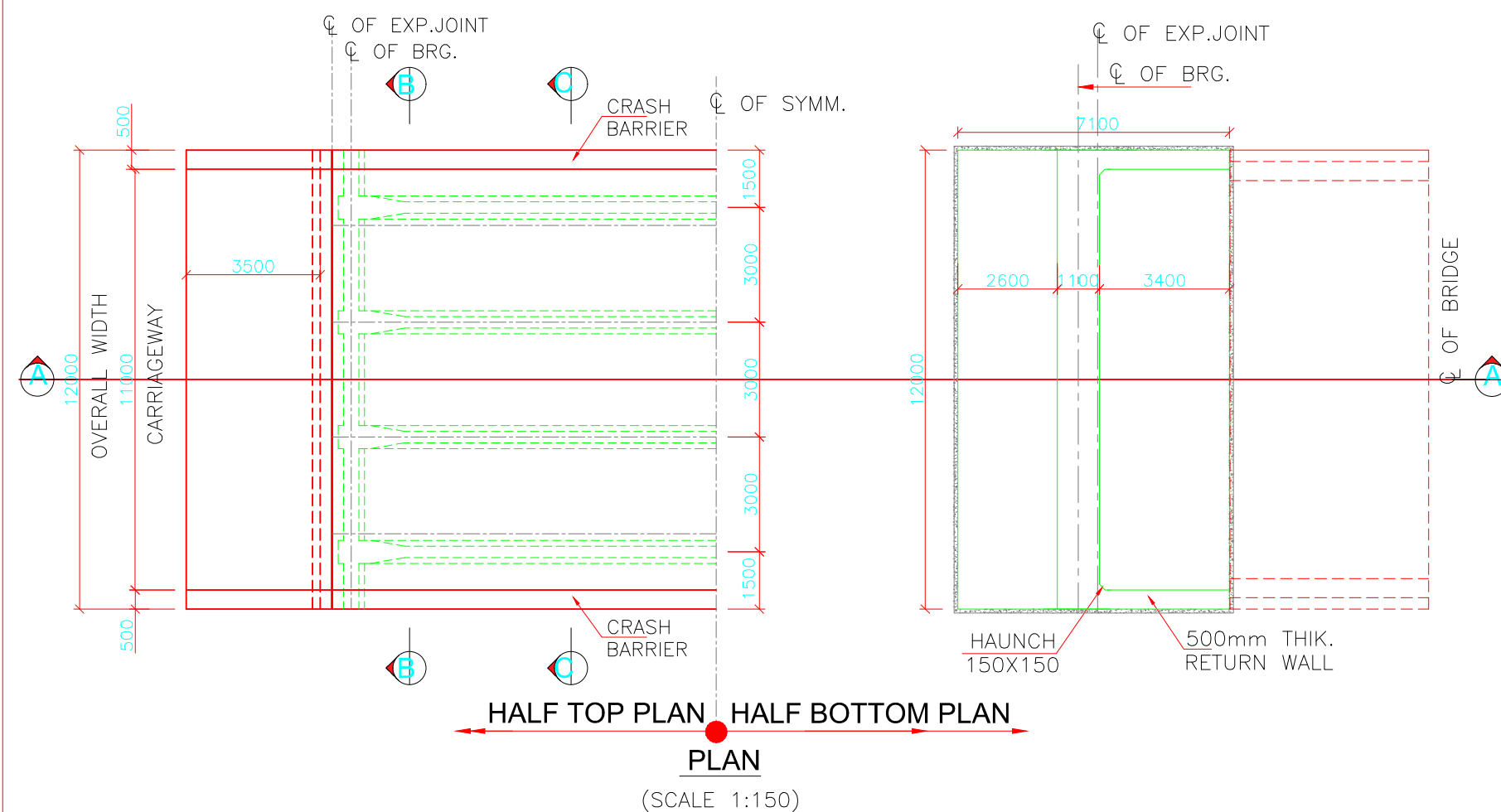
01 OF 01



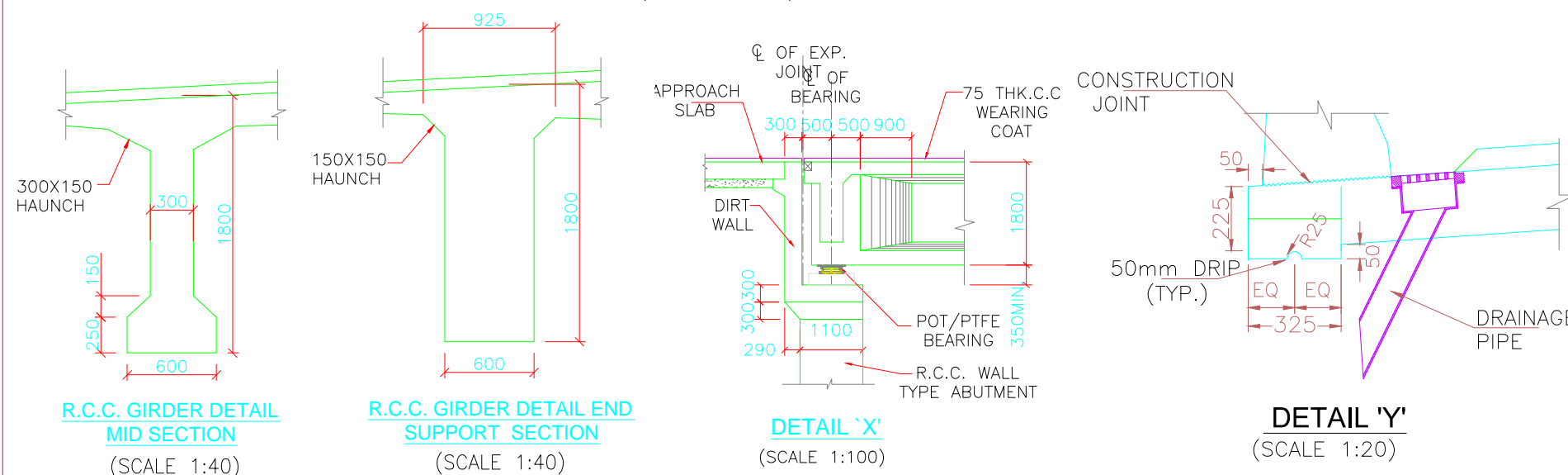
FORMATION LEVEL	786.738	786.738	786.738
GROUND LEVEL	782.978	784.921	780.446
CHAINAGE (M.)	385.585	385.595	385.605



ABUTMENT CAP PLAN  
(SCALE 1:75)

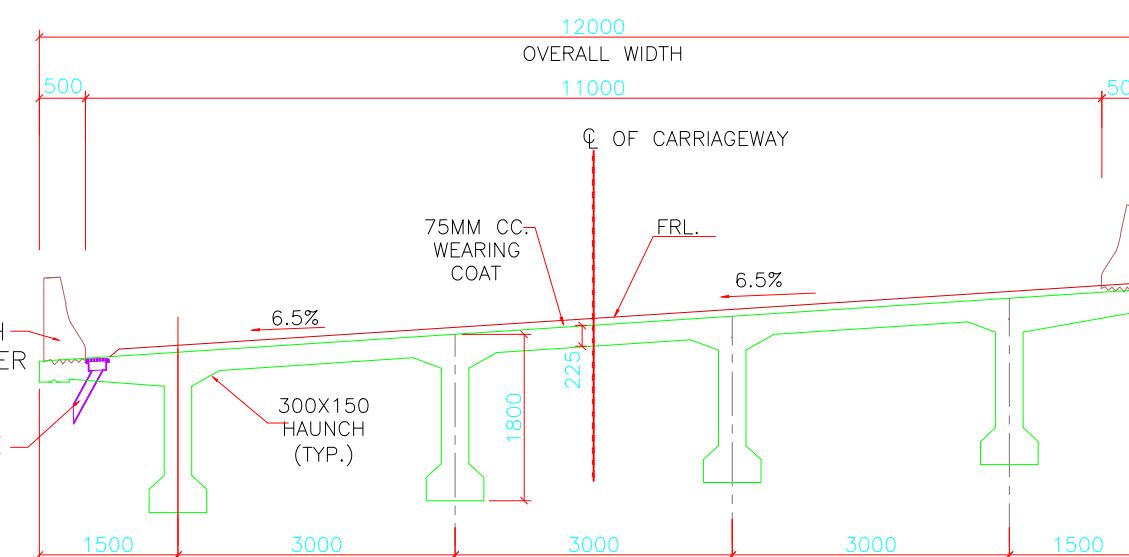


PLAN  
(SCALE 1:150)



DETAIL 'X'  
(SCALE 1:100)

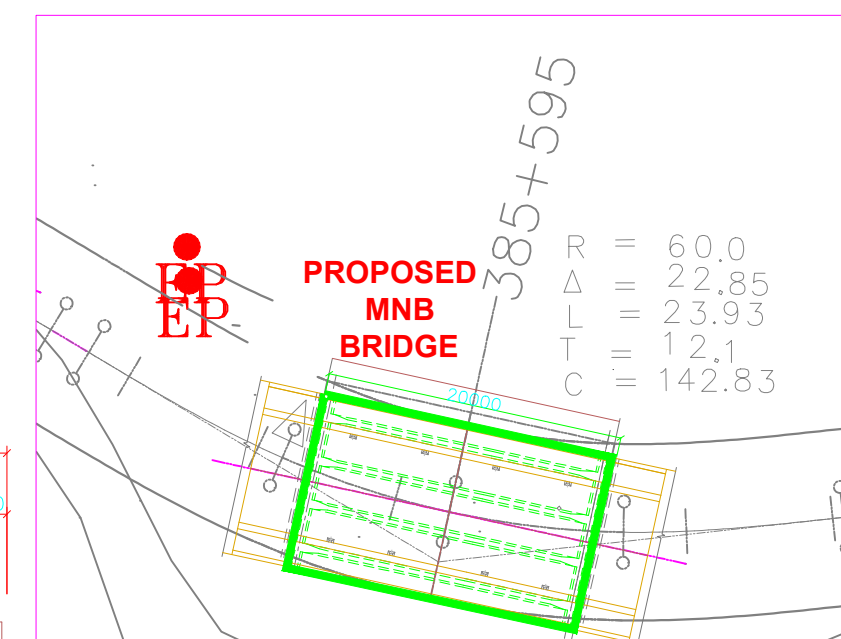
DETAIL 'Y'  
(SCALE 1:20)



SECTION AT C-C (MID)  
(SCALE:1:75)

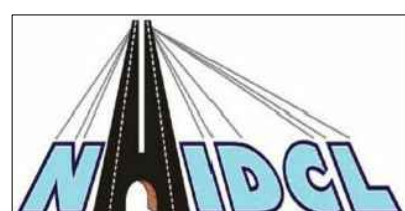
## NOTES :-

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS.
- GRADE OF CONCRETE FOR VARIOUS STRUCTURES SHALL BE AS FOLLOWS –  
P.C.C. LEVELLING COURSE = M15  
SUPERSTRUCTURE = M35  
SUBSTRUCTURE = M35  
R.C.C. RAILING = M25  
APPROACH SLAB = M30  
RETURN/WING WALLS = M30
- GRADE OF STEEL– Fe 500 CONFORMING TO IS:1786–1985.
- THE SELECTED EARTH FILL BEHIND ABUTMENT SHALL HAVE FOLLOWING PROPERTIES WHICH HAVE BEEN ASSUMED FOR DESIGN OF ABUTMENTS FOUNDATION, PARAMETERS  $\phi=30^\circ$ ,  $\gamma$  dry = 18 kN/m
- 100 DIA. WEEP HOLES ARE TO BE PROVIDED @1000 C/C IN STAGGERED MANNER (BOTH HORIZONTALLY & VERTICALLY) IN 1:20 SLOPE (TYP.).
- (i) CLEAR COVER TO OUTER MOST STEEL IS 50mm FOR ALL COMPONENTS EXCEPT FOUNDATIONS.  
(ii) CLEAR COVER TO OUTER MOST STEEL IS 75mm FOR FOUNDATION.
- EXPANSION JOINT :- STRIP SEAL
- PROTECTION WORK SHALL BE PROVIDED AS PER IRC 89:1977.
- IT MAY BE ENSURED THAT MINIMUM EMBEDMENT OF FOUNDATION IS 1.5M IN SOFT ROCK OR 0.6M IN HARD ROCK AS PER PROVISION OF OR IRC 78.
- PROPOSED BRIDGE IS DESIGNED FOR 3 LANE OF CLASS-A OR SINGLE LANE OF 70R OF +1 LANE CLASS A WHICH EVER GOVERNS.



KEY PLAN

FOR PLANNING	<input type="radio"/>
FOR APPROVAL	<input checked="" type="radio"/>
FOR CONSTRUCTION	<input type="radio"/>
AS BUILT	<input type="radio"/>



National Highways and Infrastructure  
Development Corporation

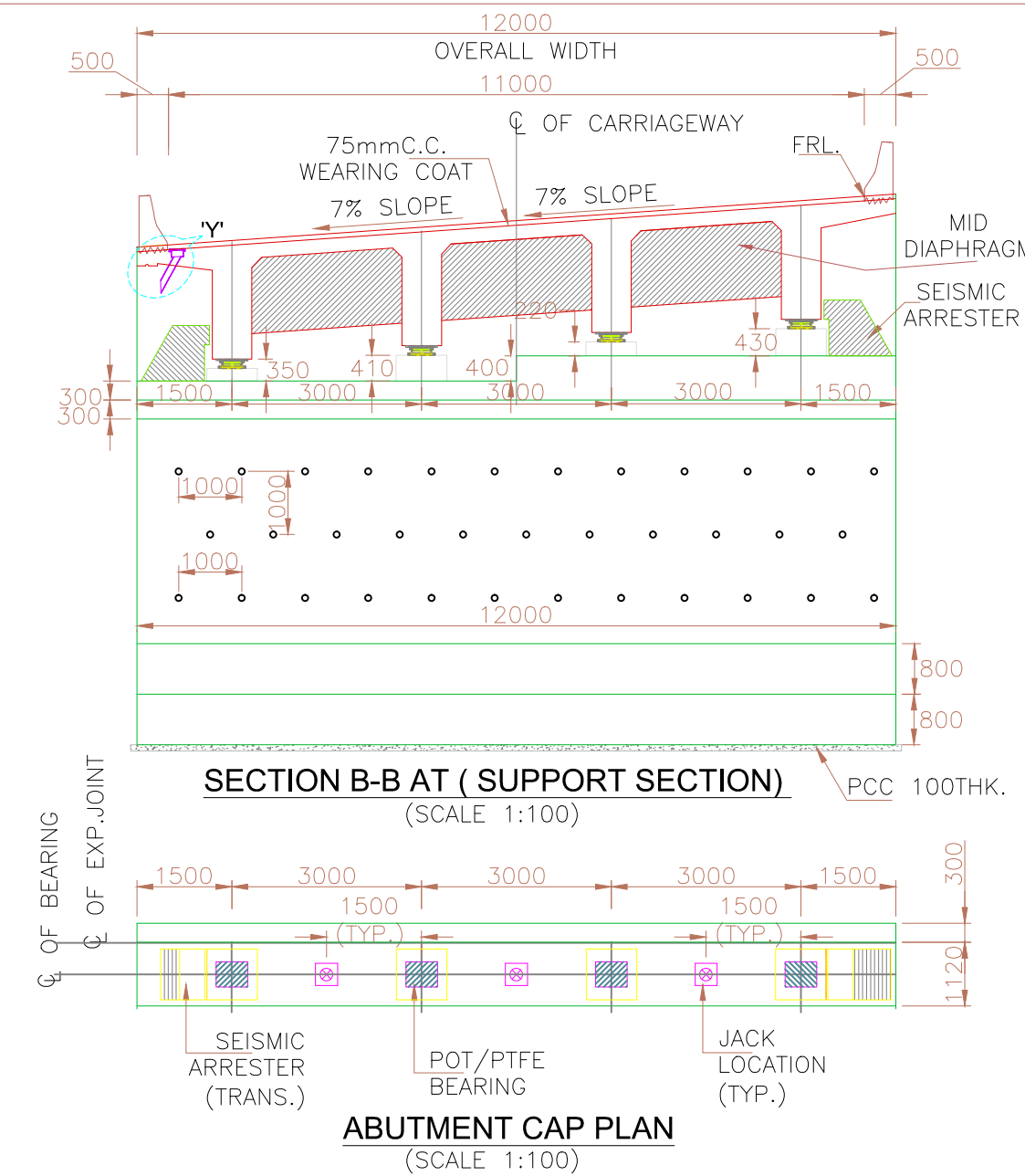
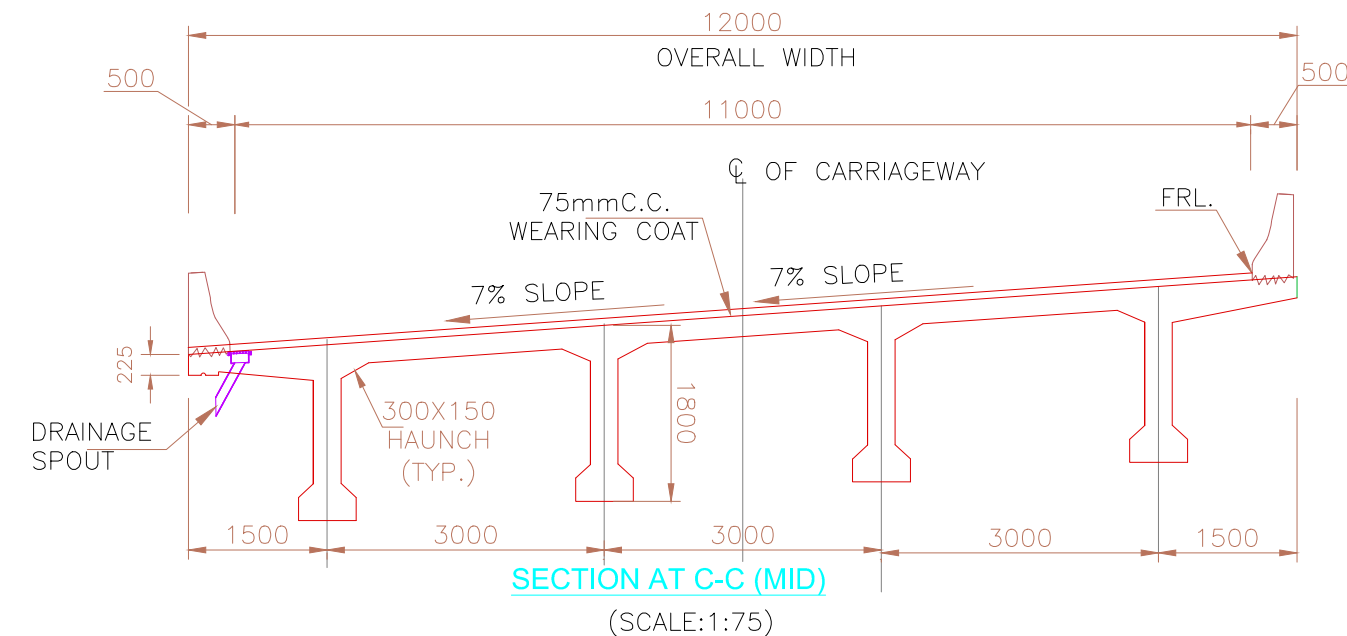
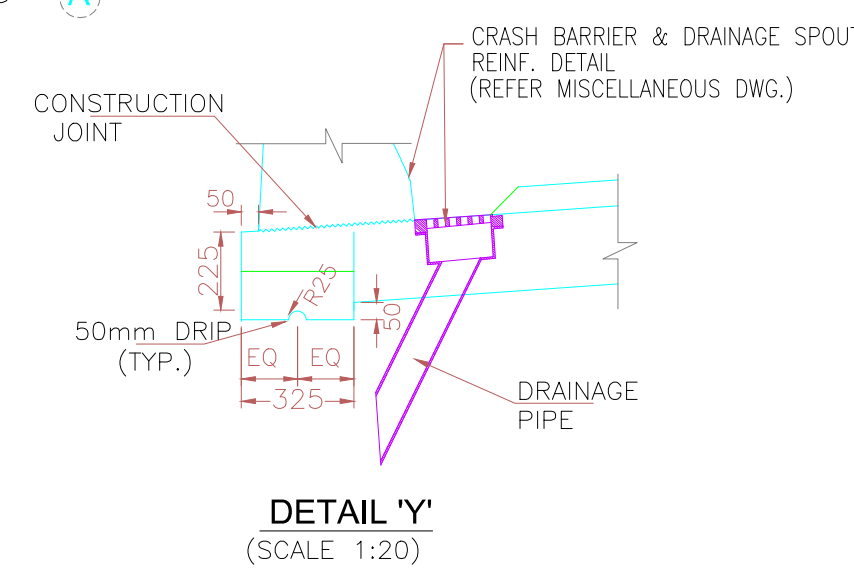
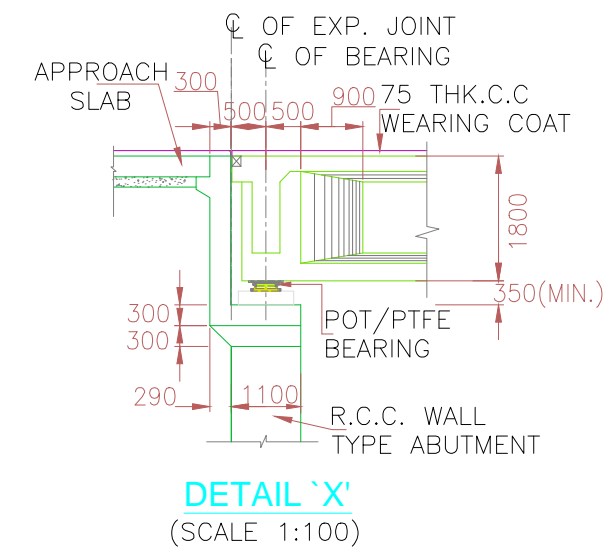
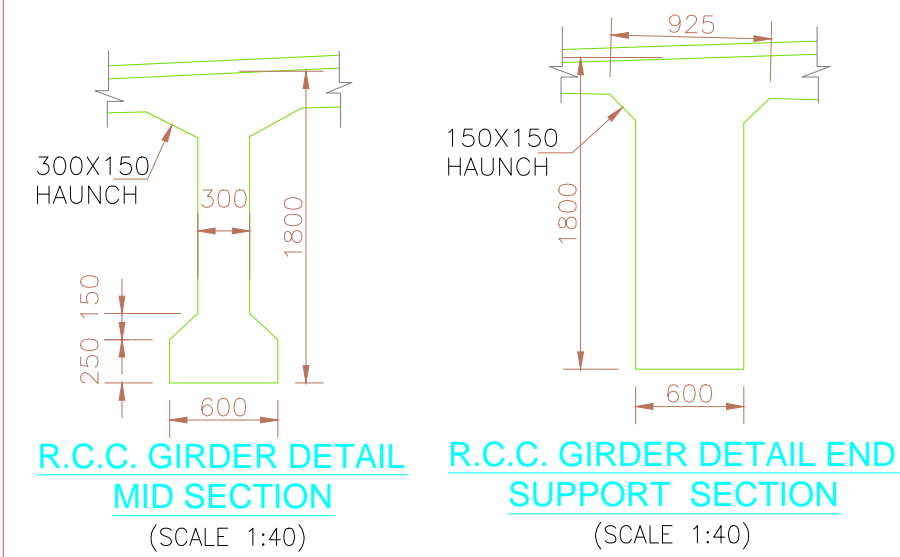
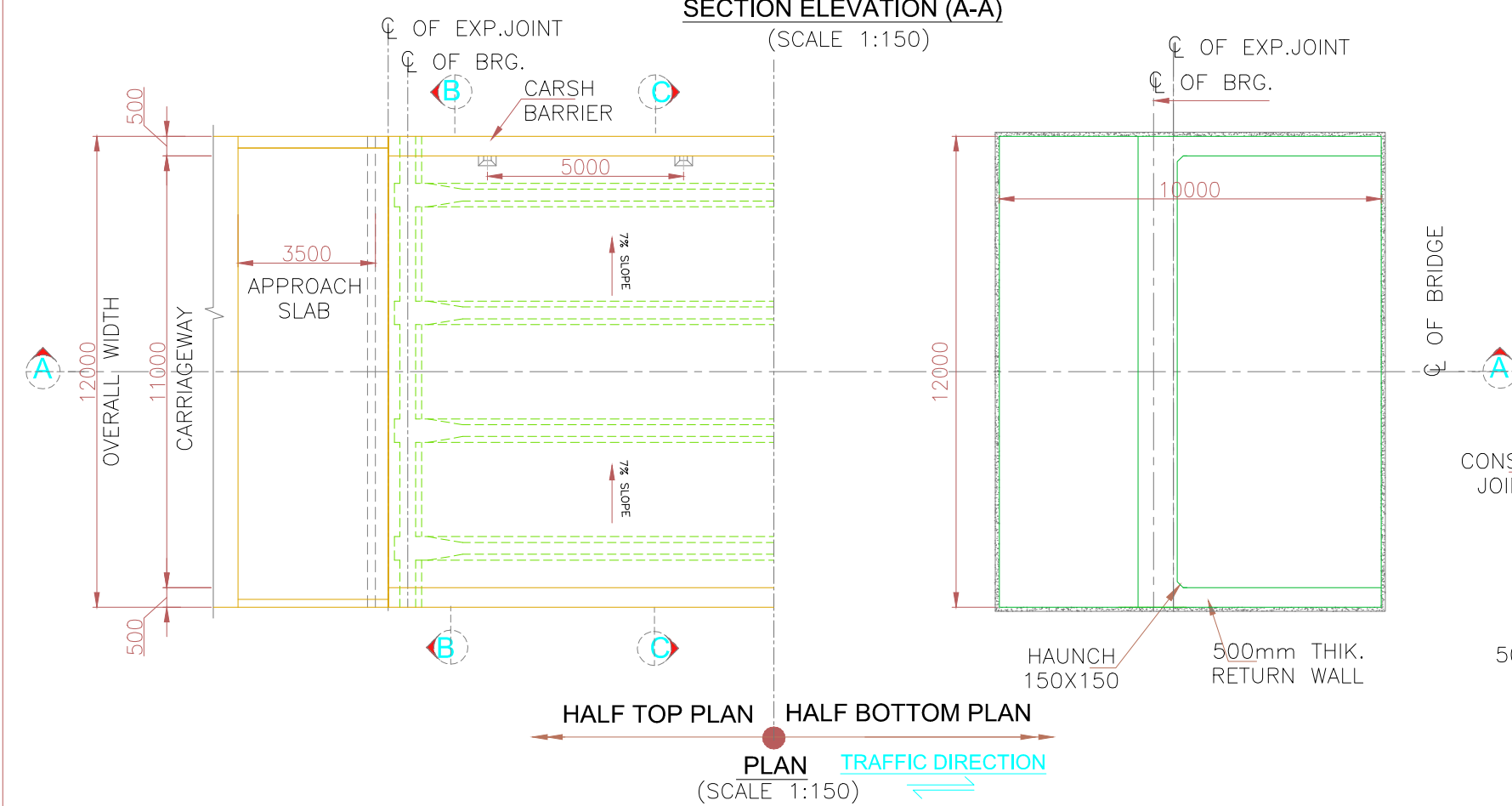
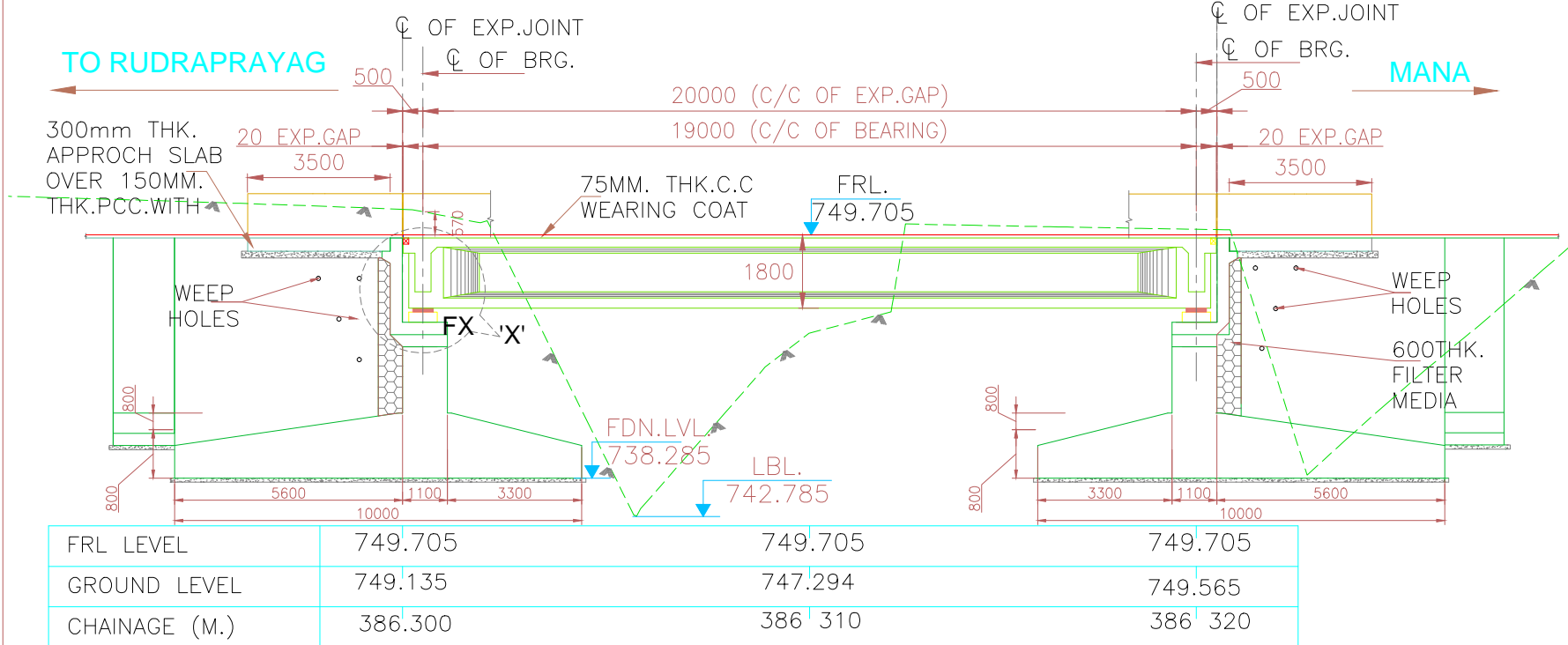
PROJECT TITLE :-

**CONSTRUCTION & UPGRADATION OF EXISTING ROAD TO 2-LANE WITH PAVED SHOULDERS FROM KM 368.000 TO KM 399.000 OF LAMERI TO KARANPRAYG (EXCLUDING KM 379.100 TO KM 380.275) OF NH-07 UNDER CHARDHAM PARIYOJNA ON EPC BASICS IN THE STATE OF UTTARAKHAND (PKG-I)**

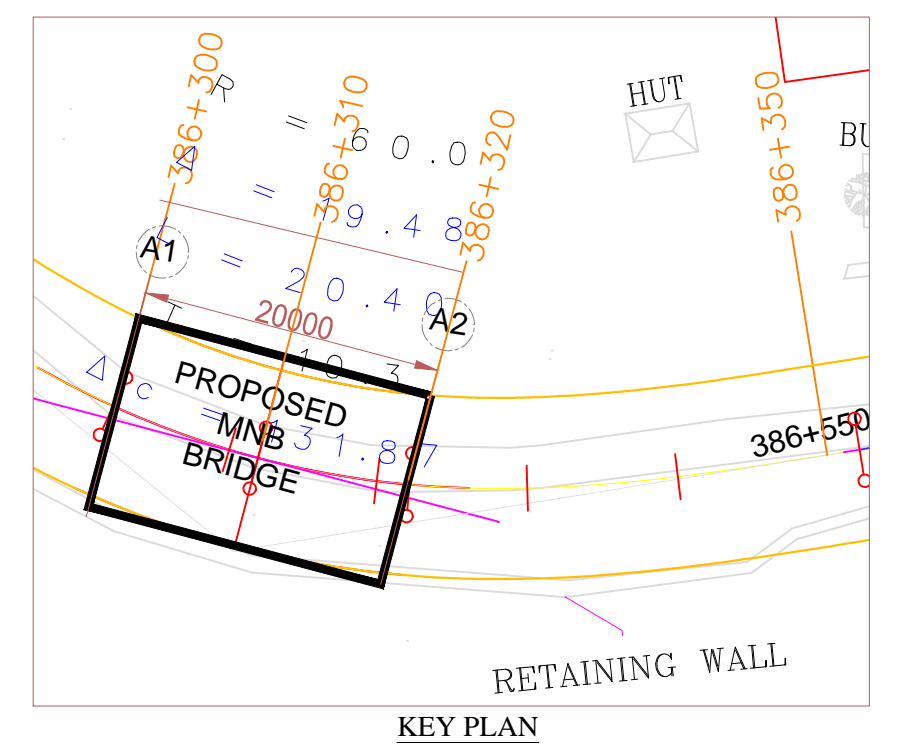
REV	DATE	DESCRIPTION	SIGN
R1	JAN.2017	CARRIAGEWAY REVISED	Y.P.S

TITLE :- GENERAL ARRANGEMENT DRAWING FOR 20X1 T-BEAM AT CH.385+595					
DWG. NO. MORTH /CASTA /NH-58 /MNB/ CH.385+595.20M.S-101					
DRN:-	DGN:-	CHK:-	DATE:-	SCALE:-	SHEET SIZE
ALI	P.V.M	V.P.S	JAN 2018	AS SHOWN	SHEET NO:- A2 01 OF 01

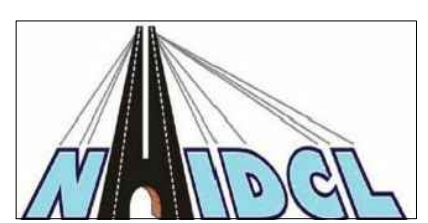




- NOTES :-**
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
  - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS.
  - GRADE OF CONCRETE FOR VARIOUS STRUCTURES SHALL BE AS FOLLOWS -  
 P.C.C. LEVELLING COURSE = M15  
 SUPERSTRUCTURE = M35  
 SUBSTRUCTURE = M35  
 R.C.C. RAILING = M25  
 APPROACH SLAB = M30  
 RETURN/WING WALLS = M30
  - GRADE OF STEEL- Fe 500 CONFORMING TO IS:1786-1985.
  - THE SELECTED EARTH FILL BEHIND ABUTMENT SHALL HAVE FOLLOWING PROPERTIES WHICH HAVE BEEN ASSUMED FOR DESIGN OF ABUTMENTS  
 FOUNDATION, PARAMETERS  $\phi=30^\circ$ ,  $\gamma_{dry} = 18 \text{ kN/m}^3$
  - 100 DIA. WEEP HOLES ARE TO BE PROVIDED @1000 C/C IN STAGGERED MANNER (BOTH HORIZONTALLY & VERTICALLY) IN 1:20 SLOPE (TYP.).
  - (i) CLEAR COVER TO OUTER MOST STEEL IS 50mm FOR ALL COMPONENTS EXCEPT FOUNDATIONS.  
 (ii) CLEAR COVER TO OUTER MOST STEEL IS 75mm FOR FOUNDATION.
  - EXPANSION JOINT :- STRIP SEAL
  - PROTECTION WORK SHALL BE PROVIDED AS PER IRC 89:1977.
  - IT MAY BE ENSURED THAT MINIMUM EMBEDMENT OF FOUNDATION IS 1.5M IN SOFT ROCK OR 0.6M IN HARD ROCK AS PER PROVISION OF OR IRC 78.
  - PROPOSED BRIDGE IS DESIGNED FOR 3 LANE OF CLASS-A OR SINGLE LANE OF 70R OF +1 LANE CLASS A WHICH EVER GOVERNS.



FOR PLANNING	<input type="radio"/>
FOR APPROVAL	<input checked="" type="radio"/>
FOR CONSTRUCTION	<input type="radio"/>
AS BUILT	<input type="radio"/>



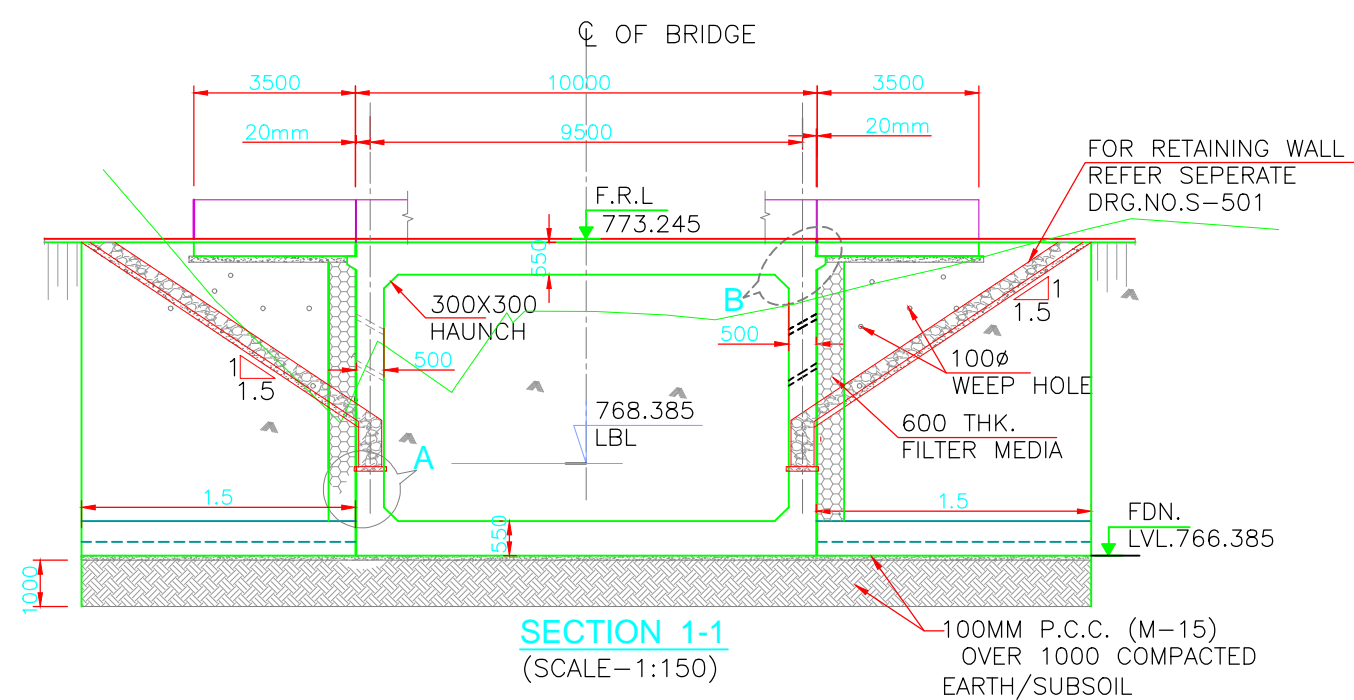
National Highways and Infrastructure Development Corporation

PROJECT TITLE :-  
**CONSTRUCTION & UPGRADATION OF EXISTING ROAD TO 2-LANE WITH PAVED SHOULDERS FROM KM 368.000 TO KM 399.000 OF LAMERI TO KARANPRAYG (EXCLUDING KM 379.100 TO KM 380.275) OF NH-07 UNDER CHARDHAM PARIYOJNA ON EPC BASICS IN THE STATE OF UTTARAKHAND (PKG-I)**

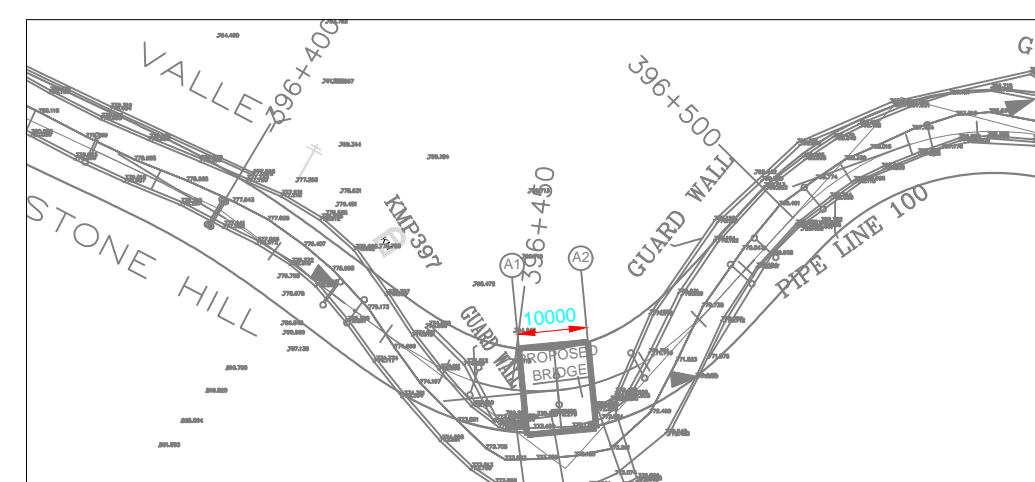
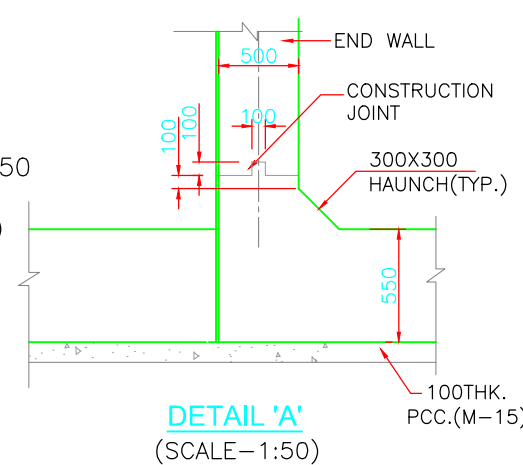
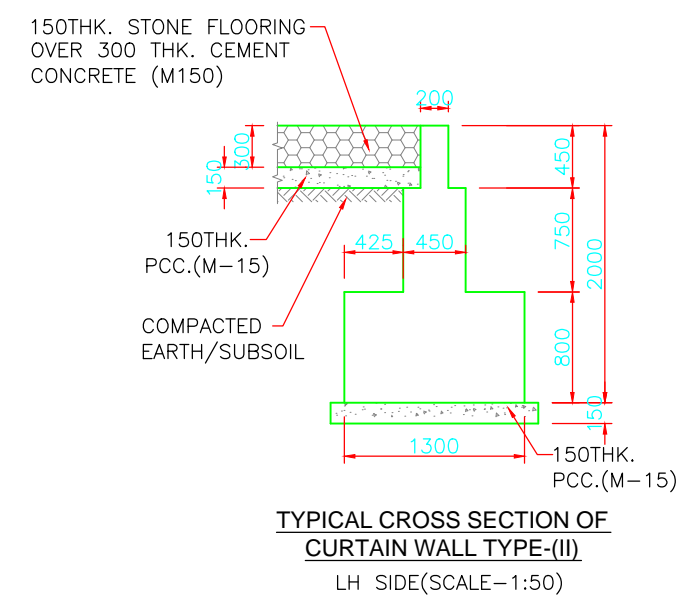
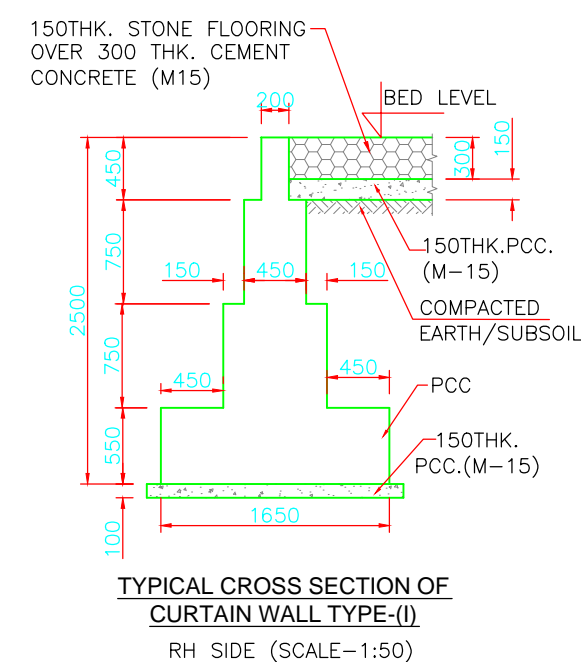
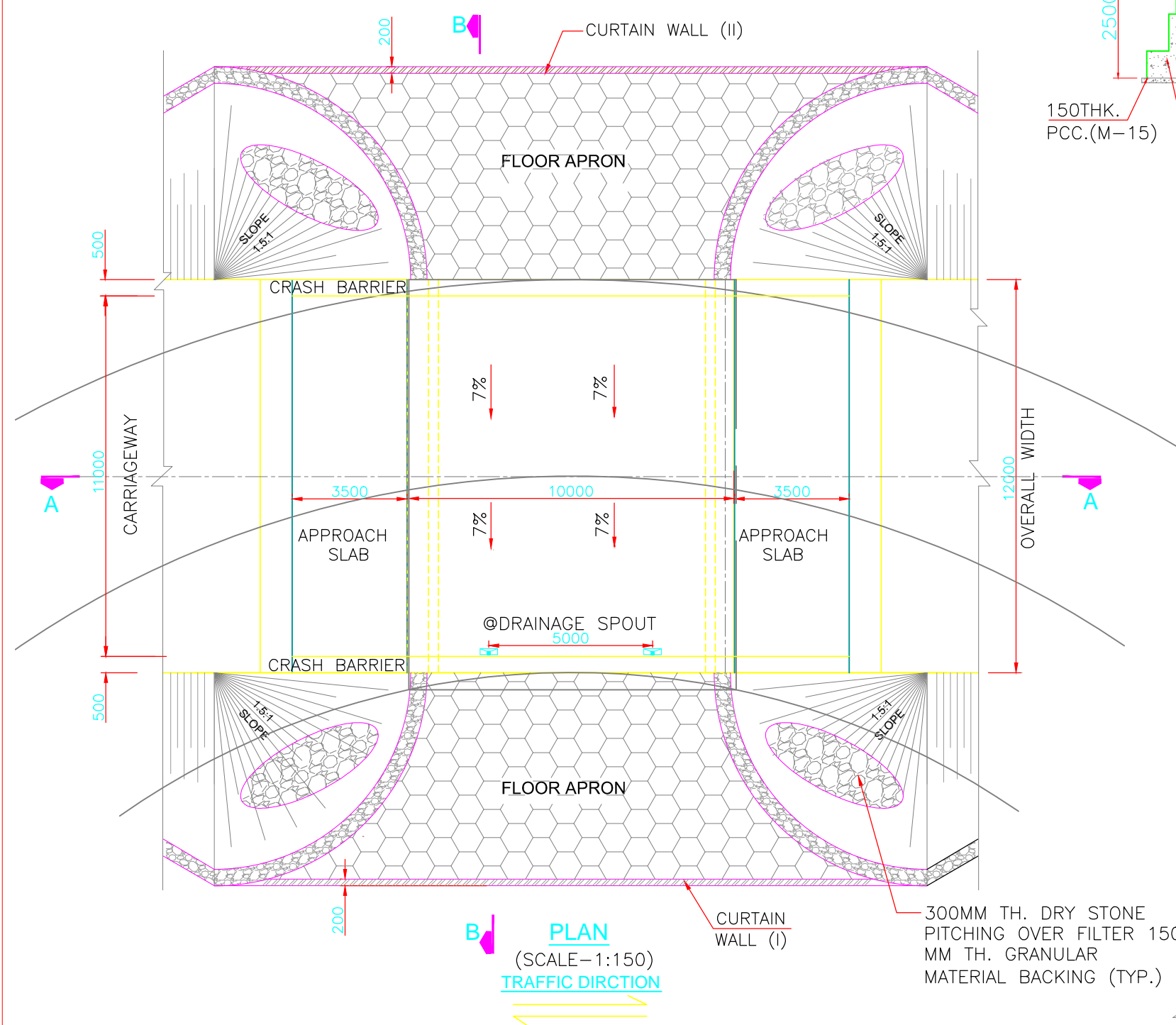
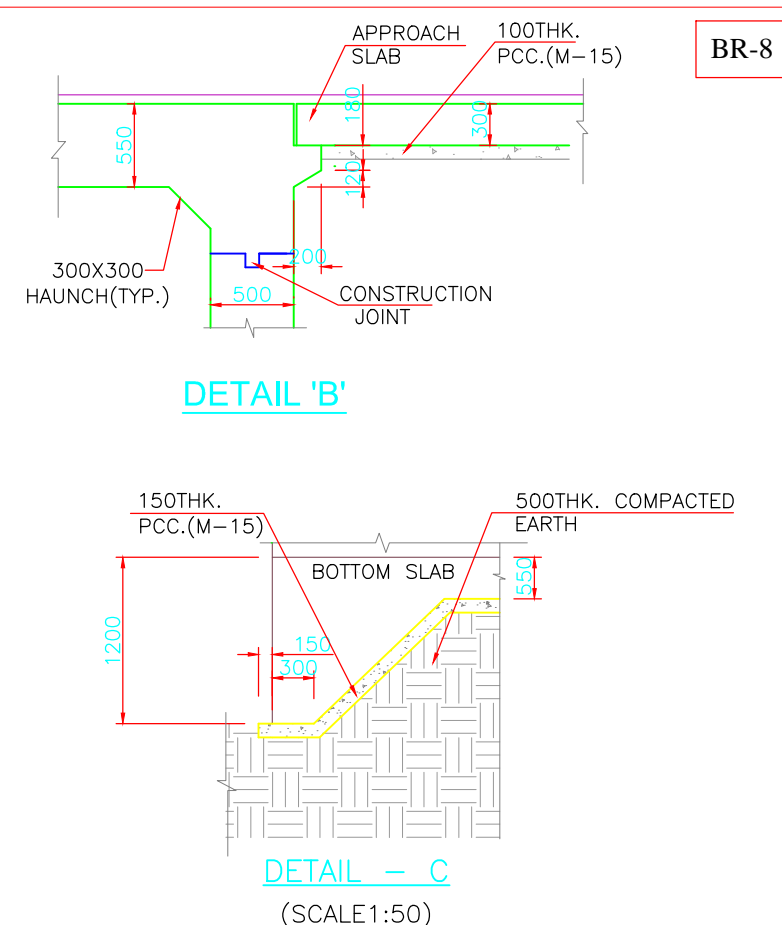
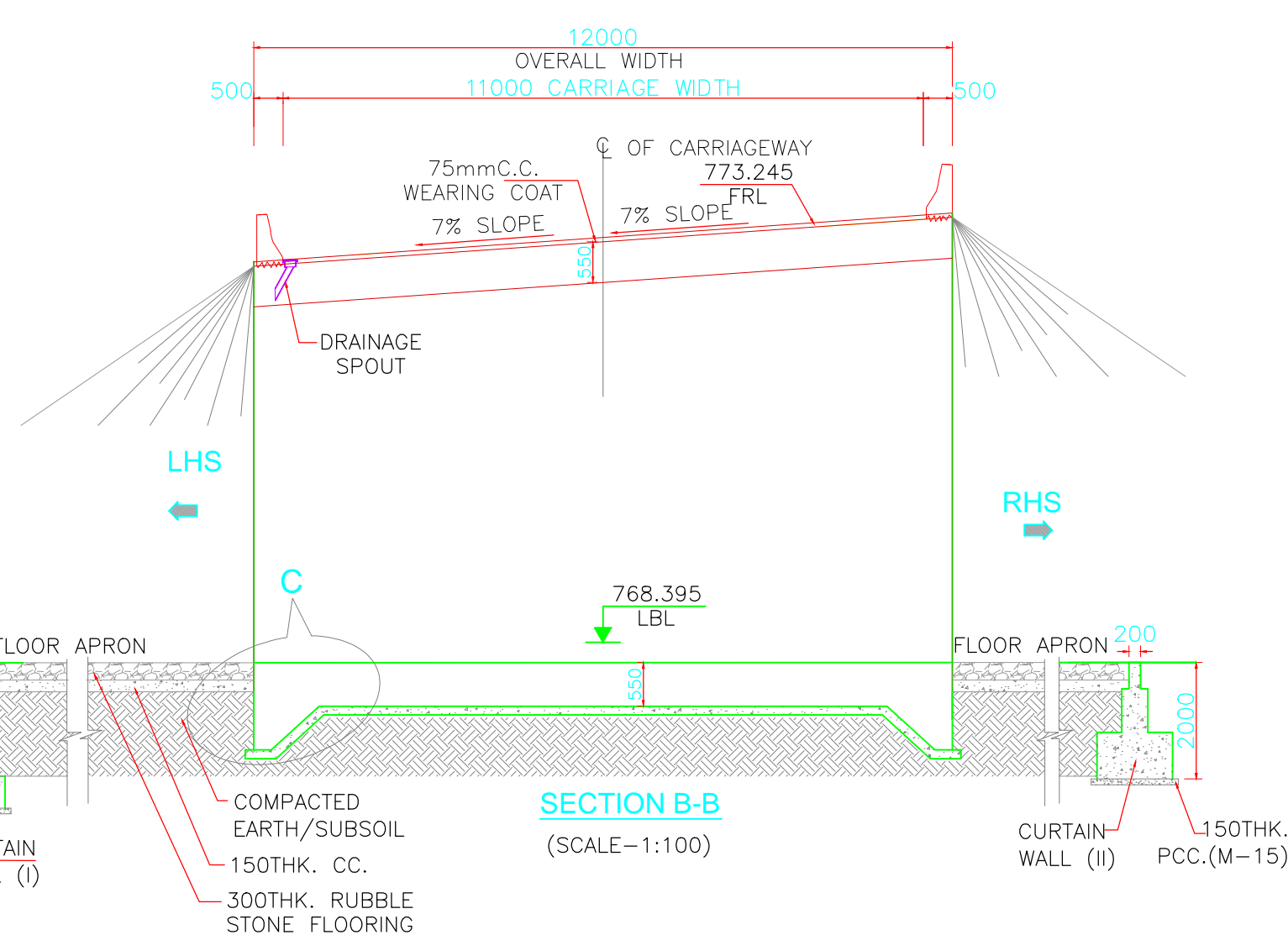
REV	DATE	DESCRIPTION	SIGN
R1	JAN.2017	CARRIAGEWAY REVISED	ALI

TITLE :- GENERAL ARRANGEMENT DRAWING FOR 20X1 T-BEAM AT CH.386+310.20M.S-101

DWG. NO.	MORTH /CASTA /NH-58 /MNB/ CH.386+310.20M.S-101
DRN:-	ALI
DGN:-	P.V.M
CHK:-	V.P.S
DATE:-	JAN 2018
SCALE:-	AS SHOWN
SHEET SIZE	A2
SHEET NO:-	01 OF 01



FORMATION LEVEL	773.245	773.245	773.245
GROUND LEVEL	769.148	770.149	770.354
CHAINAGE (M.)	396+445	396+455	396+460



- NOTES :-**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS SHALL FOLLOW.
  2. THE ACTUAL BACK PRESSURE AS PER THE DESIGN 63.12 KN/SQM. THE SHOULD BE ASCERTAINED AT SITE BEFORE EXECUTION.
  3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS.
  4. GRADE OF CONCRETE SHALL BE AS FOLLOWS :-  

P.C.C. LEVELING COURSE	.....	M15
BOX STRUCTURE	.....	M35
CRASH BARRIER	.....	M40
APPROACH SLAB	.....	M30
CURTAIN WALL	.....	M15
RETAINING/WING WALLS	.....	M35
  5. GRADE OF STEEL- Fe 500 CONFORMING TO IS: 1786-1985
  6. 75MM THICK C C WEARING COURSE SHALL BE PROVIDED AS PER SECTION 500 OF MORTH SPECIFICATION
  7. THE SELECTED EARTH FILL BEHIND ABUTMENT SHALL HAVE FOLLOWING PROPERTIES WHICH HAVE BEEN ASSUMED FOR DESIGN OF ABUTMENTS & RETAINING WALLS :-  

..... C1 B85HC82	1' S&Z   1' % <sub>1</sub> H <sub>1</sub>
(i) 40mm top slab	
(ii) 75mm bottom slab	
(iii) 40mm side wall	
..... 100 D/A	WEEP HOLES ARE TO BE PROVIDED @ 1000 C/C IN STAGGERED MANNER (BOTH HORIZONTALLY & VERTICALLY) IN 1:20 SLOPE (TYP).
  8. IT MAY BE ENSURED THAT MINIMUM EMBEDMENT OF FOUNDATION IS 1.5M IN SOFT ROCK OR 0.6M IN HARD ROCK AS PER PROVISION OF IRC 78.
  9. ALL DIMENSIONS ARE TENTATIVE SUBJECTED TO CHANGE DURING THE DETAILED DESIGN.

FOR PLANNING	<input type="radio"/>
FOR APPROVAL	<input checked="" type="radio"/>
FOR CONSTRUCTION	<input type="radio"/>
AS BUILT	<input type="radio"/>

