

# National Highways & Infrastructure Development Corporation Limited

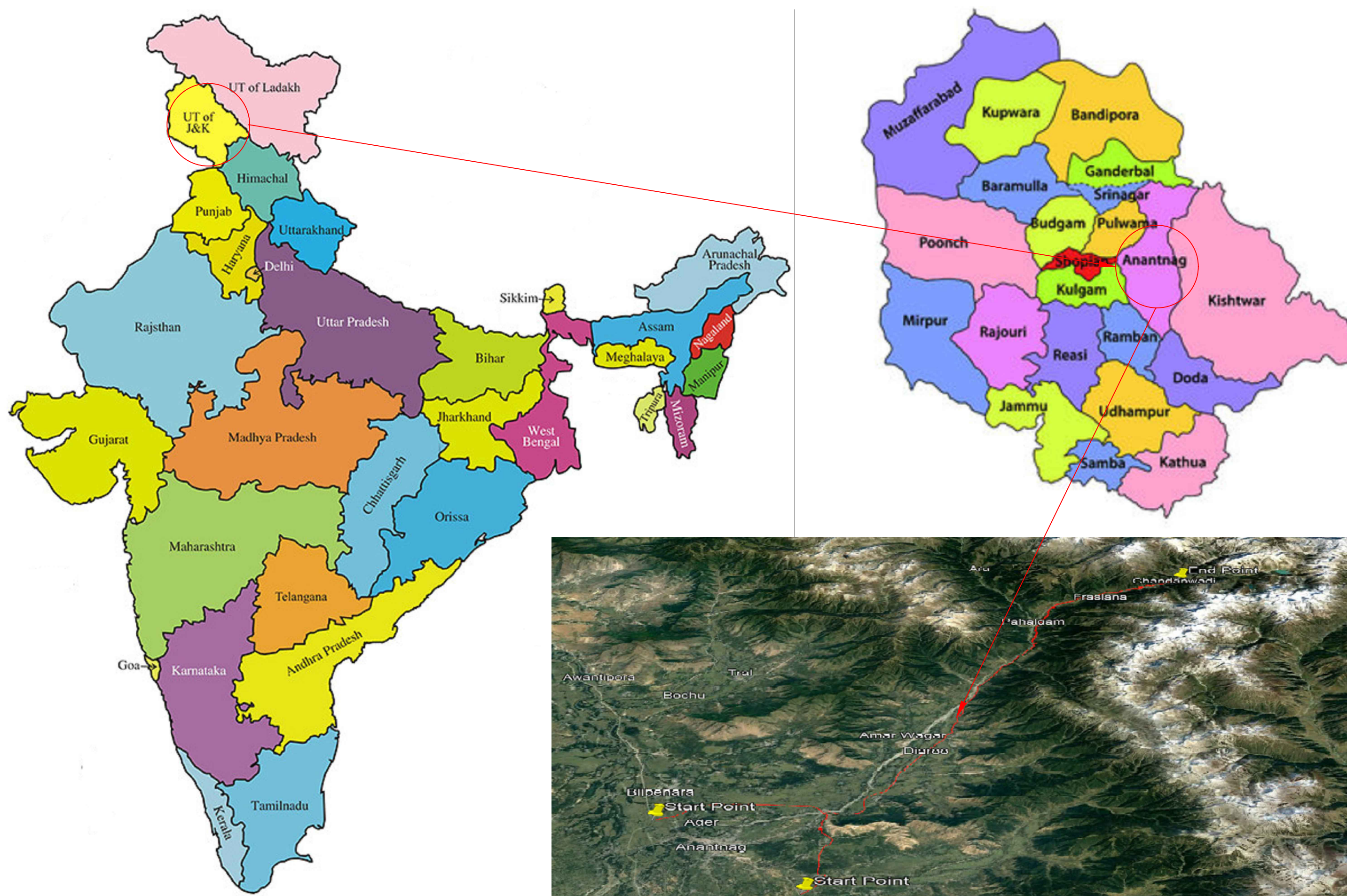
## Ministry of Road Transport & Highways, Govt. of India

### PROJECT:

Consultancy Services for Preparation of Detailed Project Report for 2 Laning of Khanabal – Baltal section on NH-501 (Length - 90km) with paved shoulder in the UT of Jammu & Kashmir.

### DETAILED PROJECT REPORT

### HORIZONTAL ALIGNMENT AND LONGITUDINAL PROFILE (PACKAGE A) VOLUME-IX DRAWINGS VOLUME (CULVERT)



### CONSULTANT:



**REDECON (I) Pvt. Ltd**  
REDECON HOUSE" E-49/4,  
Okhla Phase-II, New Delhi-110020

DATE- JAN. 2024

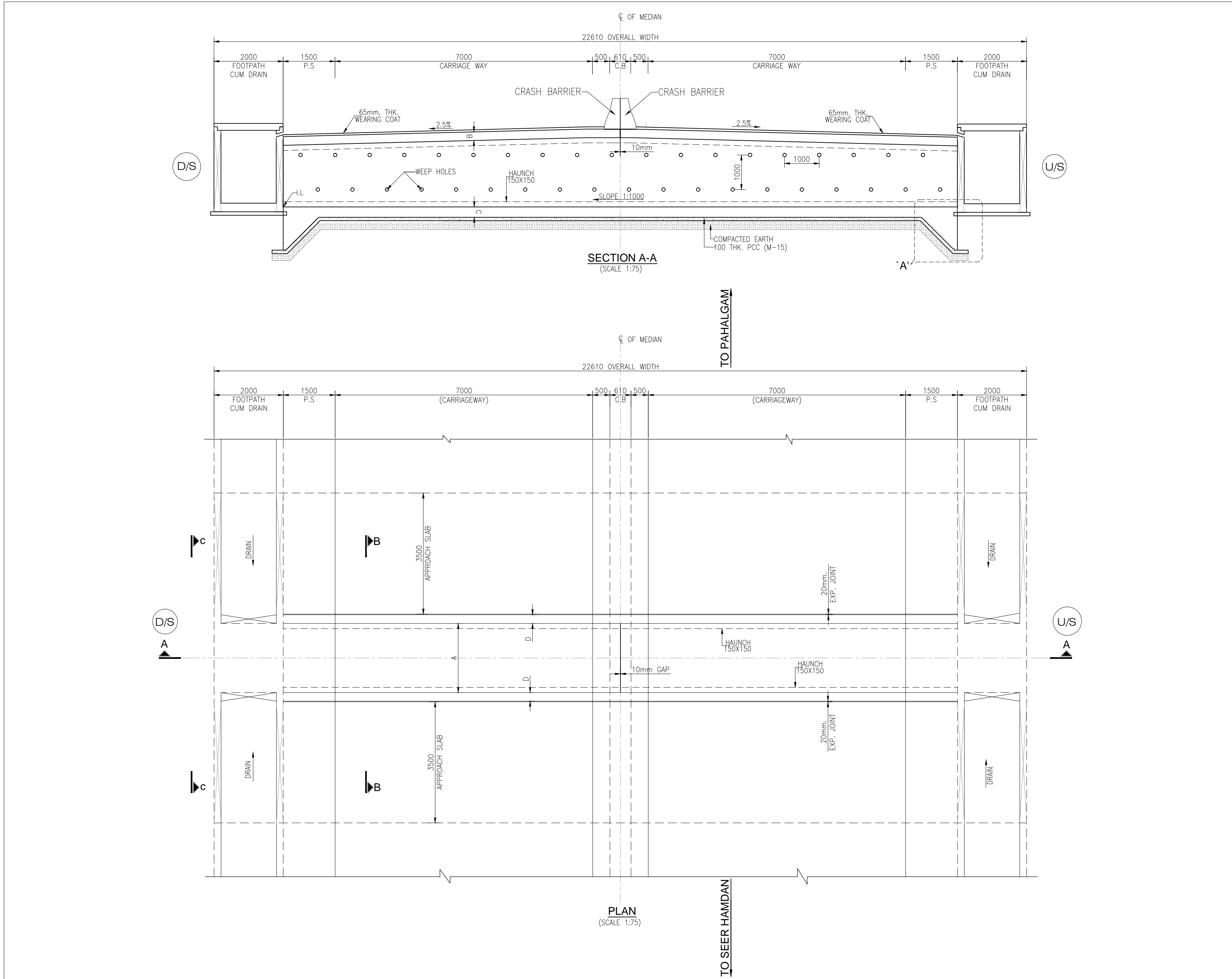


DRAWING INDEX PACKGE 2  
SEER HAMDAN TO PAHALGAM


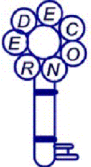
SL.No.	DRAWING TITLE	DRAWING No.	TCS	SHEET	REV.
1	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	1	02	R0
2	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X3.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	1	02	R0
3	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X3.0X3.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	1	02	R0
4	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X4.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	1	02	R0
5	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X5.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	1	02	R0
6	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	3	02	R0
7	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) 1M CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	3	02	R0
8	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) 2M CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	3	02	R0
9	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X3.0X3.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	3	02	R0
10	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X4.0X4.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	3	02	R0
11	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	4	02	R0
12	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) 1M CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	4	02	R0
12	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X3.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	4	02	R0
14	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X3.0X3.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	4	02	R0
15	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	5	02	R0

DRAWING INDEX PACKAGE 2  
SEER HAMDAN TO PAHALGAM  
TCS-1

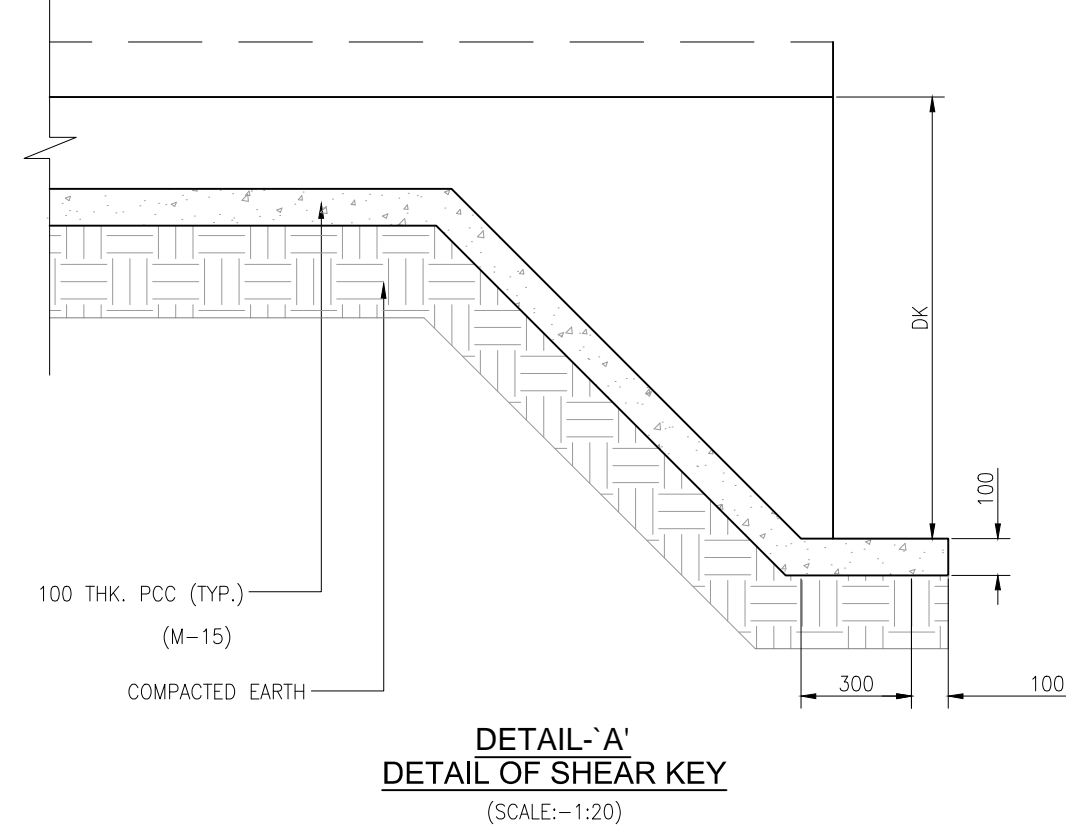
SL.No.	DRAWING TITLE	DRAWING No.	SHEET	REV.
1	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	02	R0
2	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X3.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	02	R0
3	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X3.0X3.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	02	R0
4	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X4.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	02	R0
5	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X5.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	02	R0



NOTES:				
1	ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS. UNLESS OTHERWISE MENTIONED ONLY WRITTEN DIMENSION ARE TO BE FOLLOWED NO DIMENSION IS TO BE SCALED.			
S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	CONDITION OF EXPOSURE	IRC-112:2020	MODERATE	
b	SEISMIC ZONE IMPORTANCE FACTOR	IRC SP114:2020	ZONE – V 1.2	
c	LIVE LOAD– CONSIDERED a. 3L CLASS–A b. CLASS A–2L PLUS 1LANE 70R W c. CLASS 70R TRACKED d. SPECIAL VEHICLE SV LOADING	IRC 6 :2017	CRITICAL OF a,b,c & d	
d	SNOW LOAD OF 500 kg/cum	LIVE LOAD	ACCUMULATION	
	i) COMBINE SNOW LOAD WITH LIVE LOAD	WHEELED VEH.	SNOW 250mm	
	ii) COMBINE SNOW LOAD WITH LIVE LOAD	TRACKED VEH.	SNOW 500mm	
	iii) COMBINE SNOW LOAD WITH LIVE LOAD	NIL	SNOW >500mm	
NOTE:– MAXIMUM RECORDED SNOW ACCUMULATION AS PER SITE = 1200mm				
2	TECHNICAL SPECIFICATION TO BE FOLLOWED			
S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	WEARING COURSE	MORT&H. SECTION 2702	65mm	
b	GRADE OF REBARS.	IS:1786.	Fe–500D	
c	BACK FILL BEHIND ABUT. RETURN/WING/ RETAINING WALL	IRC 78 2014	Ø :30 DEG. ?:18kN/cum Δ:20DEG.	
d	WEEP HOLES,SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUT.& RETURN WALL	IRC 78 2014 MORT&H. SECTION 2706	100mm DIA 1000 c/c V/H	
e	WATER TO BE USED FOR CONCRETING, GROUTING &CURING	IRC-112-2020	–	
3	GRADE & CLEAR COVER			
ELEMENT DESCRIPTION		MATERIAL	GRADE	COVER
TOP SLAB		RCC	M30	50mm
OUTER WALLS	WATER FACE	RCC	M30	50mm
	EARTH FACE	RCC	M30	75mm
BASE SLAB	TOP	RCC	M30	75mm
	BOTTOM	RCC	M30	75mm
CRASH BARRIER		RCC	M40	50mm
APPROACH SLAB		RCC	M30	50mm
PCC CURTAIN WALL		PCC	M20	–
PCC		PCC	M15	–
4	DESIGN DETAILS:			
VALUE OF 'DK'	FOR BASE SLAB THICKNESS	SBC. (kN/Sqm)	TYPE OF FDN. STRATA	
1200mm	UPTO 900mm	–	–	
e+300mm	GREATER THAN 900mm			
* 'DK' = DEPTH OF KEY AT BASE; (e) = BASE SLAB THICKNESS				
5	SBC OF SOIL BELOW THE BOX STRUCTURE SHALL NOT BE LESS THAN ____kN/Sqm.SBC REQUIRED SHALL BE ENSURED BEFORE COMMENCEMENT OF THE EXECUTION.			
6	BEFORE STARTING UP THE EXECUTION VERIFY THE DIMENSION AND LEVELS. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF THE DESIGN CONSULTANT.			

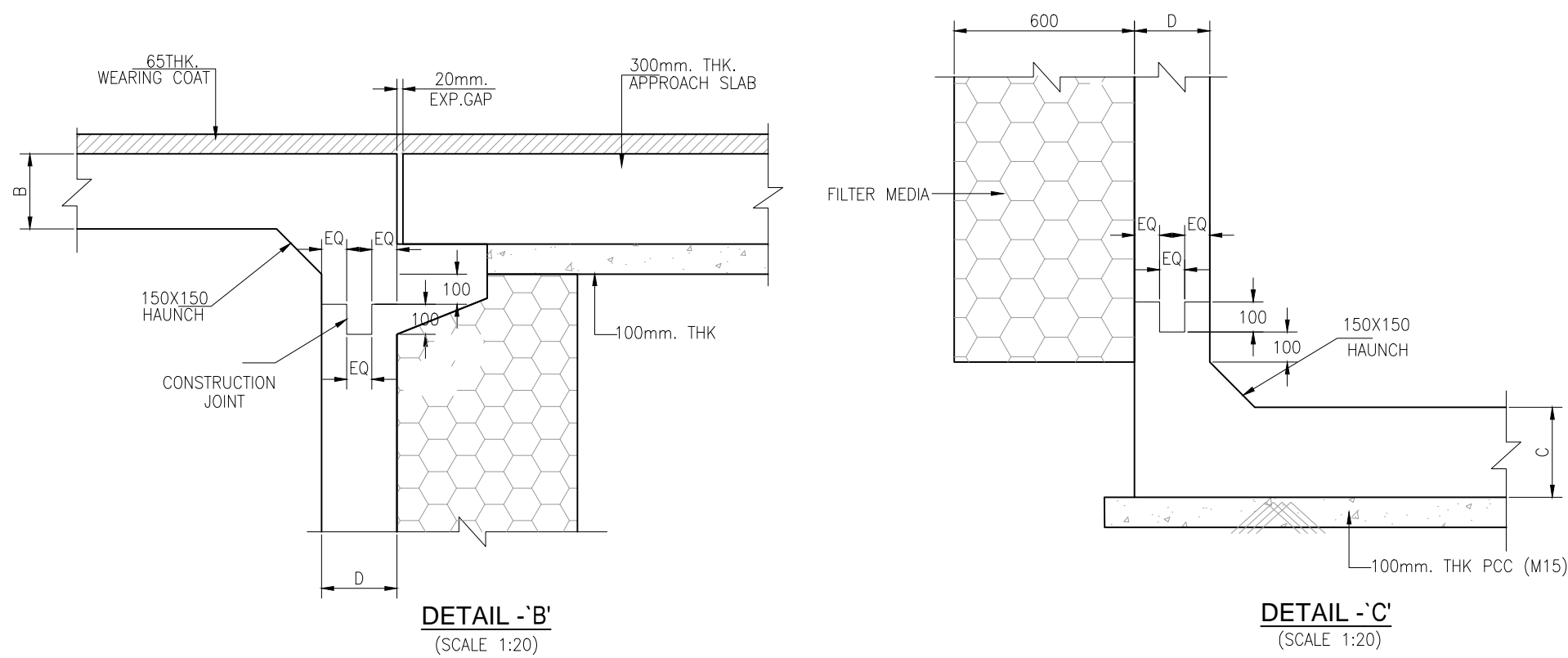
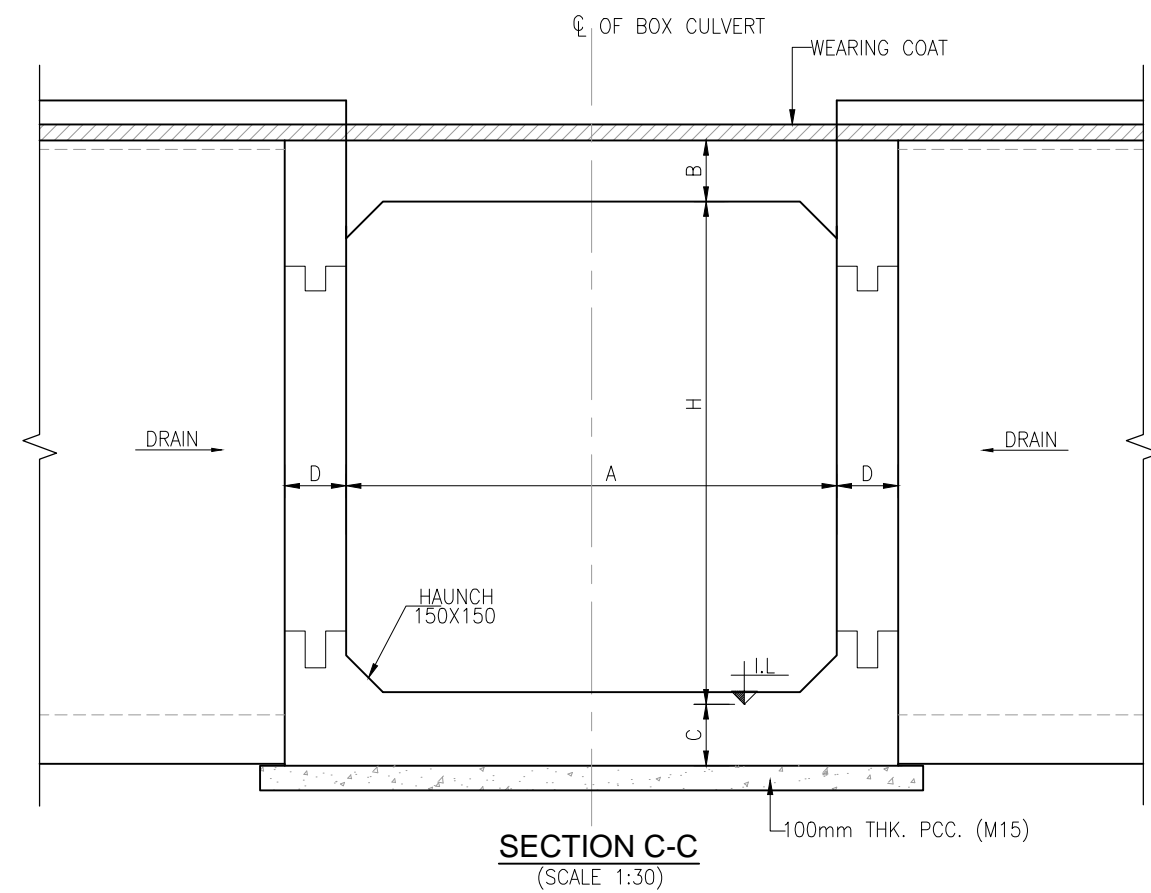
REV.	DATE	DESCRIPTION	ENG.	DM	CLIENT: <div> NATIONAL HIGHWAYS &amp; INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.</div>	CONSULTANT: <div> REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020</div>	PROJECT: Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu & Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501) PACKAGE-2 SEER HUMDAN TO PAHALGAM	DRAWING TITLE: GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x2.0x2.0) WITHOUT CUSHION (TCS-1)				SHEET No: 01 OF 02	
								DRAWING No: NHIDCL/J&K/NH-501/CUL/TYP./S-101				DATE: JAN.2024	
								DRG. BY	DESIGNED	CHECKED	APPROVED	SCALE: AS SHOWN	
								G.N	A.R	V.PS.	IRM.	PAPER SIZE: A2	REV: R0

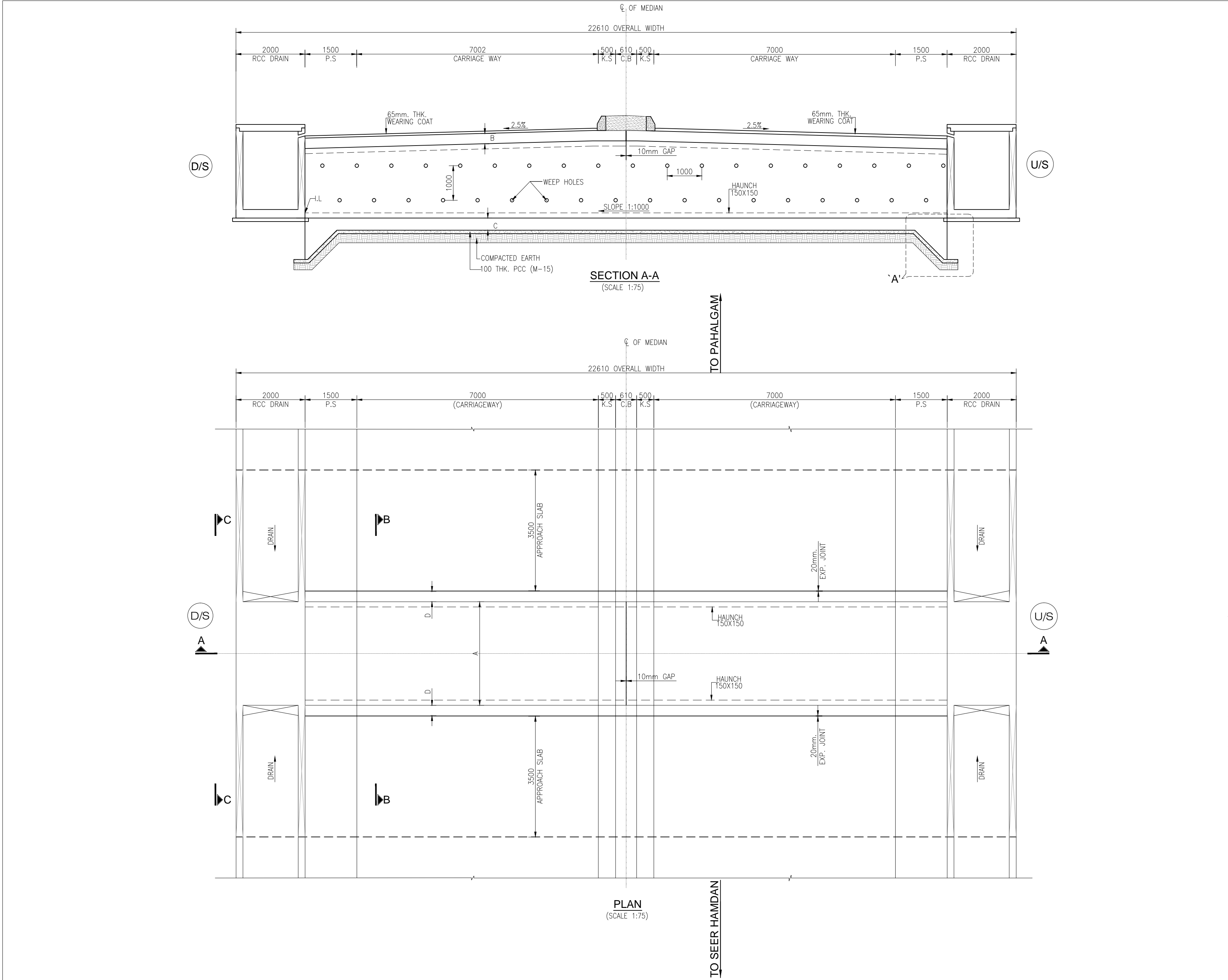





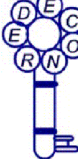
NOTES:	
1	ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS. UNLESS OTHERWISE MENTIONED ONLY WRITTEN DIMENSION ARE TO BE FOLLOWED NO DIMENSION IS TO BE SCALED.

SR.NO	PROPOSED CHAINAGE	SPAN	TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.	HAUNCH		CARRIAGEWAY	TOTAL WIDTH	CLEAR HEIGHT	SKEW
		A	B	C	D	h	v			H	
1	16+832	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
2	16+903	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
3	16+948	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
4	17+075	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
5	17+114	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
6	17+121	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
7	17+311	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
8	17+472	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
9	17+529	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
10	17+589	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
11	17+825	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
12	17+976	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
13	18+307	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
14	18+449	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
15	18+725	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
16	20+125	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
17	21+812	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
18	22+035	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
19	22+050	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
20	22+135	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
21	22+388	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
22	22+625	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
23	22+946	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
24	23+075	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
25	23+242	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
26	23+457	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
27	23+620	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
28	23+731	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
29	23+937	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
30	25+400	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
31	25+587	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
32	26+046	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
33	26+234	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
34	26+991	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
35	32+658	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
36	32+685	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
37	32+956	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
38	33+026	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
39	33+105	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
40	33+449	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
41	34+161	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
42	34+258	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
43	34+348	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
44	34+442	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0
45	34+532	2	0.25	0.25	0.25	0.15	0.15	2X7	22610	2	Skew 0

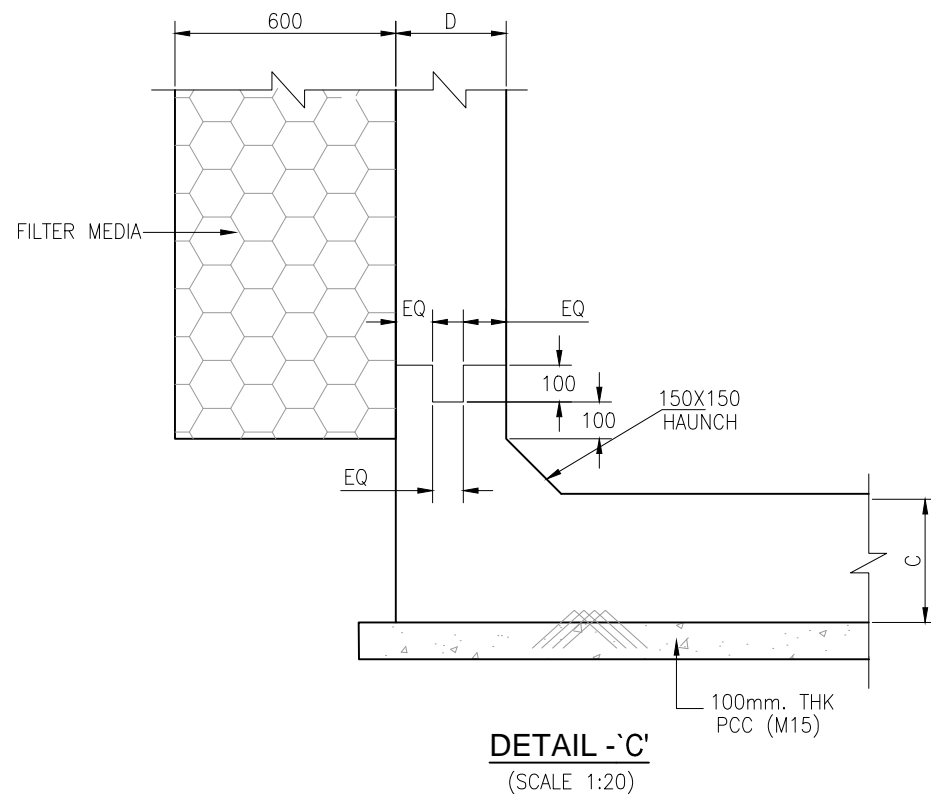
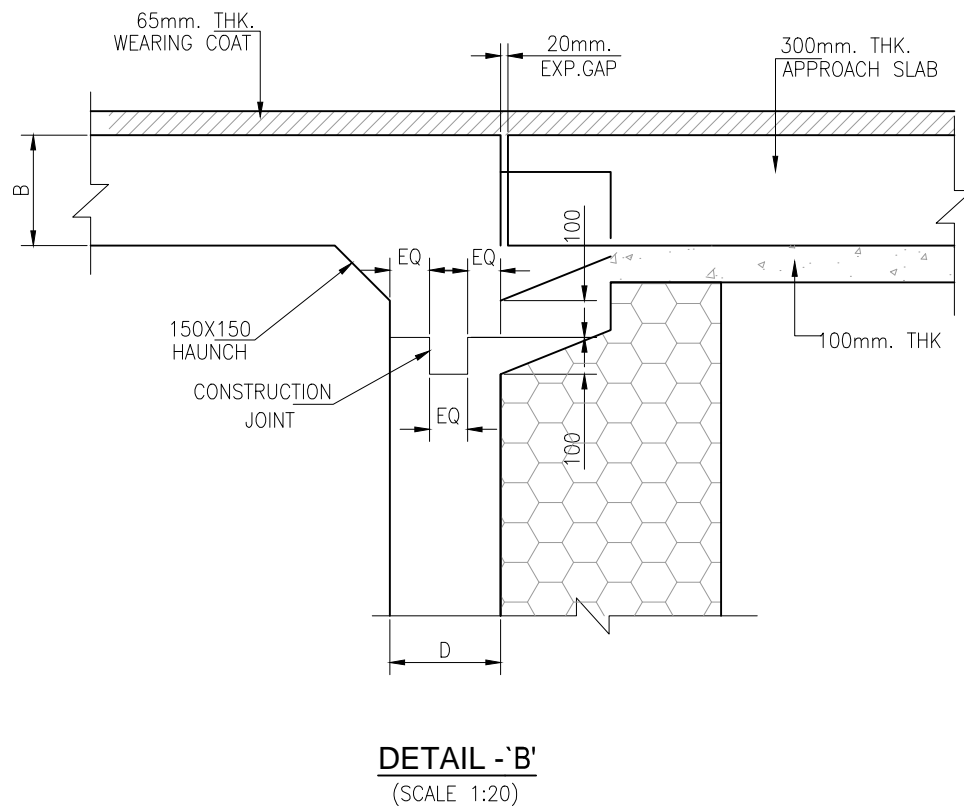
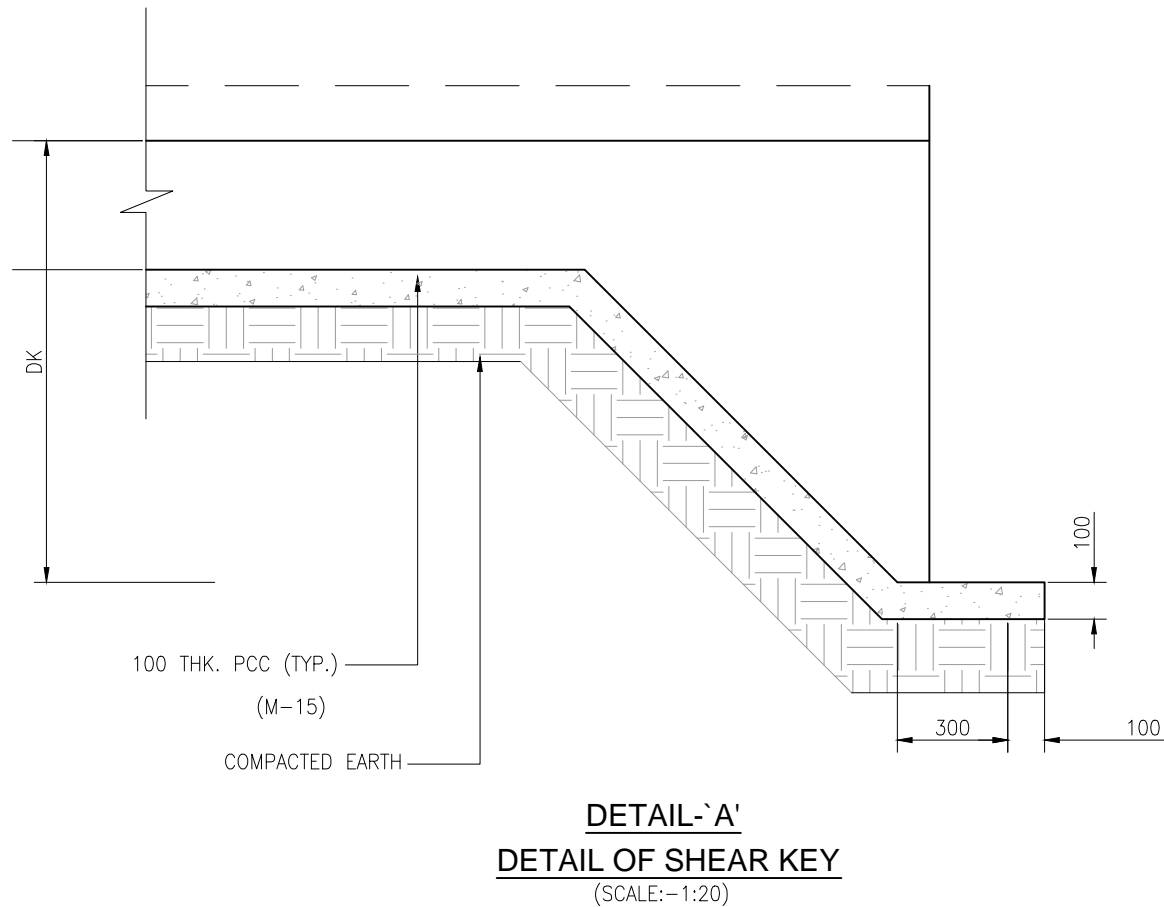
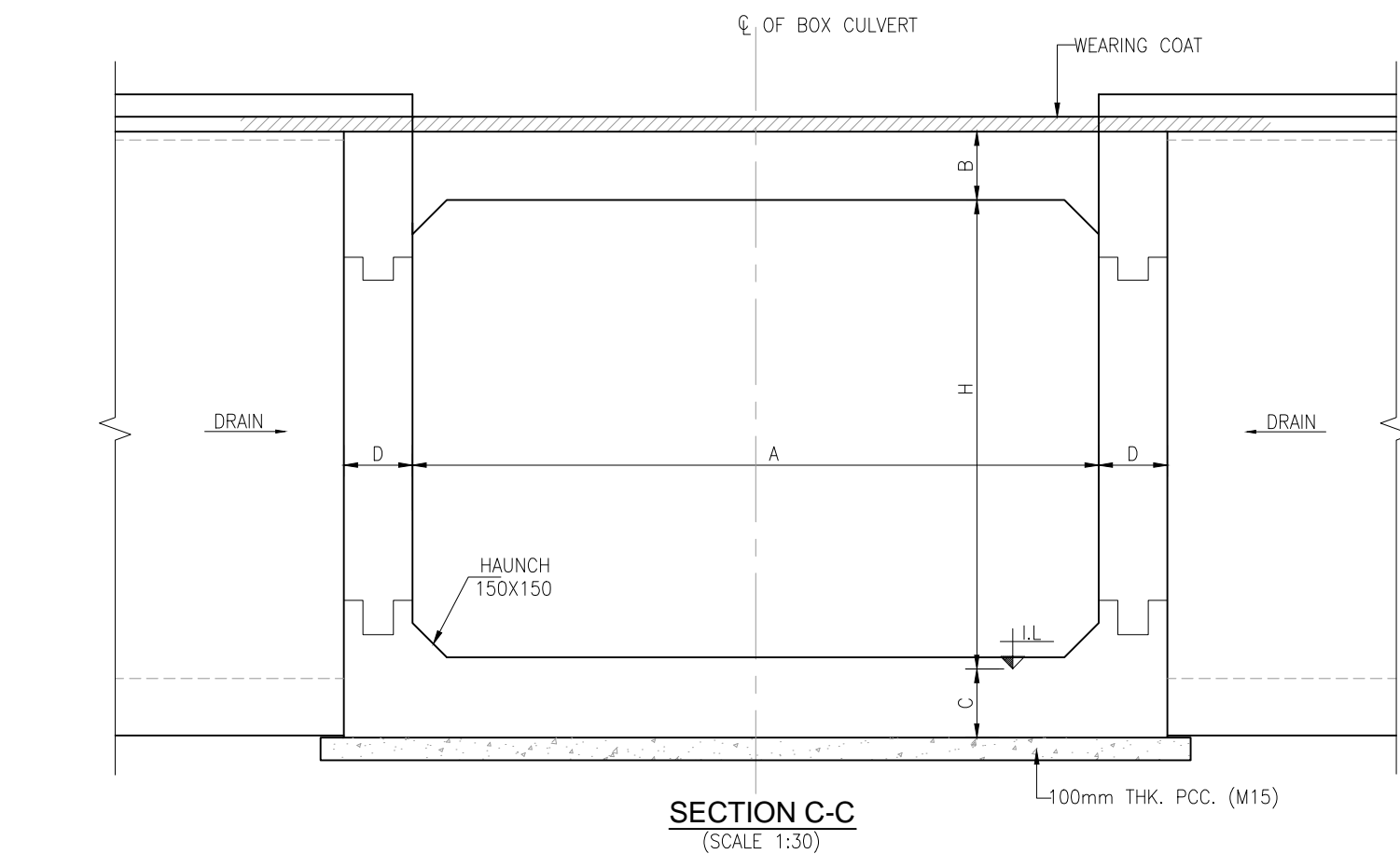
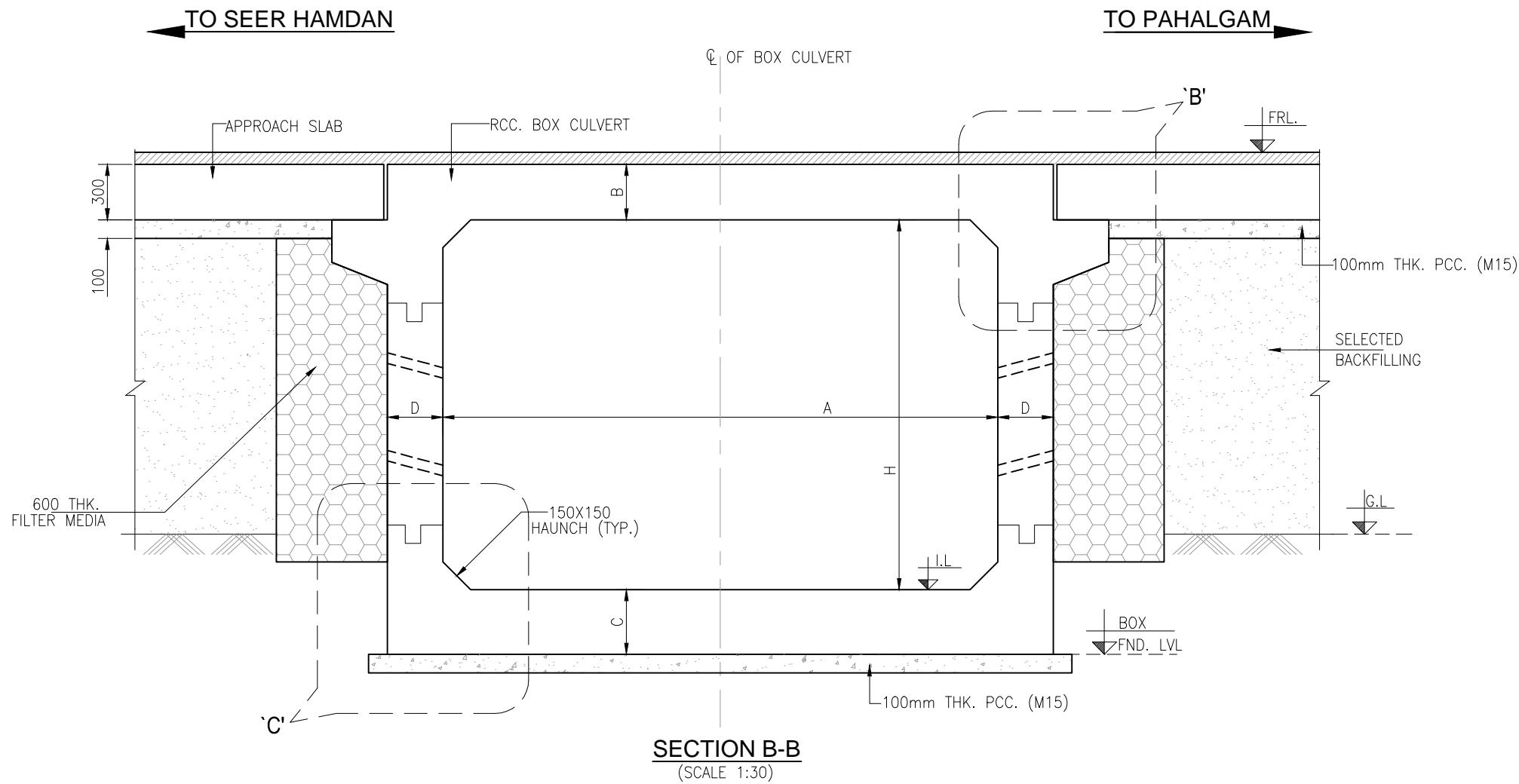
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a	CONDITION OF EXPOSURE	IRC-112:2020	MODERATE	
b	SEISMIC ZONE IMPORTANCE FACTOR	IRC SP114:2020	ZONE – V 1.2	
c	LIVE LOAD– CONSIDERED a. 3L CLASS–A b. CLASS A–2L PLUS 1LANE 70R W c. CLASS 70R TRACKED d. SPECIAL VEHICLE SV LOADING	IRC 6 :2017	CRITICAL OF a,b,c & d	
d	SNOW LOAD OF 500 kg/cum	LIVE LOAD	ACCUMULATION	
	i) COMBINE SNOW LOAD WITH LIVE LOAD	WHEELED VEH.	SNOW 250mm	
	ii) COMBINE SNOW LOAD WITH LIVE LOAD	TRACKED VEH.	SNOW 500mm	
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2	TECHNICAL SPECIFICATION TO BE FOLLOWED			
S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	WEARING COURSE	MORT&H. SECTION 2702	65mm	
b	GRADE OF REBARS.	IS:1786.	Fe–500D	
c	BACK FILL BEHIND ABUT. RETURN/WING/ RETAINING WALL	IRC 78 2014	Ø :30 DEG. ?:18kN/cum Δ:20DEG.	
d	WEEP HOLES,SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUT.& RETURN WALL	IRC 78 2014 MORT&H. SECTION 2706	100mm DIA 1000 c/c V/H	
e	WATER TO BE USED FOR CONCRETING, GROUTING &CURING	IRC-112–2020	–	
3	GRADE & CLEAR COVER			
ELEMENT DESCRIPTION		MATERIAL	GRADE	COVER
TOP SLAB		RCC	M30	50mm
OUTER WALLS	WATER FACE	RCC	M30	50mm
	EARTH FACE	RCC	M30	75mm
BASE SLAB	TOP	RCC	M30	75mm
	BOTTOM	RCC	M30	75mm
CRASH BARRIER		RCC	M40	50mm
APPROACH SLAB		RCC	M30	50mm
PCC CURTAIN WALL		PCC	M20	–
PCC		PCC	M15	–
4	DESIGN DETAILS:			
VALUE OF 'DK'	FOR BASE SLAB THICKNESS	SBC. (kN/Sqm)	TYPE OF FDN. STRATA	
1200mm	UPTO 900mm	–	–	
e+300mm	GREATER THAN 900mm			
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					<div>CLIENT:</div> <div></div> <div>NATIONAL HIGHWAYS &amp; INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.</div>	<div>CONSULTANT:</div> <div></div> <div>REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020</div>	<div>PROJECT:</div> <div>Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu &amp; Kashmir and Ladakh."</div> <div>FROM KHANABAL TO BALTAL(NH-501)</div> <div>PACKAGE-2 SEER HUMDAN TO PAHALGAM</div>	<div>DRAWING TITLE:</div> <div>GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x3.0x2.0) WITHOUT CUSHION (TCS-1)</div>				<div>SHEET No:</div> <div>01 OF 02</div>	
							<div>DRAWING No:</div> <div>NHIDCL/J&amp;K/NH-501/CUL/TYP./S-101</div>				<div>DATE:</div> <div>JAN.2024</div>		
							<div>DRG. BY</div>	<div>DESIGNED</div>	<div>CHECKED</div>	<div>APPROVED</div>	<div>SCALE:</div> <div>AS SHOWN</div>		
REV.	DATE	DESCRIPTION	ENG.	DM			<div>G.N</div>	<div>A.R</div>	<div>VPS.</div>	<div>IRM.</div>	<div>PAPER SIZE: A2</div>	<div>REV: R0</div>	





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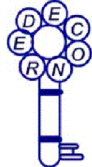
SR.NO	PROPOSED CHAINAGE	SPAN	TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.	HAUNCH		CARRIAGEWAY	TOTAL WIDTH	CLEAR HEIGHT	SKEW
		A	B	C	D	h	v			H	
1	17+365	3	2.5	0.25	0.3	0.15	0.15	2X7	22610	2	Skew 0
2	17+896	3	2.5	0.25	0.3	0.15	0.15	2X7	22610	2	Skew 0
3	21+598	3	2.5	0.25	0.3	0.15	0.15	2X7	22610	2	Skew 0
4	33+459	3	2.5	0.25	0.3	0.15	0.15	2X7	22610	2	Skew 0
5	33+525	3	2.5	0.25	0.3	0.15	0.15	2X7	22610	2	Skew 0
6	33+634	3	2.5	0.25	0.3	0.15	0.15	2X7	22610	2	Skew 0
7	33+859	3	2.5	0.25	0.3	0.15	0.15	2X7	22610	2	Skew 0
8	33+907	3	2.5	0.25	0.3	0.15	0.15	2X7	22610	2	Skew 0
9	34+504	3	2.5	0.25	0.3	0.15	0.15	2X7	22610	2	Skew 0

CLIENT:



NATIONAL HIGHWAYS & INFRASTRUCTURE  
DEVELOPMENT CORPORATION LTD.

CONSULTANT:



REDECON (I) Pvt. Ltd.  
REDECON HOUSE E-49/4, Okhla  
Phase-II,  
New Delhi-110020

PROJECT:

Consultancy Services for Preparation of Detailed Project  
Report for 2 laning with paved shoulder in the UT of  
Jammu & Kashmir and Ladakh."  
FROM KHANABAL TO BALTAL(NH-501)

PAKAGE-2 SEER HUMDAN TO PAHALGAM

DRAWING TITLE:

GENERAL ARRANGEMENT DRAWING  
TYPICAL BOX CULVERT  
(1x3.0x2.0) WITHOUT CUSHION (TCS-1)

DRAWING No:

NHIDCL/J&K/NH-501/CUL/TYP./S-101

DRG. BY

DESIGNED

CHECKED

APPROVED

G.N

A.R

V.P.S.

IRM.

SHEET No:

02 OF 02

DATE:

JAN. 2024

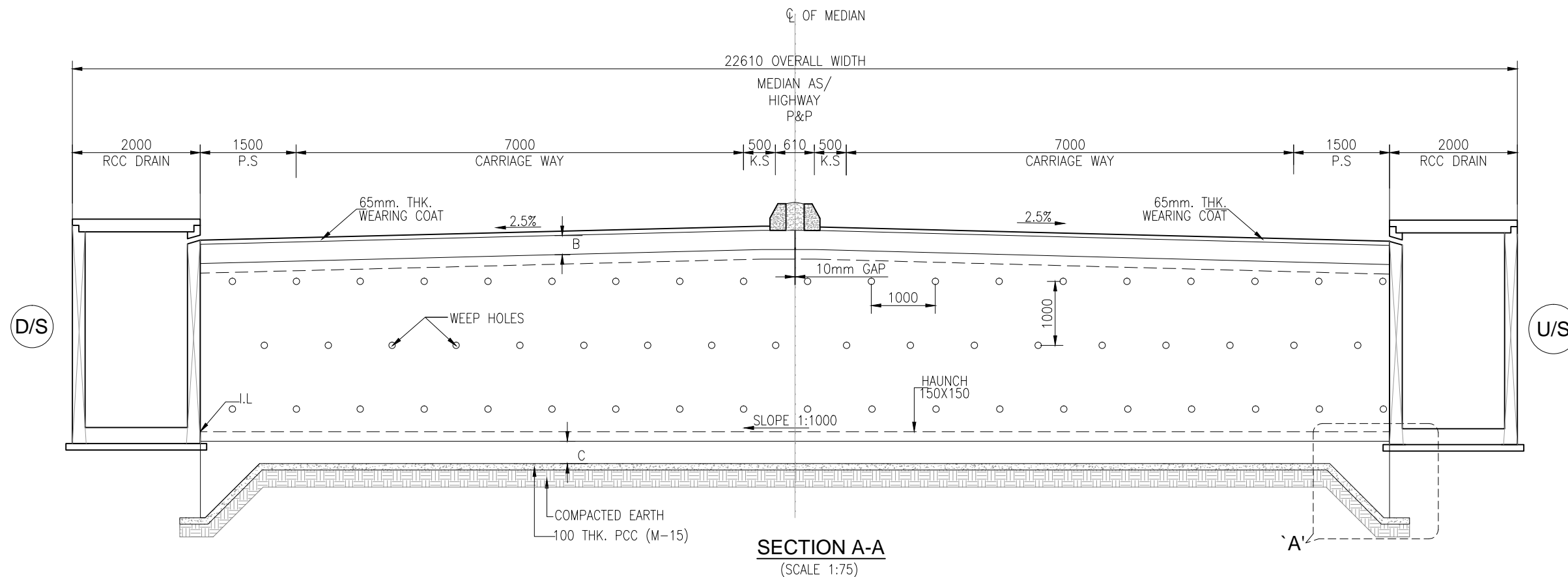
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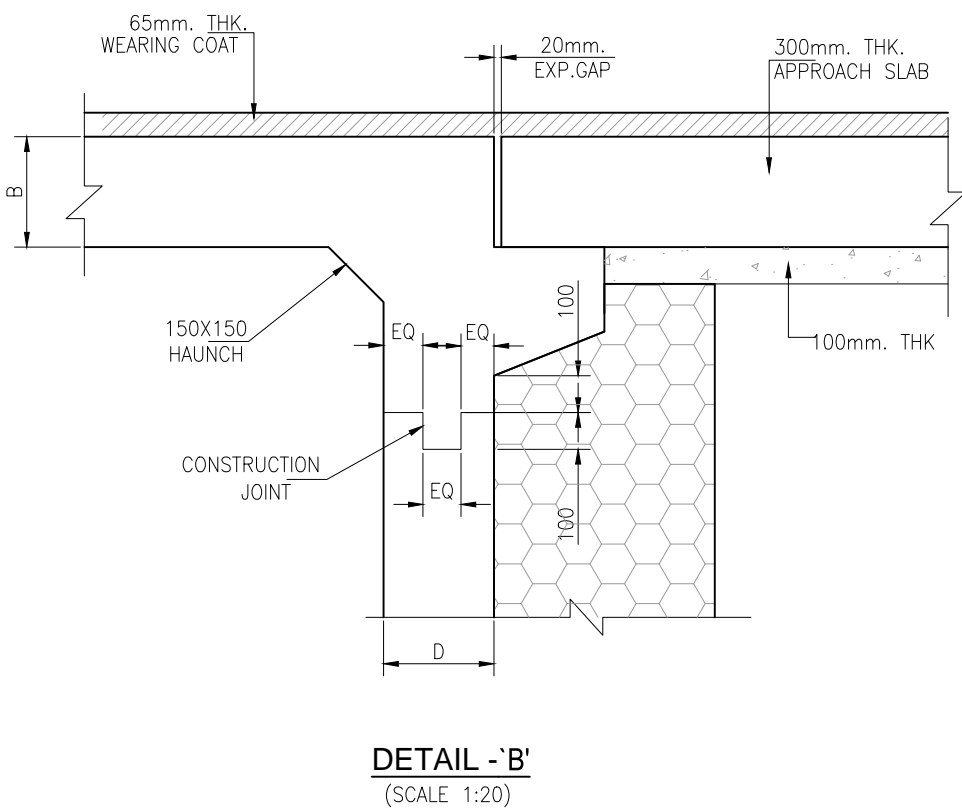
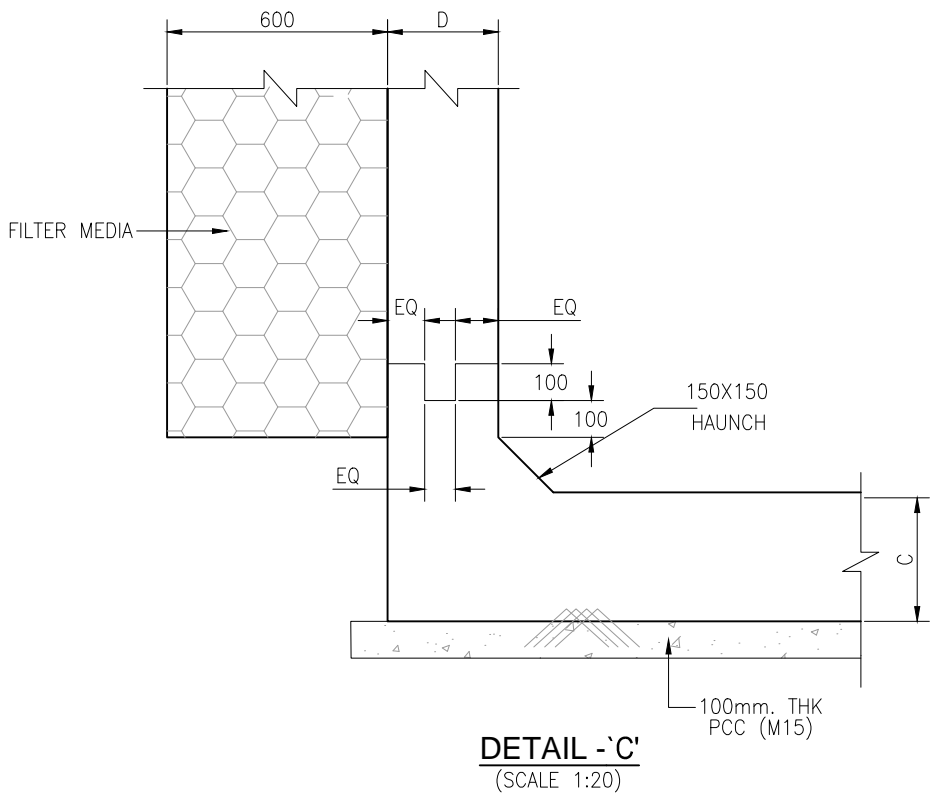
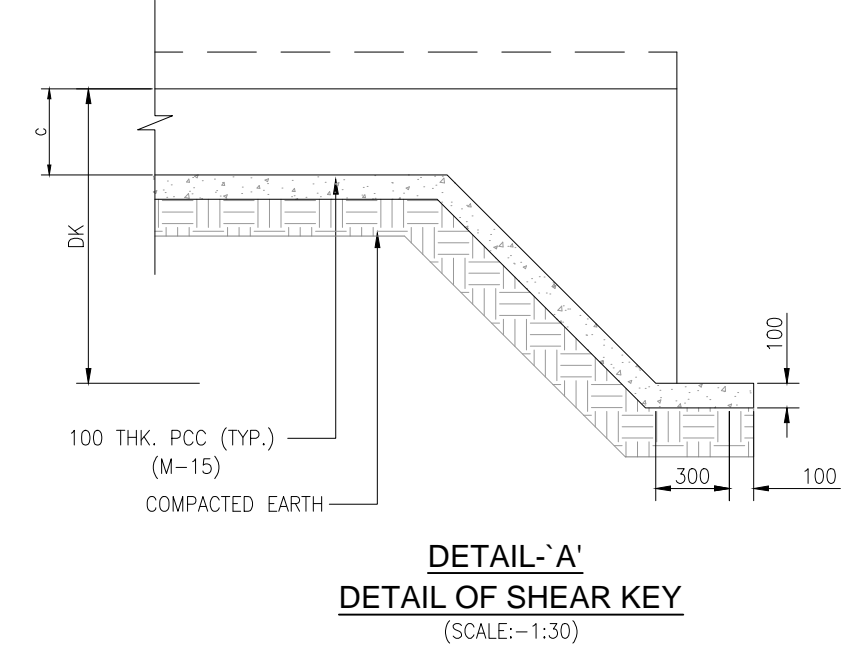
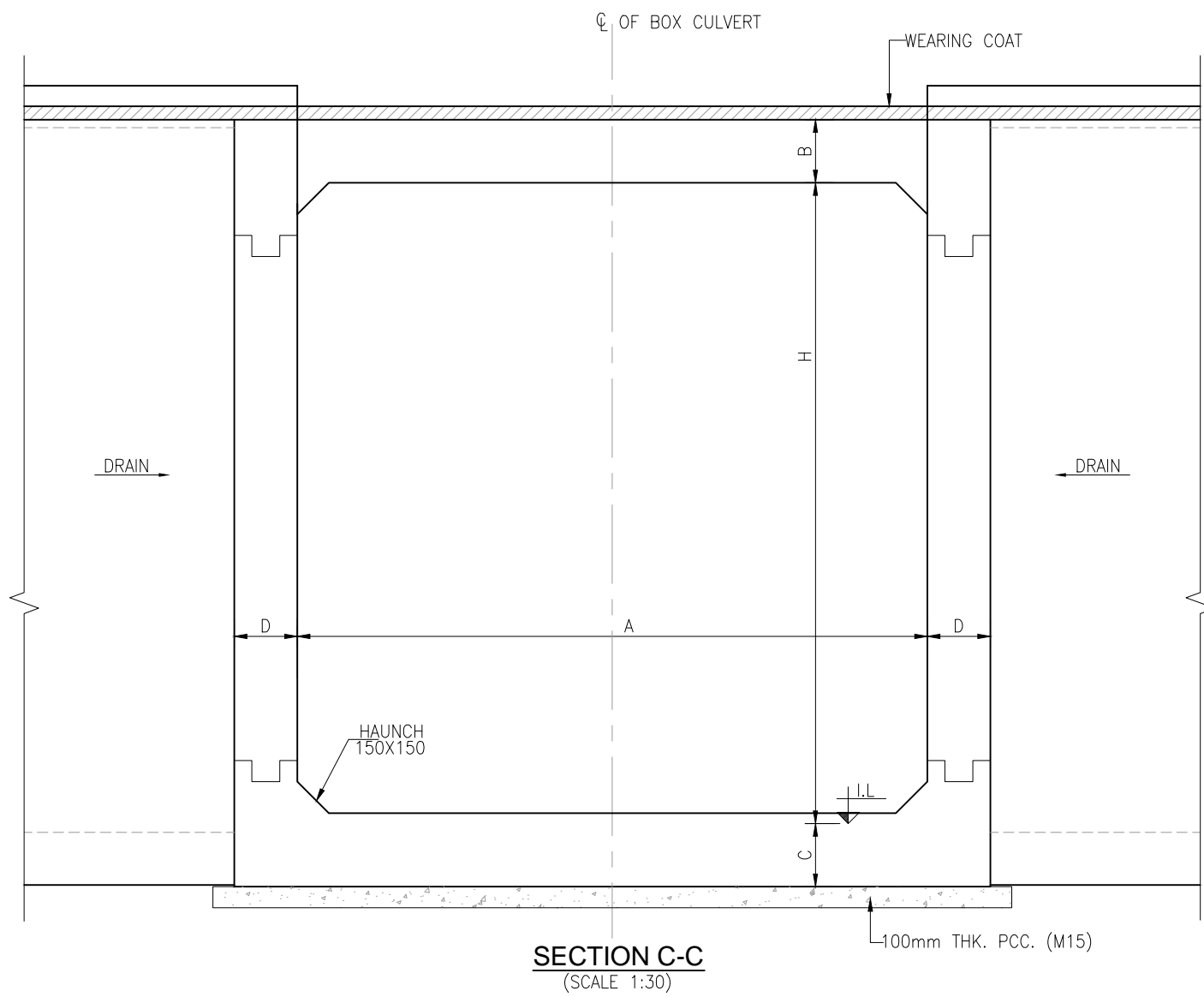
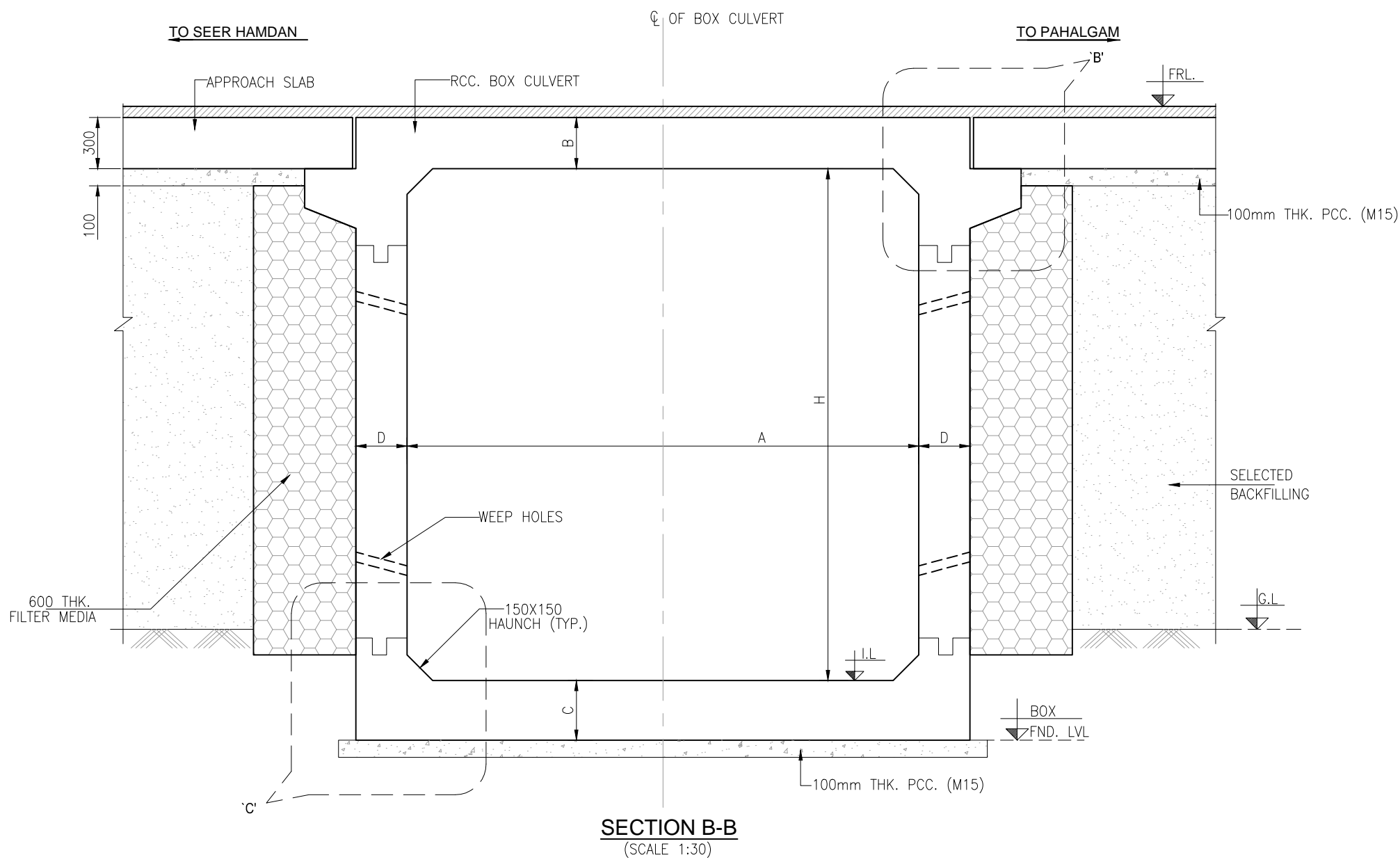
PAPER SIZE:  
A2

REV:  
R0

REV.	DATE	DESCRIPTION	ENG.	DM




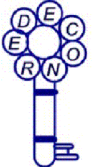


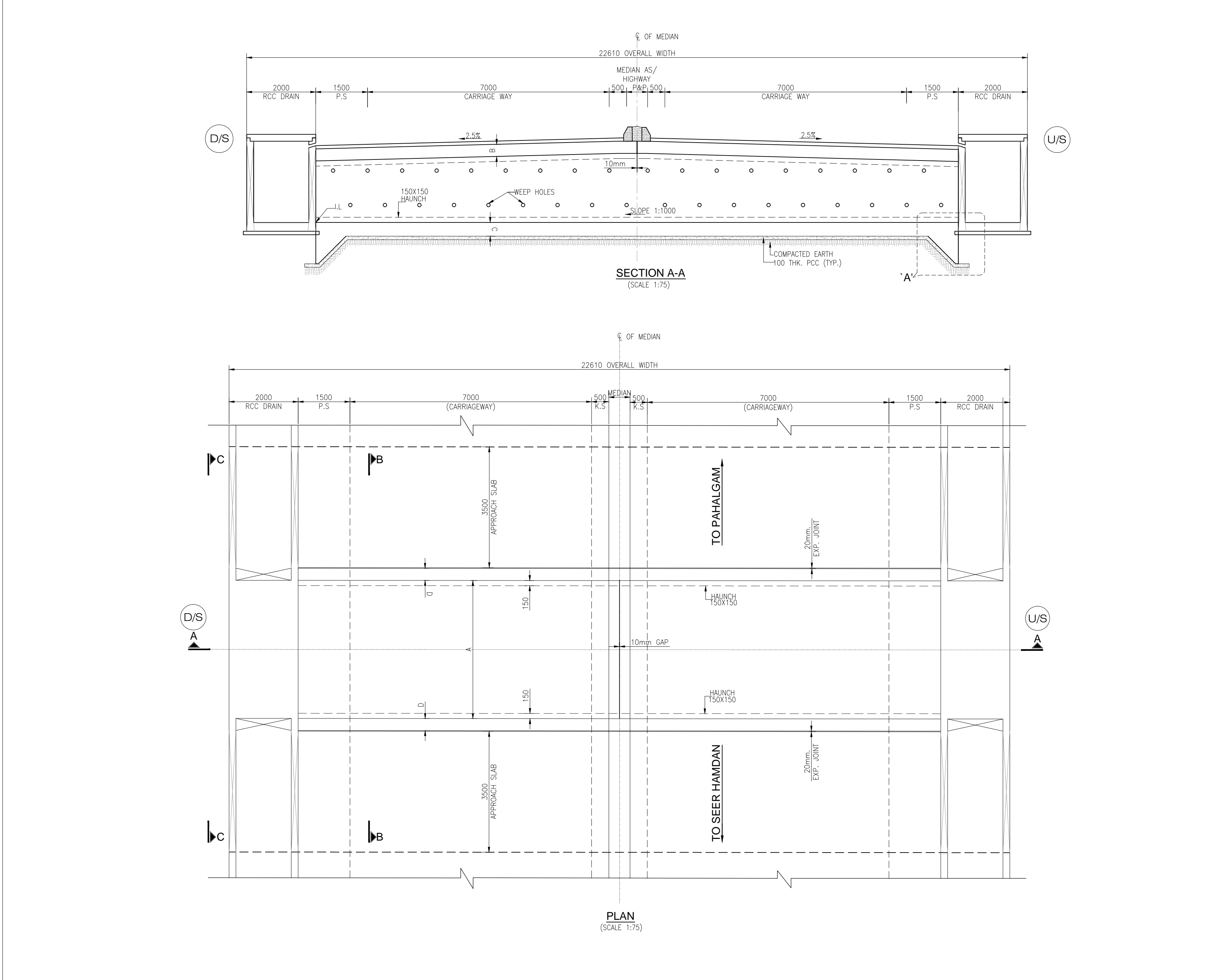


NOTES:



1 ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS. UNLESS OTHERWISE MENTIONED ONLY WRITTEN DIMENSION ARE TO BE FOLLOWED NO DIMENSION IS TO BE SCALED.

SR.NO	PROPOSED CHAINAGE	SPAN	TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.	HAUNCH		CARRIAGEWAY	TOTAL WIDTH	CLEAR HEIGHT	SKEW
		A	B	C	D	h	v			H	
1	18+770	3	0.3	0.350	0.3	0.15	0.15	2X7	22610	3	Skew 0

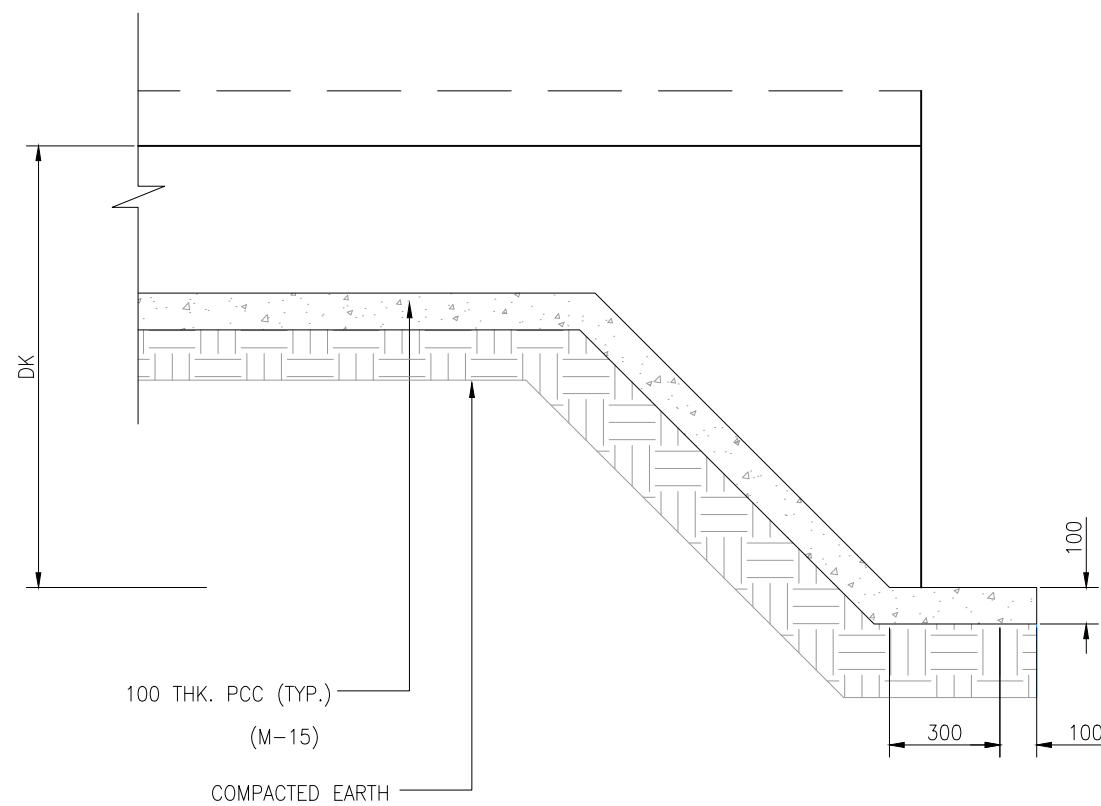
					CLIENT:  NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.	CONSULTANT:  REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020	PROJECT: Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu & Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501) PACKAGE-2 SEER HUMDAN TO PAHALGAM	DRAWING TITLE: GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x3.0x3.0) WITHOUT CUSHION (TCS-1)				SHEET No: 02 OF 02	
								DRAWING No: NHIDCL/J&K/NH-501/CUL/TYP./S-124				DATE: JAN.2024	
								DRG. BY	DESIGNED	CHECKED	APPROVED	SCALE: AS SHOWN	
REV.	DATE	DESCRIPTION	ENG.	DM				G.N	A.R	V.PS.	IRM.	PAPER SIZE: A2	REV: R0



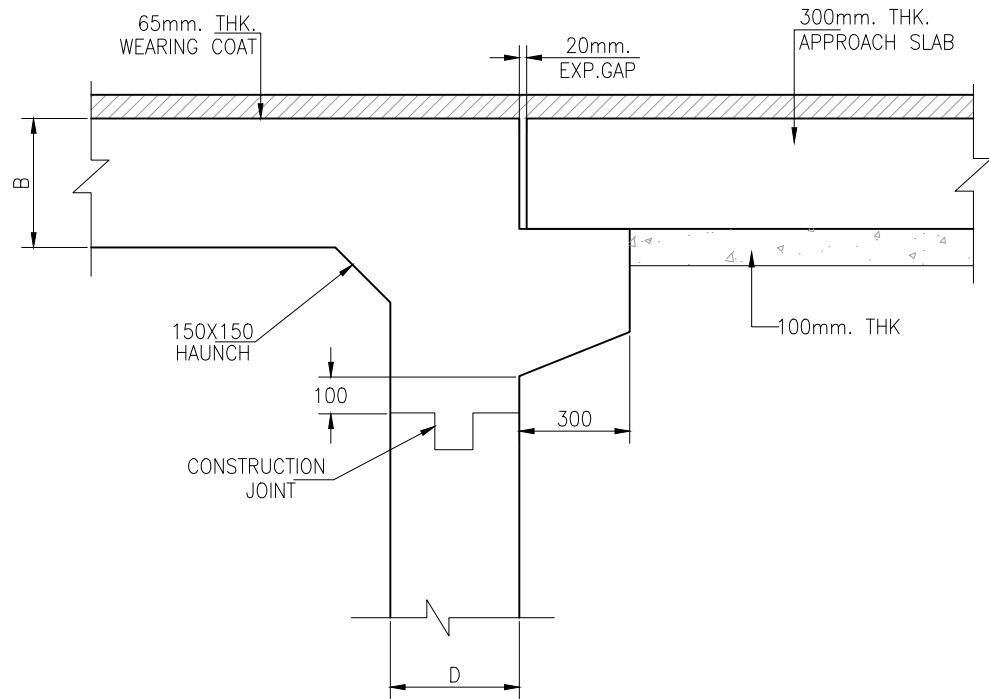
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S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	CONDITION OF EXPOSURE	IRC-112:2020	MODERATE	
b	SEISMIC ZONE IMPORTANCE FACTOR	IRC SP114:2020	ZONE – V 1.2	
c	LIVE LOAD– CONSIDERED a. 3L CLASS–A b. CLASS A–2L PLUS 1LANE 70R W c. CLASS 70R TRACKED d. SPECIAL VEHICLE SV LOADING	IRC 6 :2017	CRITICAL OF a,b,c & d	
d	SNOW LOAD OF 500 kg/cum	LIVE LOAD	ACCUMULATION	
	i) COMBINE SNOW LOAD WITH LIVE LOAD	WHEELED VEH.	SNOW 250mm	
	ii) COMBINE SNOW LOAD WITH LIVE LOAD	TRACKED VEH.	SNOW 500mm	
	iii) COMBINE SNOW LOAD WITH LIVE LOAD	NIL	SNOW >500mm	
NOTE:– MAXIMUM RECORDED SNOW ACCUMULATION AS PER SITE = 1200mm				
2	TECHNICAL SPECIFICATION TO BE FOLLOWED			
S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	WEARING COURSE	MORT&H. SECTION 2702	65mm	
b	GRADE OF REBARS.	IS:1786.	Fe–500D	
c	BACK FILL BEHIND ABUT. RETURN/WING/ RETAINING WALL	IRC 78 2014	Ø :30 DEG. ?:18kN/cum Δ:20DEG.	
d	WEEP HOLES,SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUT.& RETURN WALL	IRC 78 2014 MORT&H. SECTION 2706	100mm DIA 1000 c/c V/H	
e	WATER TO BE USED FOR CONCRETING, GROUTING &CURING	IRC–112–2020	–	
3	GRADE & CLEAR COVER			
ELEMENT DESCRIPTION		MATERIAL	GRADE	COVER
TOP SLAB		RCC	M30	50mm
OUTER WALLS	WATER FACE	RCC	M30	50mm
	EARTH FACE	RCC	M30	75mm
BASE SLAB	TOP	RCC	M30	75mm
	BOTTOM	RCC	M30	75mm
CRASH BARRIER		RCC	M40	50mm
APPROACH SLAB		RCC	M30	50mm
PCC CURTAIN WALL		PCC	M20	–
PCC		PCC	M15	–
4	DESIGN DETAILS:			
VALUE OF 'DK'	FOR BASE SLAB THICKNESS	SBC. (kN/Sqm)	TYPE OF FDN. STRATA	
1200mm	UPTO 900mm	–	–	
e+300mm	GREATER THAN 900mm			
* 'DK' = DEPTH OF KEY AT BASE; (e) = BASE SLAB THICKNESS				
5	SBC OF SOIL BELOW THE BOX STRUCTURE SHALL NOT BE LESS THAN ____kN/Sqm.SBC REQUIRED SHALL BE ENSURED BEFORE COMMENCEMENT OF THE EXECUTION.			
6	BEFORE STARTING UP THE EXECUTION VERIFY THE DIMENSION AND LEVELS. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF THE DESIGN CONSULTANT.			

					<div>CLIENT:</div> <div></div> <div>NATIONAL HIGHWAYS &amp; INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.</div>	<div>CONSULTANT:</div> <div></div> <div>REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020</div>	<div>PROJECT:</div> <div>Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu &amp; Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501)</div> <div>PACKAGE-2 SEER HUMDAN TO PAHALGAM</div>	<div>DRAWING TITLE:</div> <div>GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x4.0x2.0) WITHOUT CUSHION (TCS-1)</div>				<div>SHEET No:</div> <div>01 OF 02</div>	
<div>DRAWING No:</div> <div>NHIDCL/J&amp;K/NH-501/CUL/TYP./S-127</div>				<div>DATE:</div> <div>JAN.2024</div>									
				<div>SCALE:</div> <div>AS SHOWN</div>									
REV.	DATE	DESCRIPTION	ENG.	DM				<div>DRG. BY</div> <div>G.N</div>				<div>DESIGNED</div> <div>A.R</div>	<div>CHECKED</div> <div>VPS.</div>

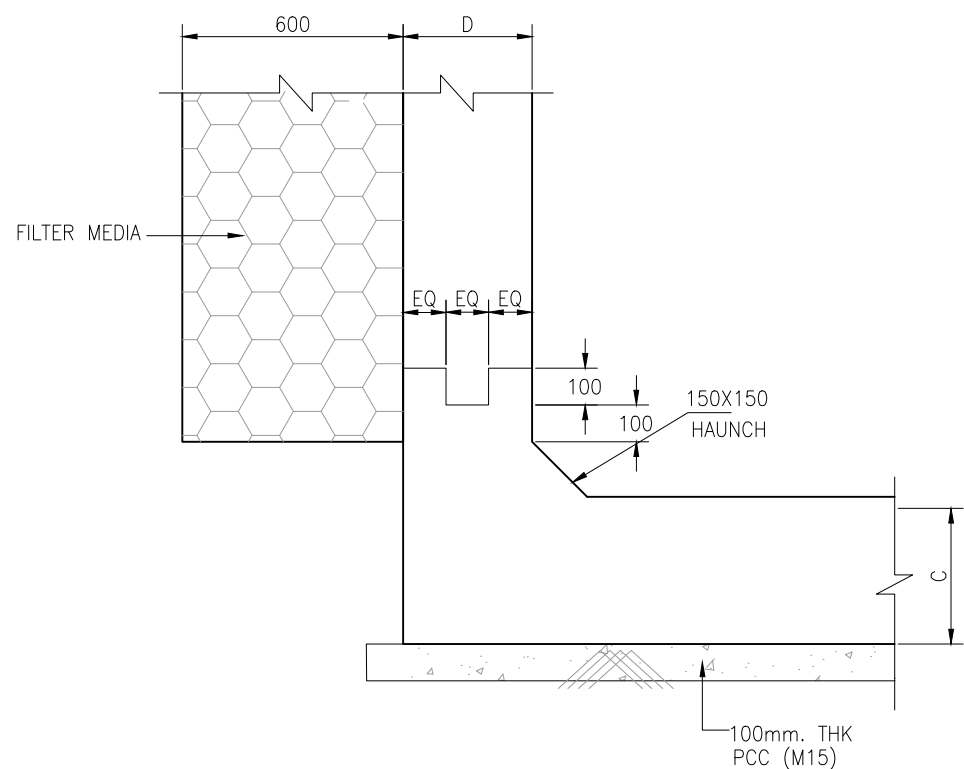




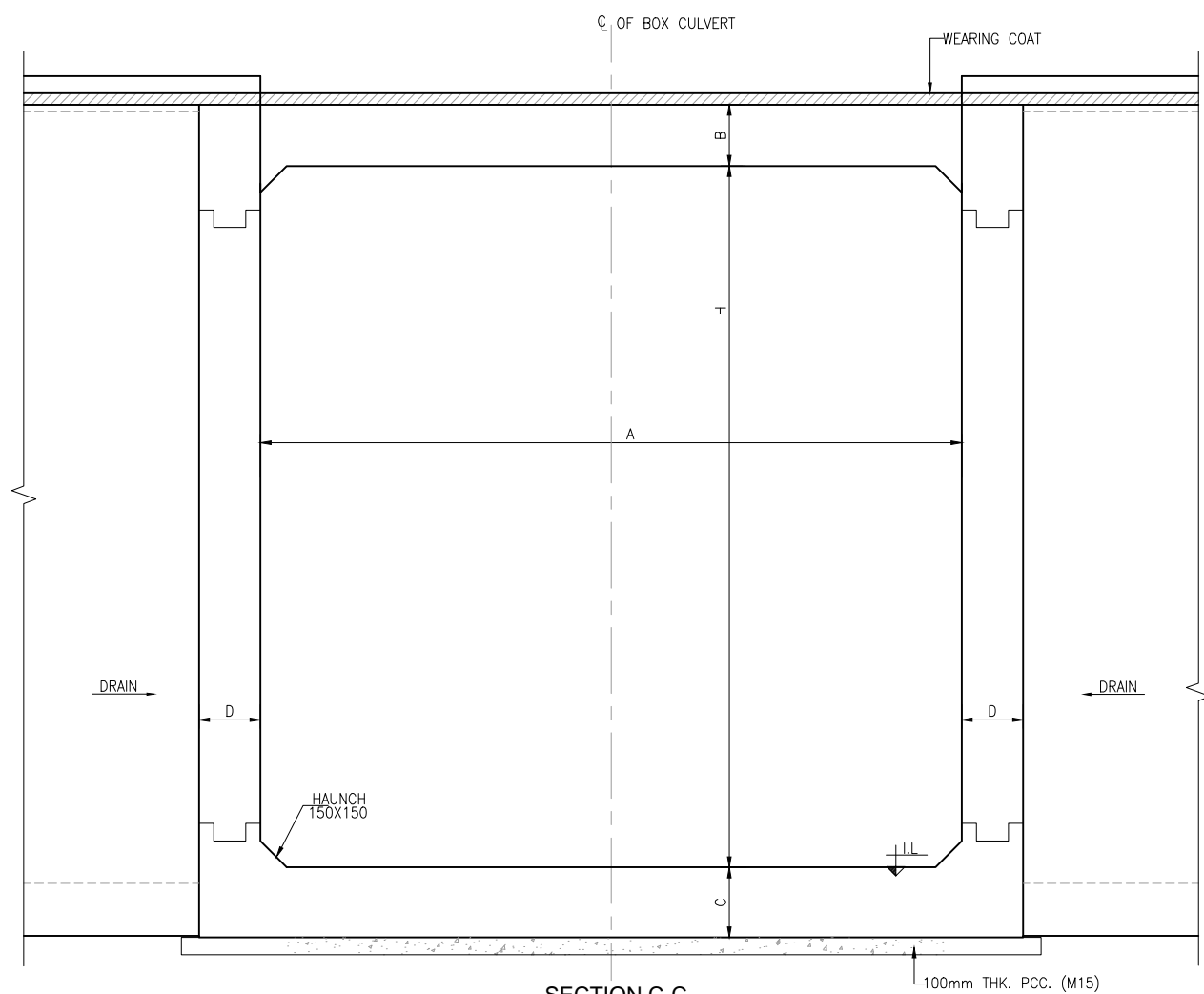
DETAIL-'A'  
DETAIL OF SHEAR KEY  
(SCALE:-1:20)



**DETAIL - 'B'**  
(SCALE 1:20)





**DETAIL - 'C**  
(SCALE 1:20)



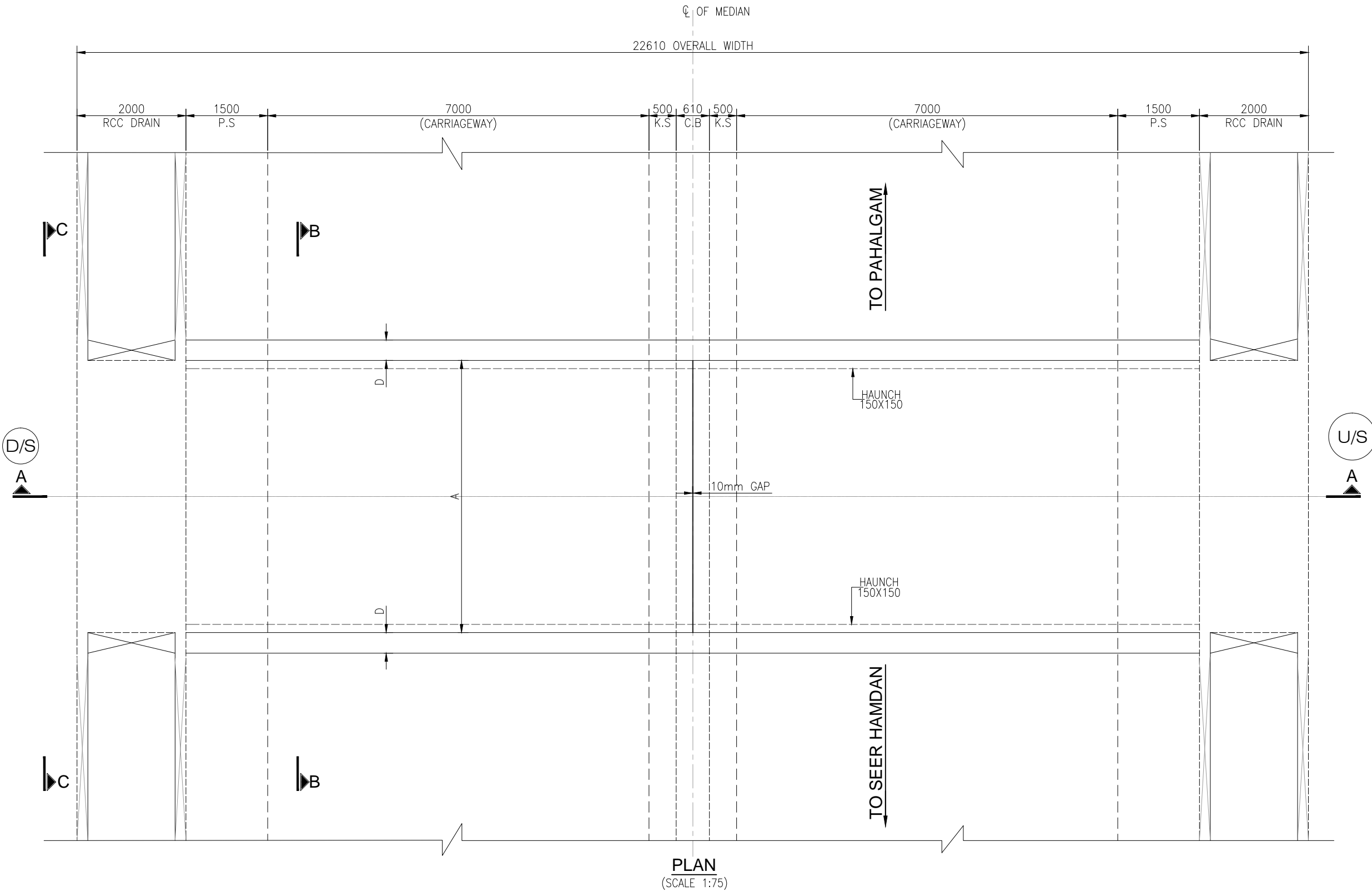
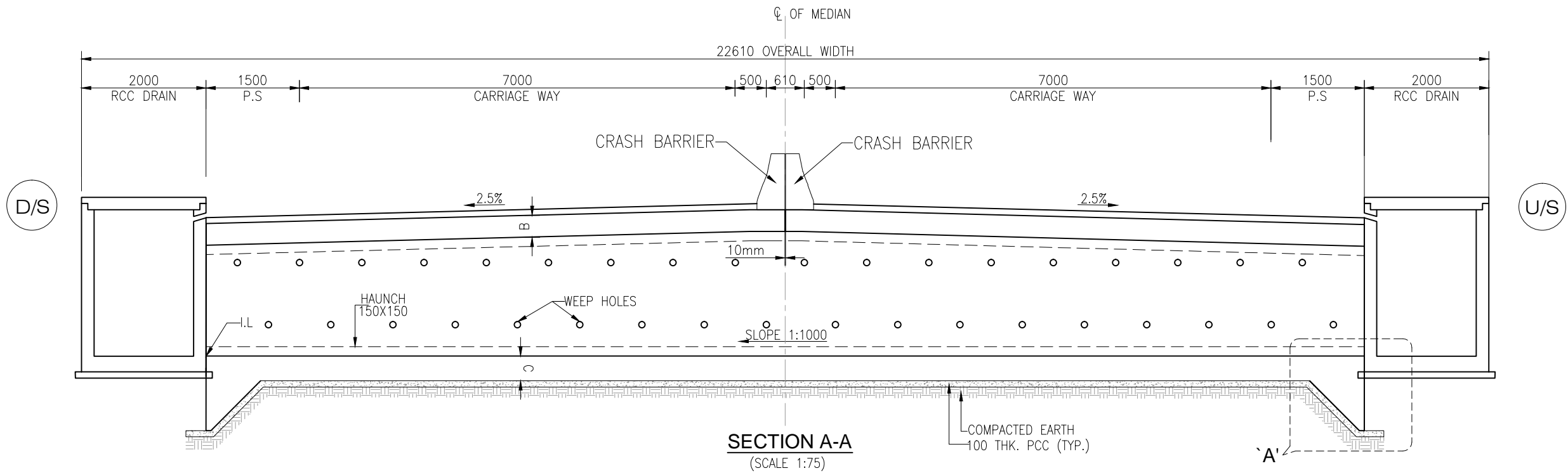
**SECTION C-C**  
(SCALE 1:30)

SR.NO	PROPOSED CHAINAGE	SPAN	TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.	HAUNCH		CARRIAGEWAY	TOTAL WIDTH	CLEAR HEIGHT	SKEW
		A	B	C	D	h	v			H	
1	18+518	4	0.350	0.350	0.350	0.15	0.15	2X7	22610	2	Skew 0
2	18+605	4	0.350	0.350	0.350	0.15	0.15	2X7	22610	2	Skew 0
3	32+830	4	0.350	0.350	0.350	0.15	0.15	2X7	22610	2	Skew 0
4	33+340	4	0.350	0.350	0.350	0.15	0.15	2X7	22610	2	Skew 0

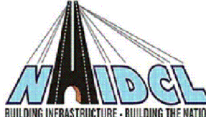
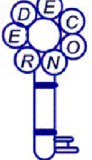
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								DRAWING No: NHIDCL/J&K/NH-501/CUL/TYP./S-127				DATE: JAN. 2024		
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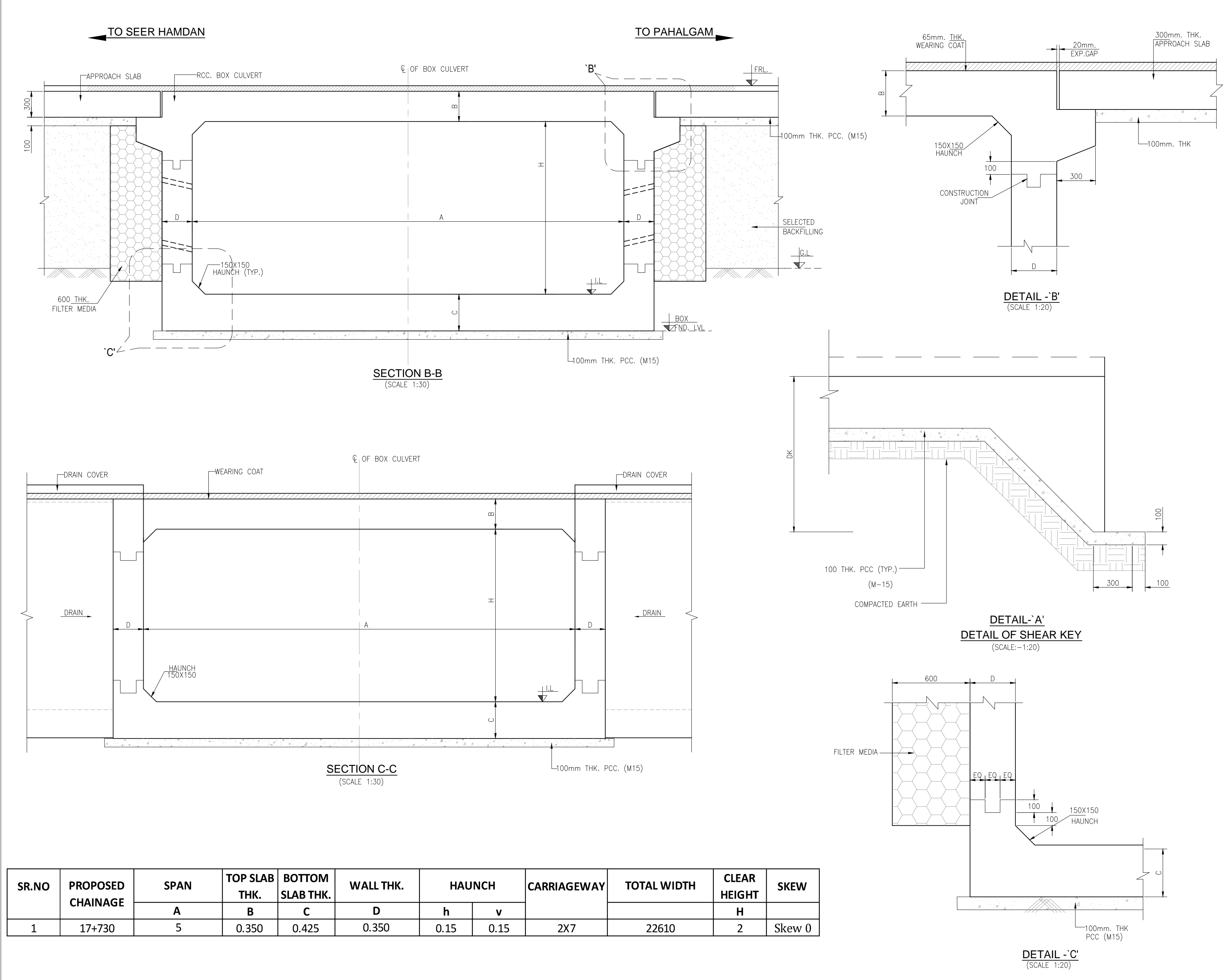
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	i) COMBINE SNOW LOAD WITH LIVE LOAD ii) COMBINE SNOW LOAD WITH LIVE LOAD iii) COMBINE SNOW LOAD WITH LIVE LOAD	WHEELED VEH. TRACKED VEH. NIL	SNOW 250mm SNOW 500mm SNOW >500mm	
NOTE:– MAXIMUM RECORDED SNOW ACCUMULATION AS PER SITE = 1200mm				
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e	WATER TO BE USED FOR CONCRETING, GROUTING &CURING	IRC–112–2020	–	
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ELEMMENT DESCRIPTION		MATERIAL	GRADE	COVER
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APPROACH SLAB		RCC	M30	50mm
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PCC		PCC	M15	–
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VALUE OF 'DK'	FOR BASE SLAB THICKNESS	SBC. (kN/Sqm)	TYPE OF FDN. STRATA	
1200mm	UPTO 900mm	–	–	
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DRAWING No: NHIDCL/J&K/NH-501/CUL/TYP./S-127				DATE: JAN.2024									
DRG. BY	DESIGNED	CHECKED	APPROVED	SCALE: AS SHOWN									
REV.	DATE	DESCRIPTION	ENG.	DM					PAKAGE-2 SEER HUMDAN TO PAHALGAM	G.N	A.R	VPS.	IRM.





1

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DRAWING No:		NHIDCL/J&K/NH-501/CUL/TYP./S-127				DATE:		JAN.2024	
DRG. BY		DESIGNED		CHECKED		APPROVED		SCALE:	
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PAPER SIZE:		A2		REV:		R0			

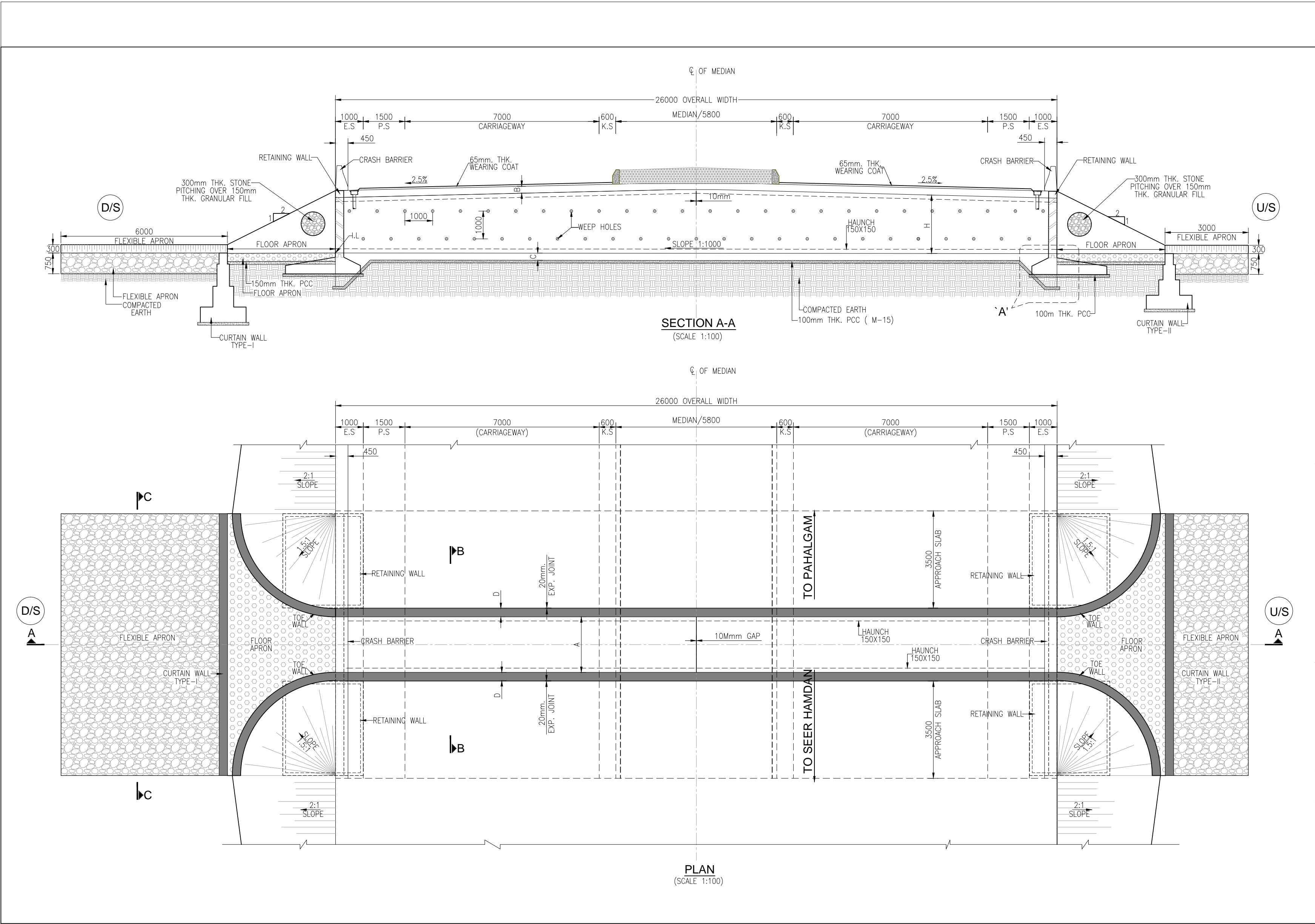
SR.NO	PROPOSED CHAINAGE	SPAN	TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.	HAUNCH		CARRIAGEWAY	TOTAL WIDTH	CLEAR HEIGHT	SKEW
		A	B	C	D	h	v			H	
1	17+730	5	0.350	0.425	0.350	0.15	0.15	2X7	22610	2	Skew 0

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REV.	DATE	DESCRIPTION	ENG.	DM							DRG. BY	DESIGNED	CHECKED	APPROVED	SCALE:	
											G.N	A.R	V.PS.	I.RM.	AS SHOWN	
															PAPER SIZE:	REV:
															A2	R0

DRAWING INDEX PACKAGE 2  
SEER HAMDAN TO PAHALGAM  
TCS-3


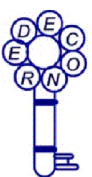
SL.No.	DRAWING TITLE	DRAWING No.	SHEET	REV.
1	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	02	R0
2	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) 1M CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	02	R0
3	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) 2M CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	02	R0
4	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X3.0X3.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	02	R0
5	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X4.0X4.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	02	R0





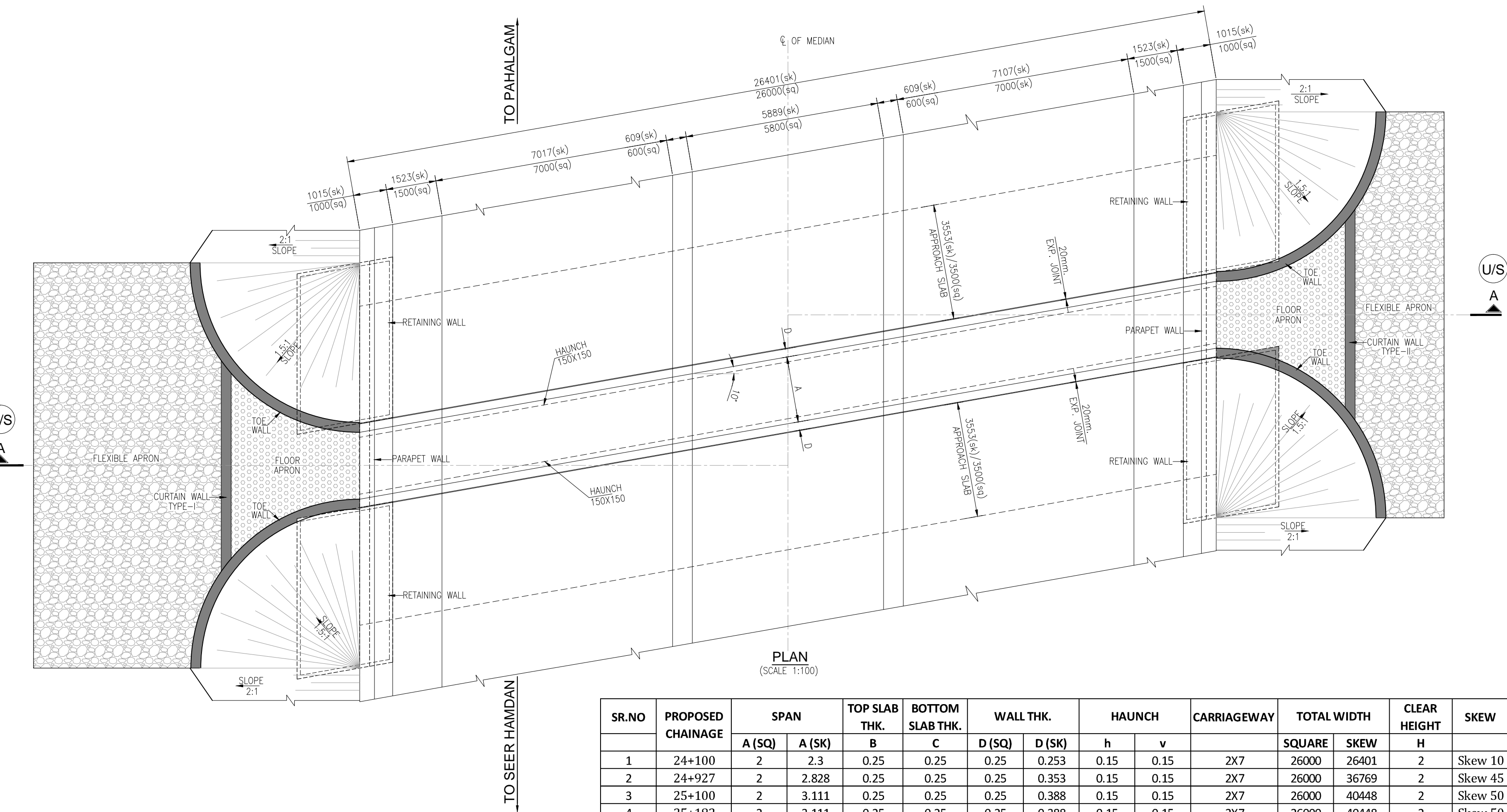
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1	24+750	2	0.25	0.25	0.25	0.15	0.15	2X7	26000	2	Skew 0

					CLIENT:  NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.	CONSULTANT:  REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020	PROJECT: Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu & Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501) PACKAGE-2 SEER HAMDAN TO PAHALGAM	DRAWING TITLE: GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x2.0x2.0) WITHOUT CUSHION (TCS-3)				SHEET No: 01 OF 02	
								DRAWING No: NHIDCL/J&K/NH-501/CUL/TYP./S-101				DATE: JAN.2024	
								DRG. BY	DESIGNED	CHECKED	APPROVED	SCALE: AS SHOWN	
REV.	DATE	DESCRIPTION	ENG.	DM				G.N	A.R	V.PS.	IRM.	PAPER SIZE: A2	REV: 0







SR.NO	PROPOSED CHAINAGE	SPAN		TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.		HAUNCH		CARRIAGEWAY	TOTAL WIDTH		CLEAR HEIGHT	SKEW
		A (SQ)	A (SK)	B	C	D (SQ)	D (SK)	h	v		SQUARE	SKEW	H	
1	24+100	2	2.3	0.25	0.25	0.25	0.253	0.15	0.15	2X7	26000	26401	2	Skew 10
2	24+927	2	2.828	0.25	0.25	0.25	0.353	0.15	0.15	2X7	26000	36769	2	Skew 45
3	25+100	2	3.111	0.25	0.25	0.25	0.388	0.15	0.15	2X7	26000	40448	2	Skew 50
4	25+182	2	3.111	0.25	0.25	0.25	0.388	0.15	0.15	2X7	26000	40448	2	Skew 50
5	25+235	2	2.128	0.25	0.25	0.25	0.266	0.15	0.15	2X7	26000	27668	2	Skew 20
6	25+280	2	2.610	0.25	0.25	0.25	0.326	0.15	0.15	2X7	26000	33940	2	Skew 40

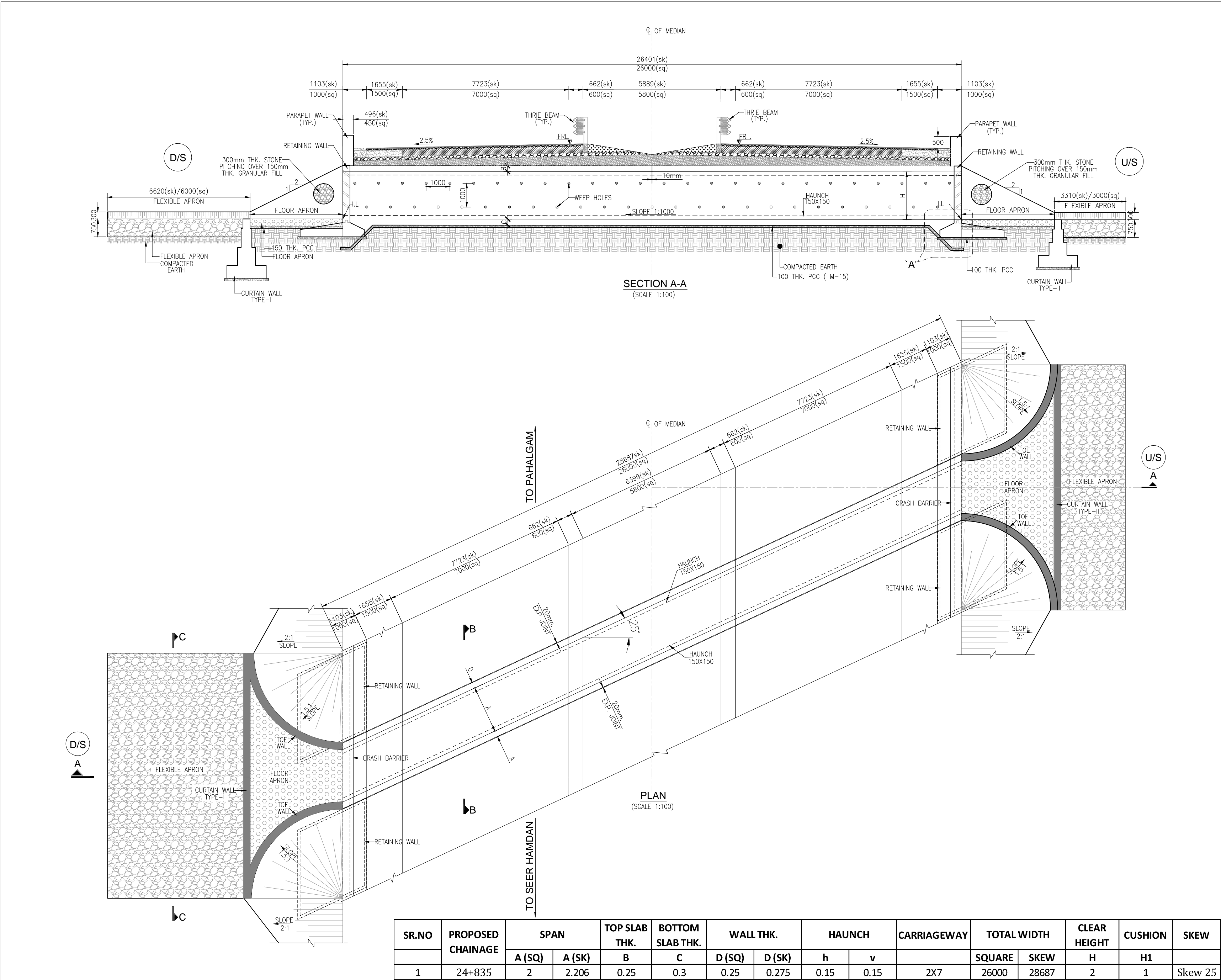
6. BEFORE STARTING UP THE EXECUTION VERIFY THE DIMENSION AND LEVELS. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF THE DESIGN CONSULTANT.

PAPER SIZE: A2	REV: 0
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REV.	DATE	DESCRIPTION	ENG.	DM







SR.NO	PROPOSED CHAINAGE	SPAN		TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.		HAUNCH		CARRIAGEWAY	TOTAL WIDTH		CLEAR HEIGHT	CUSHION	SKEW
		A (SQ)	A (SK)	B	C	D (SQ)	D (SK)	h	v		SQUARE	SKEW	H	H1	
1	24+835	2	2.206	0.25	0.3	0.25	0.275	0.15	0.15	2X7	26000	28687	2	1	Skew 25

NOTES:				
1	ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS. UNLESS OTHERWISE MENTIONED ONLY WRITTEN DIMENSION ARE TO BE FOLLOWED NO DIMENSION IS TO BE SCALED.			
S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	CONDITION OF EXPOSURE	IRC-112:2020	MODERATE	
b	SEISMIC ZONE IMPORTANCE FACTOR	IRC SP114:2020	ZONE – V 1.2	
c	LIVE LOAD– CONSIDERED a. 3L CLASS–A b. CLASS A–2L PLUS 1LANE 70R W c. CLASS 70R TRACKED d. SPECIAL VEHICLE SV LOADING	IRC 6 :2017	CRITICAL OF a,b,c & d	
d	SNOW LOAD OF 500 kg/cum	LIVE LOAD	ACCUMLATION	
	i) COMBINE SNOW LOAD WITH LIVE LOAD	WHEELED VEH.	SNOW 250mm	
	ii) COMBINE SNOW LOAD WITH LIVE LOAD	TRACKED VEH.	SNOW 500mm	
	iii) COMBINE SNOW LOAD WITH LIVE LOAD	NIL	SNOW >500mm	
	NOTE:– MAXIMUM RECORDED SNOW ACCUMULATION AS PER SITE = 1200mm			
2	TECHNICAL SPECIFICATION TO BE FOLLOWED			
S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	WEARING COURSE	MORT&H. SECTION 2702	65mm	
b	GRADE OF REBARS.	IS:1786.	Fe–500D	
c	BACK FILL BEHIND ABUT. RETURN/WING/ RETAINING WALL	IRC 78 2014	Ø :30 DEG. ?:18kN/cum Δ:20DEG.	
d	WEEP HOLES,SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUT.& RETURN WALL	IRC 78 2014 MORT&H. SECTION 2706	100mm DIA 1000 c/c V/H	
e	WATER TO BE USED FOR CONCRETING, GROUTING &CURING	IRC–112–2020	–	
3	GRADE & CLEAR COVER			
ELEMENT DESCRIPTION		MATERIAL	GRADE	COVER
TOP SLAB		RCC	M30	50mm
OUTER WALLS	WATER FACE	RCC	M30	50mm
	EARTH FACE	RCC	M30	75mm
BASE SLAB	TOP	RCC	M30	75mm
	BOTTOM	RCC	M30	75mm
CRASH BARRIER		RCC	M40	50mm
APPROACH SLAB		RCC	M30	50mm
PCC CURTAIN WALL		PCC	M20	–
PCC		PCC	M15	–
4	DESIGN DETAILS:			
VALUE OF 'DK'		FOR BASE SLAB THICKNESS	SBC. (kN/Sqm)	TYPE OF FDN. STRATA
1200mm		UPTO 900mm	–	–
e+300mm		GREATER THAN 900mm		
* 'DK' = DEPTH OF KEY AT BASE; (e) = BASE SLAB THICKNESS				
5	SBC OF SOIL BELOW THE BOX STRUCTURE SHALL NOT BE LESS THAN ____kN/Sqm.SBC REQUIRED SHALL BE ENSURED BEFORE COMMENCEMENT OF THE EXECUTION.			
6	BEFORE STARTING UP THE EXECUTION VERIFY THE DIMENSION AND LEVELS. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF THE DESIGN CONSULTANT			

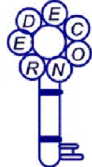
REV.	DATE	DESCRIPTION	ENG.	DM

CLIENT:



NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.

CONSULTANT:



REDECON (I) Pvt. Ltd.  
REDECON HOUSE E-49/4, Okhla  
Phase-II,  
New Delhi-110020

PROJECT:

Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu & Kashmir and Ladakh."  
FROM KHANABAL TO BALTAL(NH-501)

PACKAGE-2 SEER HAMDAN TO PAHALGAM

DRAWING TITLE:

GENERAL ARRANGEMENT DRAWING  
TYPICAL BOX CULVERT (1x2.0x2.0)  
1m CUSHION (SKEW-25°) (TCS-3)

DRAWING No:

NHIDCL/J&K/NH-501/CUL/TYP./S-101

DRG. BY DESIGNED CHECKED APPROVED

G.N AR. VPS. IRM.

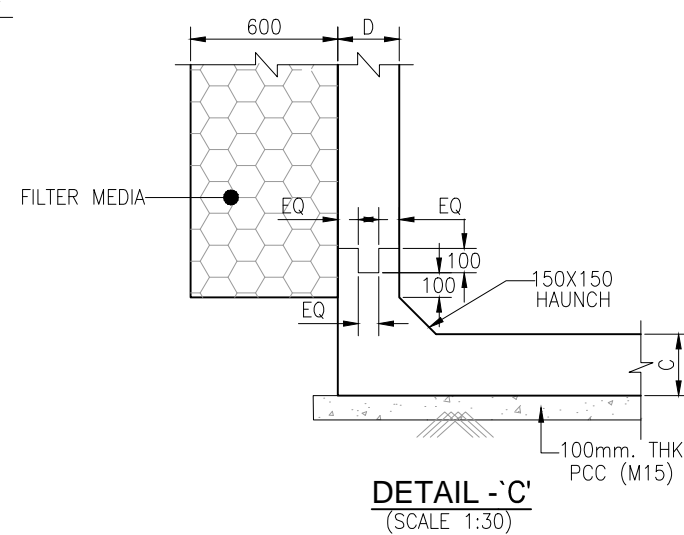
SHEET No: 01 OF 02

DATE: JAN. 2024

SCALE: AS SHOWN

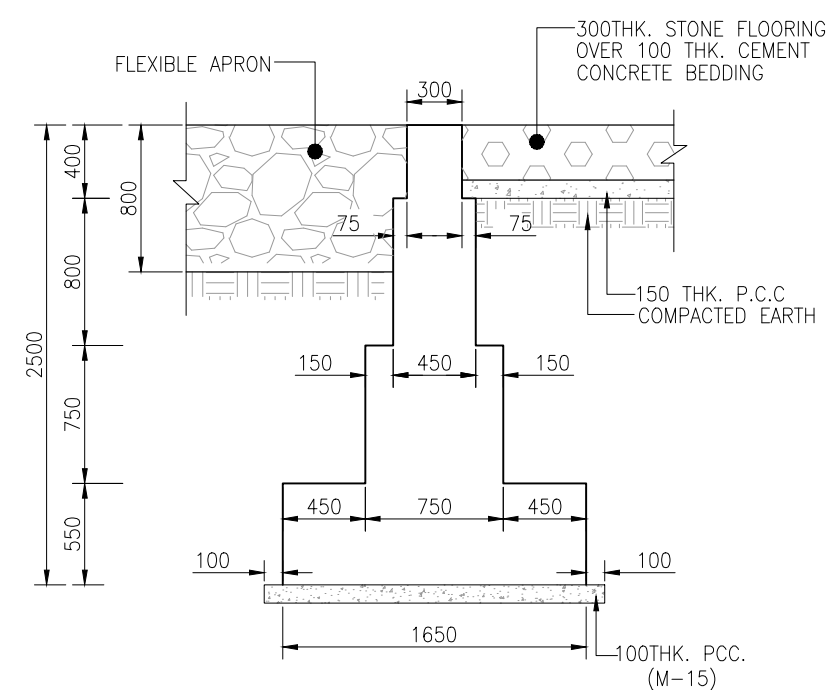
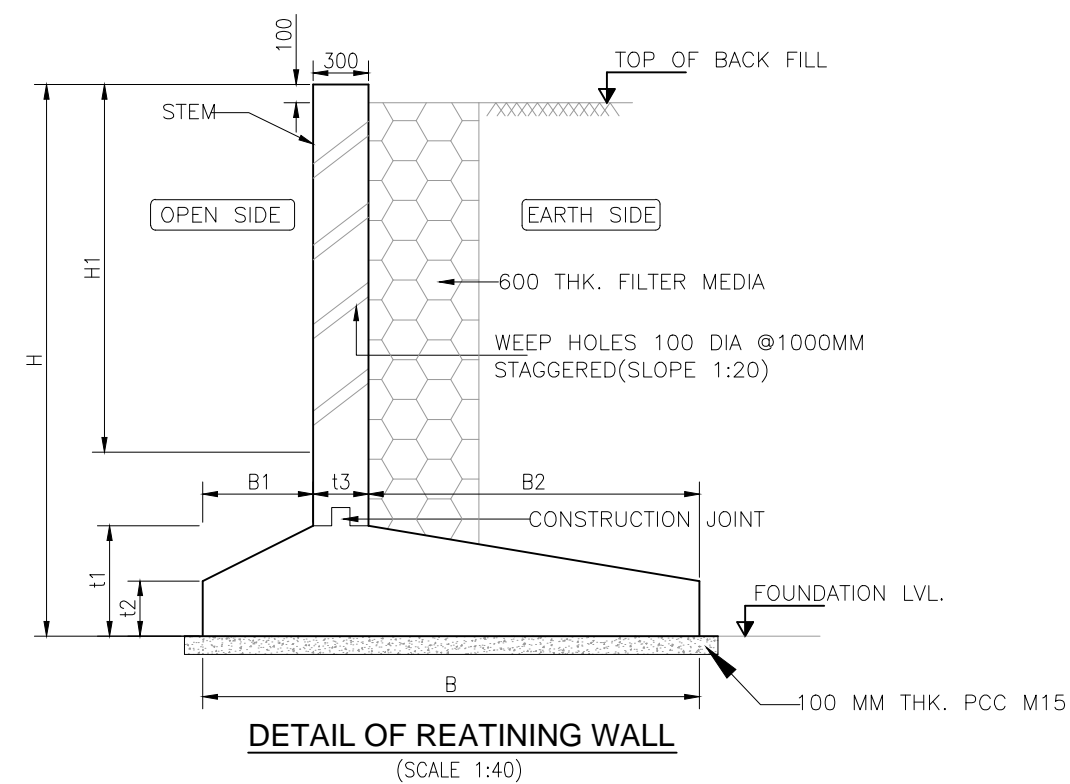
PAPER SIZE: A2 REV: 0



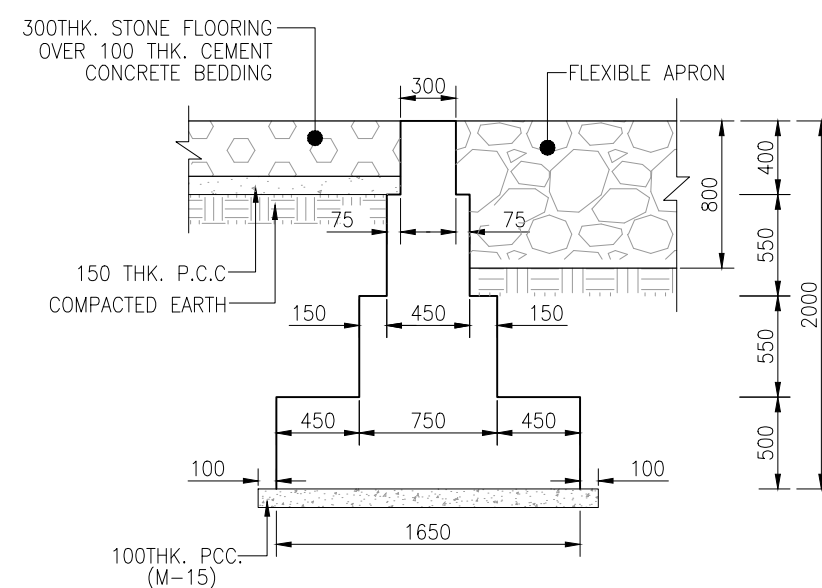


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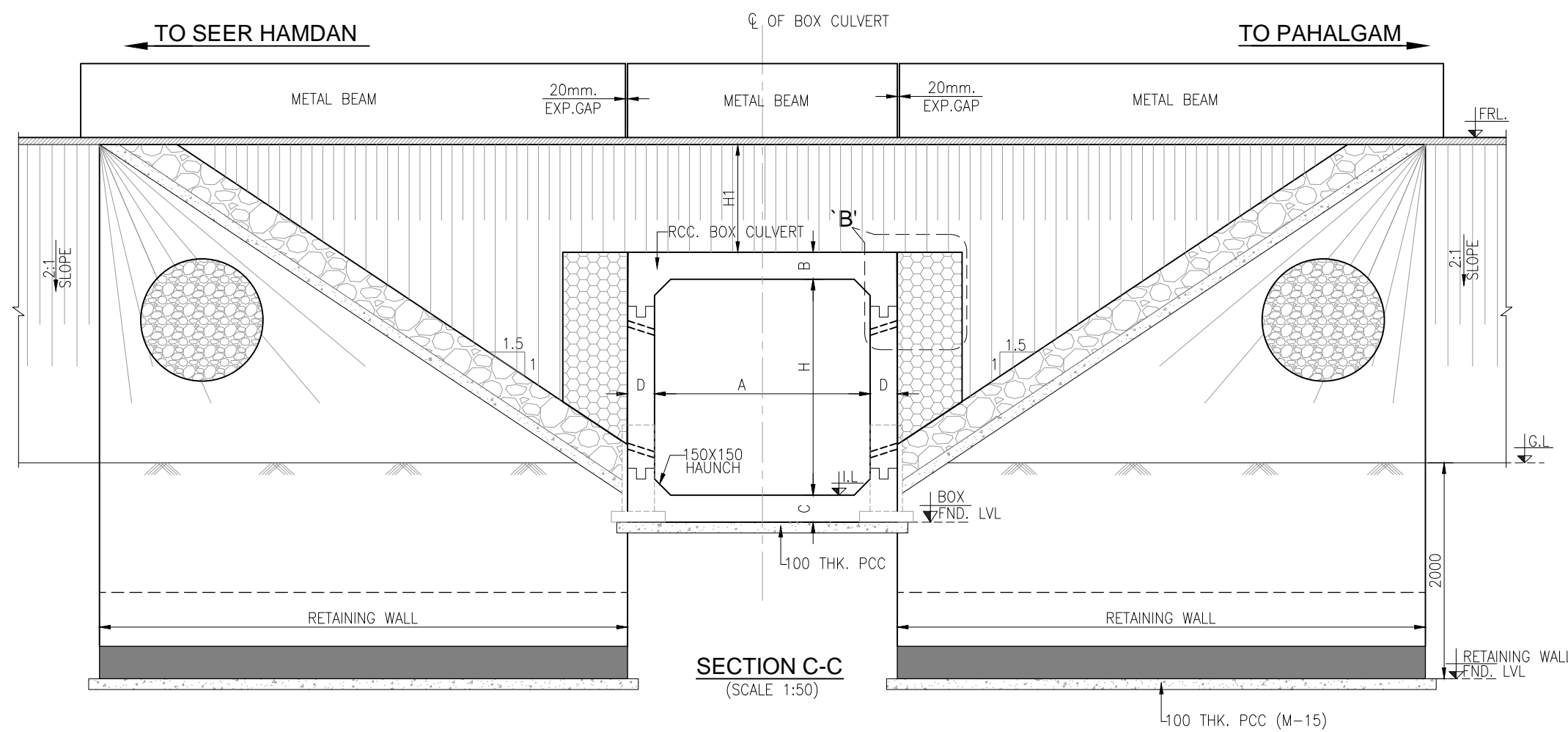
1	ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS. UNLESS OTHERWISE MENTIONED ONLY WRITTEN DIMENSION ARE TO BE FOLLOWED NO DIMENSION IS TO BE SCALED.
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**TYPICAL CROSS SECTION OF  
CURTAIN WALL TYPE -I**  
(DOWN STREAM SIDE)  
(SCALE 1:40)

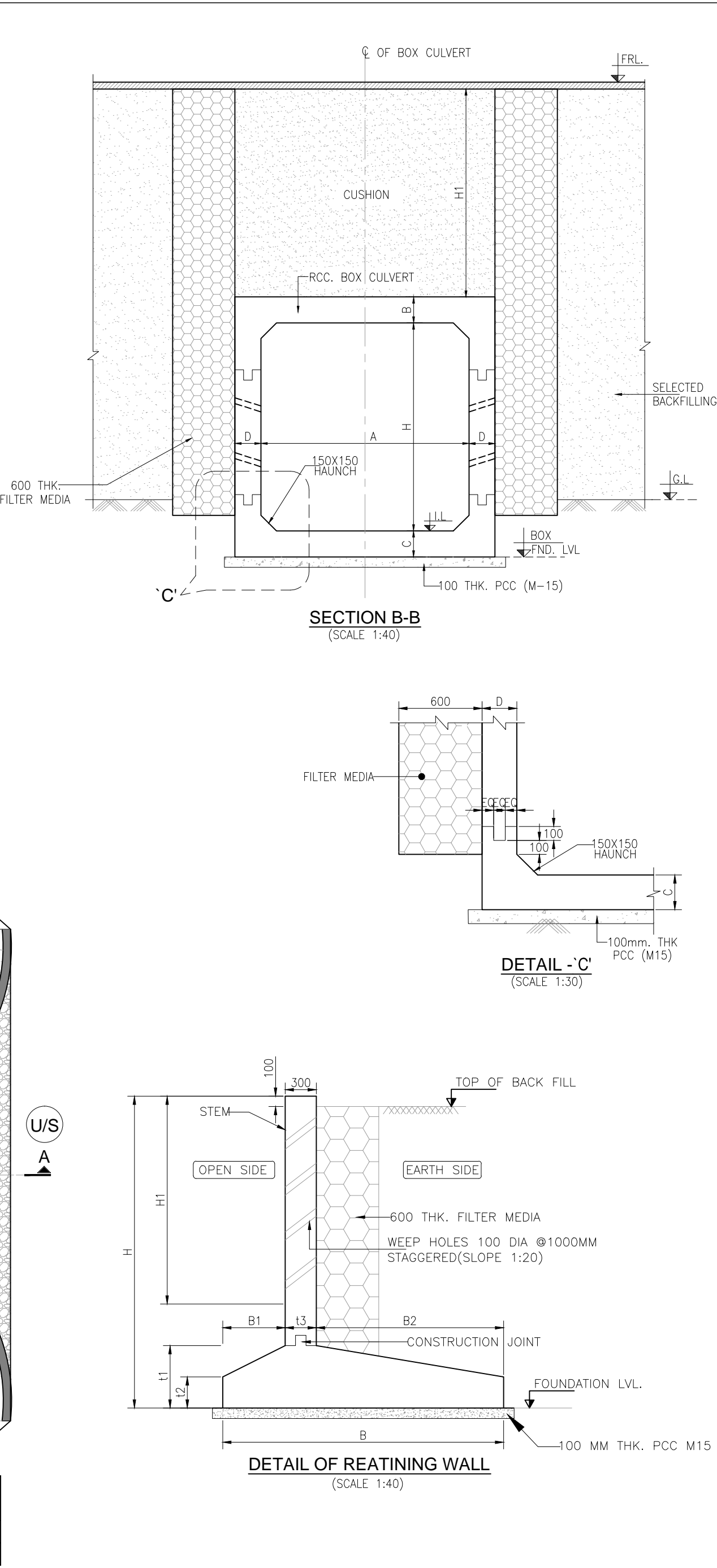
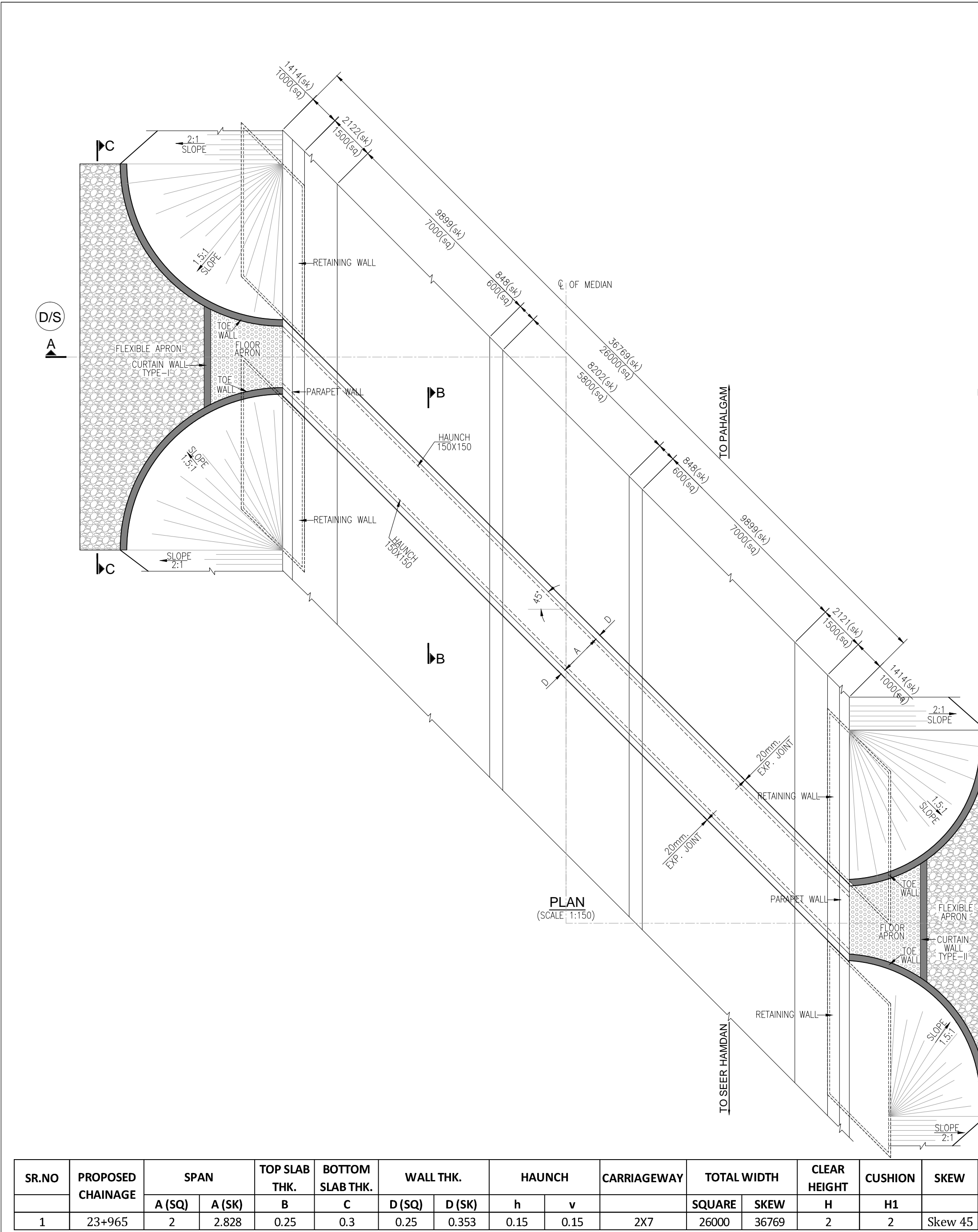


TYPICAL CROSS SECTION OF  
CURTAIN WALL TYPE -II  
(UP STREAM SIDE)  
(SCALE 1:40)





					<div>CLIENT:</div> <div></div> <div>NATIONAL HIGHWAYS &amp; INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.</div>	<div>CONSULTANT:</div> <div></div> <div>REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020</div>	<div>PROJECT:</div> <div>Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu &amp; Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501)</div> <div>PAKAGE-2 SEER HAMDAN TO PAHALGAM</div>	DRAWING TITLE: GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x2.0x2.0) 1m CUSHION (SKEW-25°) (TCS-3)				SHEET No: 02 OF 02						
								DRAWING No: NHIDCL/J&K/NH-501/CUL/TYP./S-101				DATE: JAN.2024						
												SCALE: AS SHOWN						
REV.	DATE	DESCRIPTION	ENG.	DM				<table><tr><td>DRG. BY</td><td>DESIGNED</td><td>CHECKED</td><td>APPROVED</td></tr><tr><td>G.N</td><td>AR.</td><td>VPS.</td><td>IRM.</td></tr></table>				DRG. BY	DESIGNED	CHECKED	APPROVED	G.N	AR.	VPS.
DRG. BY	DESIGNED	CHECKED	APPROVED															
G.N	AR.	VPS.	IRM.															



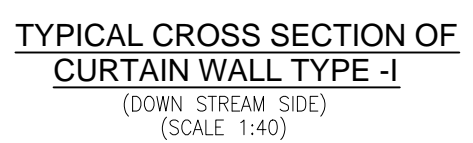
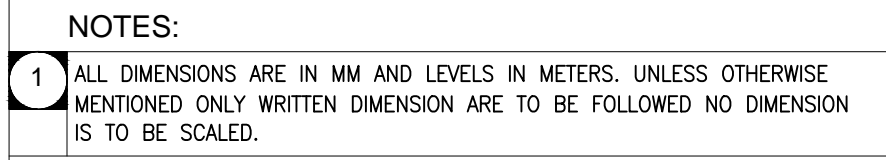




NOTES:				
1	ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS. UNLESS OTHERWISE MENTIONED ONLY WRITTEN DIMENSION ARE TO BE FOLLOWED NO DIMENSION IS TO BE SCALED.			
S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	CONDITION OF EXPOSURE	IRC-112:2020	MODERATE	
b	SEISMIC ZONE IMPORTANCE FACTOR	IRC SP114:2020	ZONE – V 1.2	
c	LIVE LOAD– CONSIDERED a. 3L CLASS–A b. CLASS A–2L PLUS 1LANE 70R W c. CLASS 70R TRACKED d. SPECIAL VEHICLE SV LOADING	IRC 6 :2017	CRITICAL OF a,b,c & d	
d	SNOW LOAD OF 500 kg/cum	LIVE LOAD	ACCUMULATION	
	i) COMBINE SNOW LOAD WITH LIVE LOAD	WHEELED VEH.	SNOW 250mm	
	ii) COMBINE SNOW LOAD WITH LIVE LOAD	TRACKED VEH.	SNOW 500mm	
	iii) COMBINE SNOW LOAD WITH LIVE LOAD	NIL	SNOW >500mm	
NOTE:-- MAXIMUM RECORDED SNOW ACCUMULATION AS PER SITE = 1200mm				
2	TECHNICAL SPECIFICATION TO BE FOLLOWED			
S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	WEARING COURSE	MORT&H. SECTION 2702	65mm	
b	GRADE OF REBARS.	IS:1786.	Fe-500D	
c	BACK FILL BEHIND ABUT. RETURN/WING/ RETAINING WALL	IRC 78 2014	Ø :30 DEG. ? :18kN/cum Δ:20DEG.	
d	WEEP HOLES,SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUT.& RETURN WALL	IRC 78 2014 MORT&H. SECTION 2706	100mm DIA 1000 c/c V/H	
e	WATER TO BE USED FOR CONCRETING, GROUTING &CURING	IRC-112-2020	-	
3	GRADE & CLEAR COVER			
ELEMENT DESCRIPTION		MATERIAL	GRADE	COVER
TOP SLAB		RCC	M30	50mm
OUTER WALLS	WATER FACE	RCC	M30	50mm
	EARTH FACE	RCC	M30	75mm
BASE SLAB	TOP	RCC	M30	75mm
	BOTTOM	RCC	M30	75mm
CRASH BARRIER		RCC	M40	50mm
APPROACH SLAB		RCC	M30	50mm
PCC CURTAIN WALL		PCC	M20	-
PCC		PCC	M15	-
4	DESIGN DETAILS:			
VALUE OF 'DK'		FOR BASE SLAB THICKNESS	SBC. (kN/Sqm)	TYPE OF FDN. STRATA
1200mm		UPTO 900mm	-	-
e+300mm		GREATER THAN 900mm		
* 'DK' = DEPTH OF KEY AT BASE; (e) = BASE SLAB THICKNESS				
5	SBC OF SOIL BELOW THE BOX STRUCTURE SHALL NOT BE LESS THAN ____kN/Sqm.SBC REQUIRED SHALL BE ENSURED BEFORE COMMENCEMENT OF THE EXECUTION.			
6	BEFORE STARTING UP THE EXECUTION VERIFY THE DIMENSION AND LEVELS. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF THE DESIGN CONSULTANT.			

SR.NO	PROPOSED CHAINAGE	SPAN		TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.		HAUNCH		CARRIAGEWAY	TOTAL WIDTH		CLEAR HEIGHT	CUSHION	SKEW
		A (SQ)	A (SK)	B	C	D (SQ)	D (SK)	h	v		SQUARE	SKEW	H	H1	
1	23+965	2	2.828	0.25	0.3	0.25	0.353	0.15	0.15	2X7	26000	36769	2	2	Skew 45

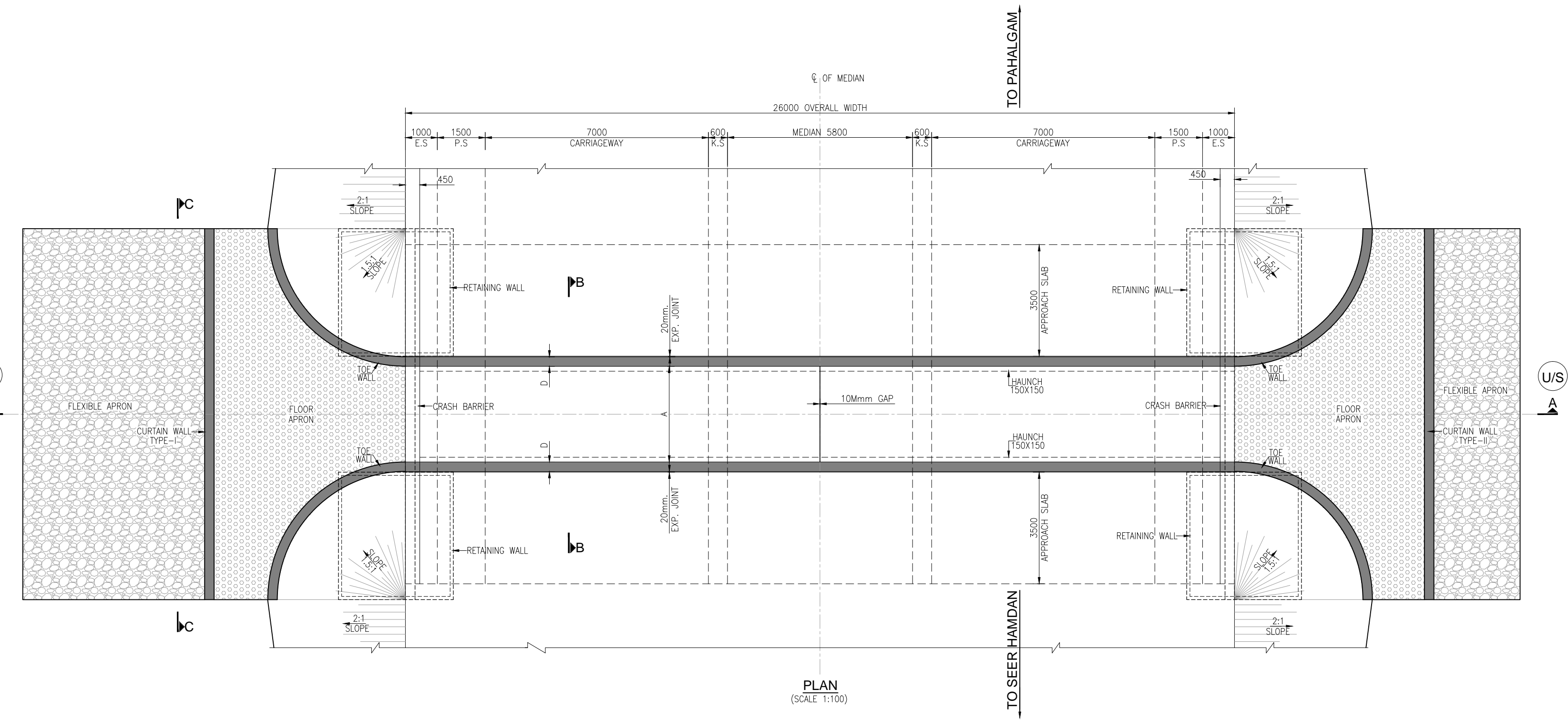
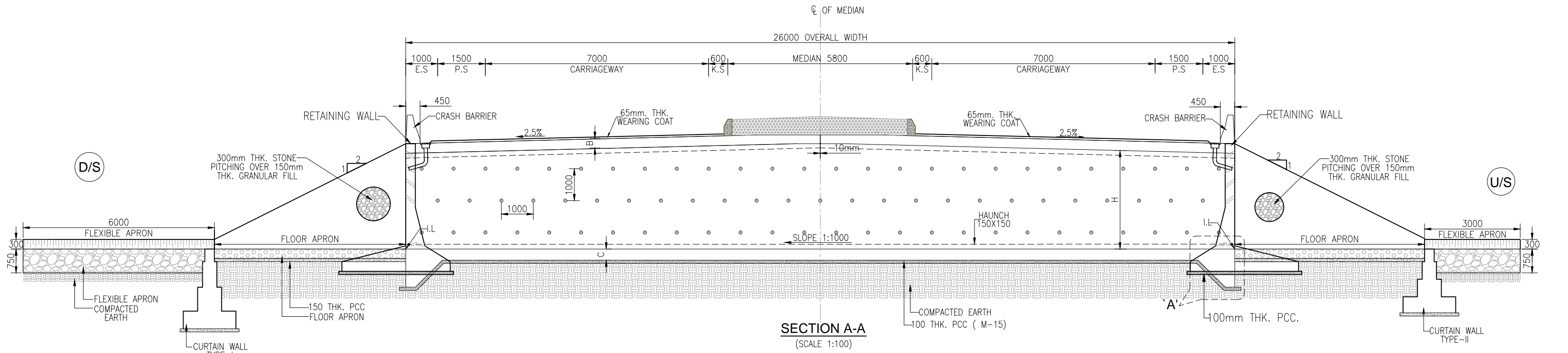
					<div>CLIENT:</div> <div></div> <div>NATIONAL HIGHWAYS &amp; INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.</div>					<div>CONSULTANT:</div> <div></div> <div>REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020</div>					<div>PROJECT:</div> <div>Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu &amp; Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501)</div> <div>PAKAGE-2 SEER HAMDAN TO PAHALGAM</div>					<div>DRAWING TITLE:</div> <div>GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x2.0x2.0) 2m CUSHION (SKEW-45°) (TCS-3)</div> <div>DRAWING No:</div> <div>NHIDCL/J&amp;K/NH-501/CUL/TYP./S-101</div> <table><tr><td>DRG. BY</td><td>DESIGNED</td><td>CHECKED</td><td>APPROVED</td></tr><tr><td>G.N</td><td>AR.</td><td>VPS.</td><td>IRM.</td></tr></table>					DRG. BY	DESIGNED	CHECKED	APPROVED	G.N	AR.	VPS.	IRM.	<div>SHEET No:</div> <div>01 OF 02</div> <div>DATE:</div> <div>JAN.2024</div> <div>SCALE:</div> <div>AS SHOWN</div> <div>PAPER SIZE:</div> <div>A2</div> <div>REV:</div> <div>0</div>				
DRG. BY	DESIGNED	CHECKED	APPROVED																																		
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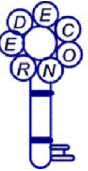


					<div>CLIENT:</div> <div></div> <div>NATIONAL HIGHWAYS &amp; INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.</div>	<div>CONSULTANT:</div> <div></div> <div>REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020</div>	<div>PROJECT:</div> <div>Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu &amp; Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501)</div> <div>PACKAGE-2 SEER HAMDAN TO PAHALGAM</div>	<div>DRAWING TITLE:</div> <div>GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x2.0x2.0) 2m CUSHION (SKEW-45°) (TCS-3)</div>				<div>SHEET No:</div> <div>02 OF 02</div>	
								<div>DRAWING No:</div> <div>NHIDCL/J&amp;K/NH-501/CUL/TYP./S-101</div>	<div>DATE:</div> <div>JAN.2024</div>		<div>SCALE:</div> <div>AS SHOWN</div>		
REV.	DATE	DESCRIPTION	ENG.	DM				<div>DRG. BY</div> <div>G.N</div>	<div>DESIGNED</div> <div>AR.</div>	<div>CHECKED</div> <div>VPS.</div>	<div>APPROVED</div> <div>IRM.</div>	<div>PAPER SIZE:</div> <div>A2</div>	<div>REV:</div> <div>0</div>







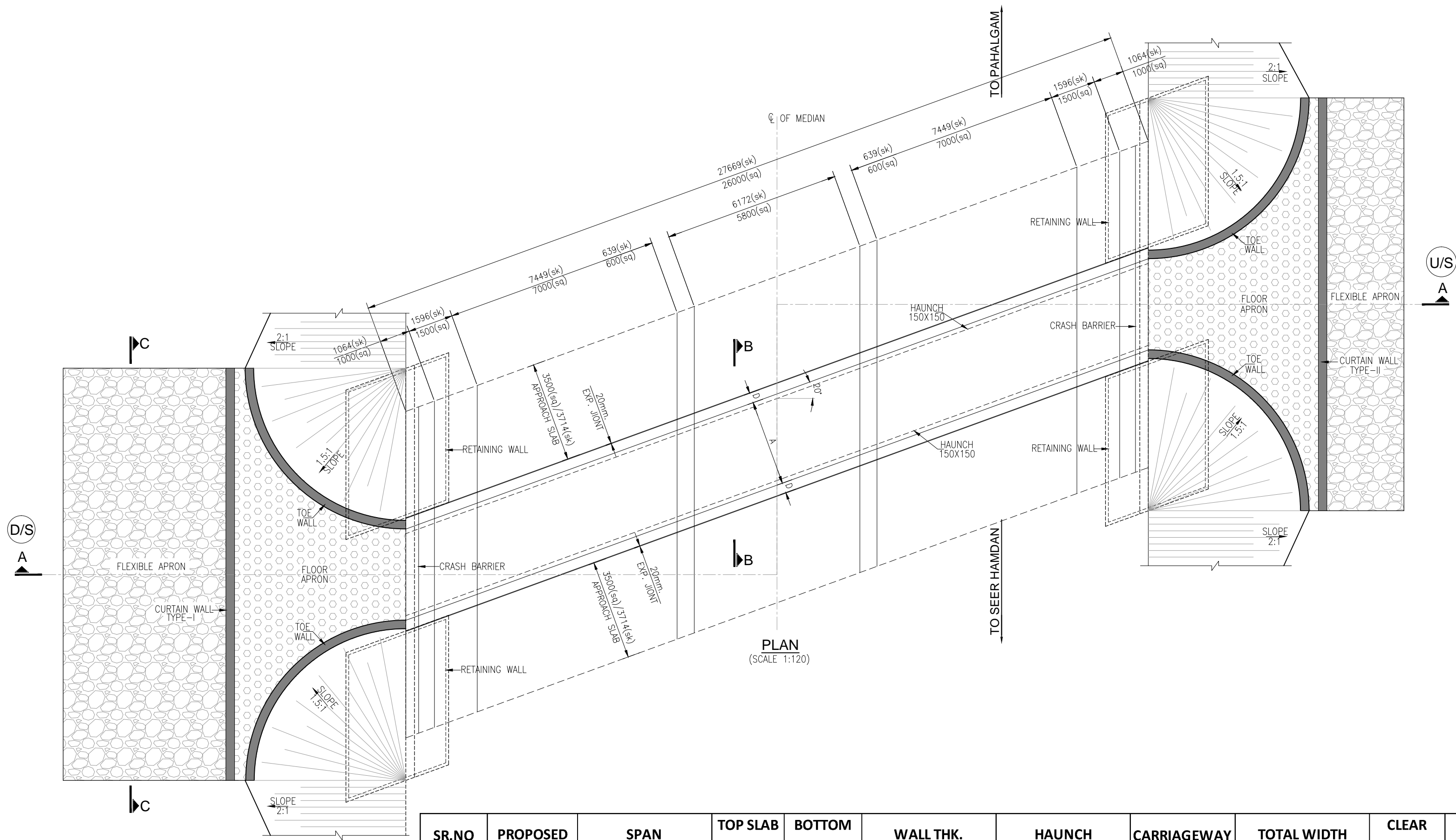
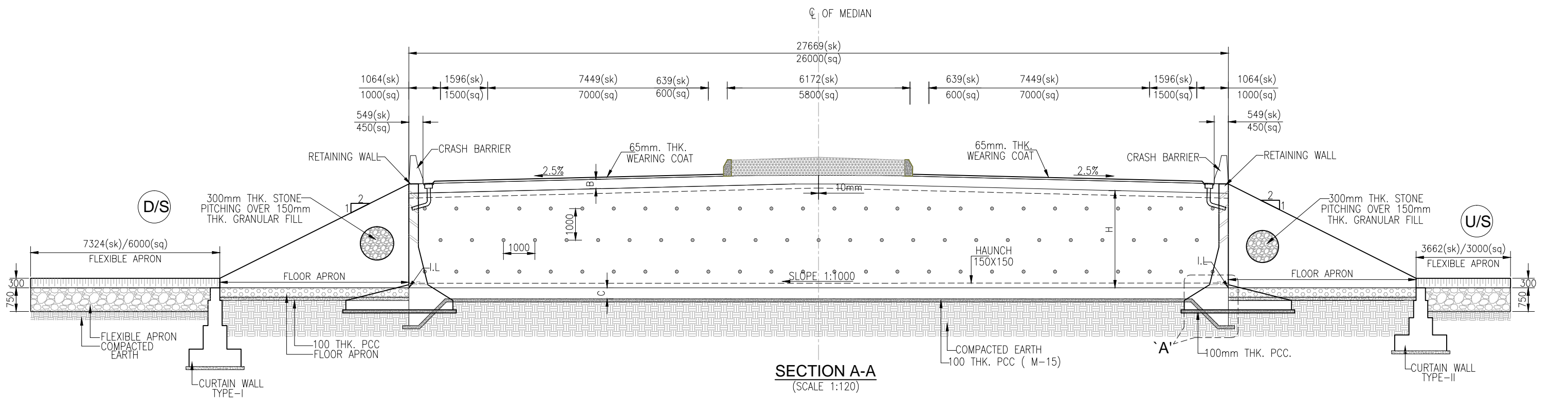
SR.NO	PROPOSED CHAINAGE	SPAN	TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.	HAUNCH		CARRIAGEWAY	TOTAL WIDTH	CLEAR HEIGHT	SKEW
		A	B	C	D	h	v			H	
1	24+715	3	0.3	0.350	0.3	0.15	0.15	2X7	26000	3	Skew 0
2	24+737	3	0.3	0.350	0.3	0.15	0.15	2X7	26000	3	Skew 0

					CLIENT:  NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.	CONSULTANT:  REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020	PROJECT: Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu & Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501) PACKAGE-2 SEER HAMDAN TO PAHALGAM	DRAWING TITLE: GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x3.0x3.0) WITHOUT CUSHION (TCS-3)				SHEET No: 01 OF 02	
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NOTES:				
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S.No.	DESCRIPTION		CONFORM	ADOPTED
a	CONDITION OF EXPOSURE		IRC-112:2020	MODERATE
b	SEISMIC ZONE IMPORTANCE FACTOR		IRC SP114:2020	ZONE – V 1.2
c	LIVE LOAD– CONSIDERED a. 3L CLASS–A b. CLASS A–2L PLUS 1LANE 70R W c. CLASS 70R TRACKED d. SPECIAL VEHICLE SV LOADING		IRC 6 :2017	CRITICAL OF a,b,c & d
d	SNOW LOAD OF 500 kg/cum		LIVE LOAD	ACCUMULATION
	i) COMBINE SNOW LOAD WITH LIVE LOAD		WHEELED VEH.	SNOW 250mm
	ii) COMBINE SNOW LOAD WITH LIVE LOAD		TRACKED VEH.	SNOW 500mm
	iii) COMBINE SNOW LOAD WITH LIVE LOAD		NIL	SNOW >500mm
NOTE:– MAXIMUM RECORDED SNOW ACCUMULATION AS PER SITE = 1200mm				
2	TECHNICAL SPECIFICATION TO BE FOLLOWED			
S.No.	DESCRIPTION		CONFORM	ADOPTED
a	WEARING COURSE		MORT&H. SECTION 2702	65mm
b	GRADE OF REBARS.		IS:1786.	Fe–500D
c	BACK FILL BEHIND ABUT. RETURN/WING/ RETAINING WALL		IRC 78 2014	Ø :30 DEG. ?:18kN/cum Δ:20DEG.
d	WEEP HOLES,SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUT.& RETURN WALL		IRC 78 2014 MORT&H. SECTION 2706	100mm DIA 1000 c/c V/H
e	WATER TO BE USED FOR CONCRETING, GROUTING &CURING		IRC–112–2020	–
3	GRADE & CLEAR COVER			
ELEMENT DESCRIPTION		MATERIAL	GRADE	COVER
TOP SLAB		RCC	M30	50mm
OUTER WALLS	WATER FACE	RCC	M30	50mm
	EARTH FACE	RCC	M30	75mm
BASE SLAB	TOP	RCC	M30	75mm
	BOTTOM	RCC	M30	75mm
CRASH BARRIER		RCC	M40	50mm
APPROACH SLAB		RCC	M30	50mm
PCC CURTAIN WALL		PCC	M20	–
PCC		PCC	M15	–
4	DESIGN DETAILS:			
VALUE OF 'DK'		FOR BASE SLAB THICKNESS	SBC. (kN/Sqm)	TYPE OF FDN. STRATA
1200mm		UPTO 900mm	–	–
e+300mm		GREATER THAN 900mm		
* 'DK' = DEPTH OF KEY AT BASE; (e) = BASE SLAB THICKNESS				
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											G.N	A.R	VPS.	IRM.			
										PACKAGE-2 SEER HAMDAN TO PAHALGAM							



SR.NO	PROPOSED CHAINAGE	SPAN		TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.		HAUNCH		CARRIAGEWAY	TOTAL WIDTH		CLEAR HEIGHT	SKEW
		A (SQ)	A (SK)	B	C	D (SQ)	D (SK)	h	v		SQUARE	SKEW	H	
1	24+320	3	2.206	0.3	0.350	0.3	0.306	0.15	0.15	2X7	26000	26580	3	Skew 12
2	24+671	3	2.206	0.3	0.350	0.3	0.319	0.15	0.15	2X7	26000	27668	3	Skew 20

#### NOTES:

- ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS. UNLESS OTHERWISE MENTIONED ONLY WRITTEN DIMENSION ARE TO BE FOLLOWED NO DIMENSION IS TO BE SCALED.

S.No.	DESCRIPTION	CONFORM	ADOPTED
a	CONDITION OF EXPOSURE	IRC-112:2020	MODERATE
b	SEISMIC ZONE IMPORTANCE FACTOR	IRC SP114:2020	ZONE – V 1.2
c	LIVE LOAD– CONSIDERED a. 3L CLASS-A b. CLASS A-2L PLUS 1LANE 70R W c. CLASS 70R TRACKED d. SPECIAL VEHICLE SV LOADING	IRC 6 :2017	CRITICAL OF a,b,c & d
d	SNOW LOAD OF 500 kg/cum	LIVE LOAD	ACCUMULATION
i)	COMBINE SNOW LOAD WITH LIVE LOAD	WHEELED VEH.	SNOW 250mm
ii)	COMBINE SNOW LOAD WITH LIVE LOAD	TRACKED VEH.	SNOW 500mm
iii)	COMBINE SNOW LOAD WITH LIVE LOAD	NIL	SNOW >500mm

NOTE:- MAXIMUM RECORDED SNOW ACCUMULATION AS PER SITE = 1200mm

#### 2 TECHNICAL SPECIFICATION TO BE FOLLOWED

S.No.	DESCRIPTION	CONFORM	ADOPTED
a	WEARING COURSE	MORT&H. SECTION 2702	65mm
b	GRADE OF REBARS.	IS:1786.	Fe-500D
c	BACK FILL BEHIND ABUT. RETURN/WING/ RETAINING WALL	IRC 78 2014	Ø :30 DEG. ? :18kN/cum Δ:20DEG.
d	WEEP HOLES,SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUT.& RETURN WALL	IRC 78 2014 MORT&H. SECTION 2706	100mm DIA 1000 c/c V/H
e	WATER TO BE USED FOR CONCRETING, GROUTING &CURING	IRC-112-2020	–

#### 3 GRADE & CLEAR COVER

ELEMENT DESCRIPTION		MATERIAL	GRADE	COVER
TOP SLAB		RCC	M30	50mm
OUTER WALLS	WATER FACE	RCC	M30	50mm
	EARTH FACE	RCC	M30	75mm
BASE SLAB	TOP	RCC	M30	75mm
	BOTTOM	RCC	M30	75mm
CRASH BARRIER		RCC	M40	50mm
APPROACH SLAB		RCC	M30	50mm
PCC CURTAIN WALL		PCC	M20	–
PCC		PCC	M15	–

#### 4 DESIGN DETAILS:

VALUE OF 'DK'	FOR BASE SLAB THICKNESS	SBC. (kN/Sqm)	TYPE OF FDN. STRATA
1200mm	UPTO 900mm	–	–
e+300mm	GREATER THAN 900mm	–	–

\* 'DK' = DEPTH OF KEY AT BASE; (e) = BASE SLAB THICKNESS

- SBC OF SOIL BELOW THE BOX STRUCTURE SHALL NOT BE LESS THAN \_\_\_\_kN/Sqm.SBC REQUIRED SHALL BE ENSURED BEFORE COMMENCEMENT OF THE EXECUTION.

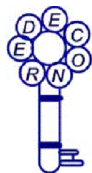
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NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.

CONSULTANT:



REDECON (I) Pvt. Ltd.  
REDECON HOUSE E-49/4, Okhla  
Phase-II,  
New Delhi-110020

PROJECT:

Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu & Kashmir and Ladakh."  
FROM KHANABAL TO BALTAL(NH-501)

PACKAGE-2 SEER HAMDAN TO PAHALGAM

DRAWING TITLE:

GENERAL ARRANGEMENT DRAWING  
TYPICAL BOX CULVERT (1x3.0x3.0)  
WITHOUT CUSHION (SKEW-20°) (TCS-3)

DRAWING No:

NHIDCL/J&K/NH-501/CUL/TYP/S-101

DRG. BY

DESIGNED

CHECKED

APPROVED

G.N

A.R

V.P.S.

IRM.

SHEET No:

01 OF 02

DATE:

JAN.2024

SCALE:

AS SHOWN

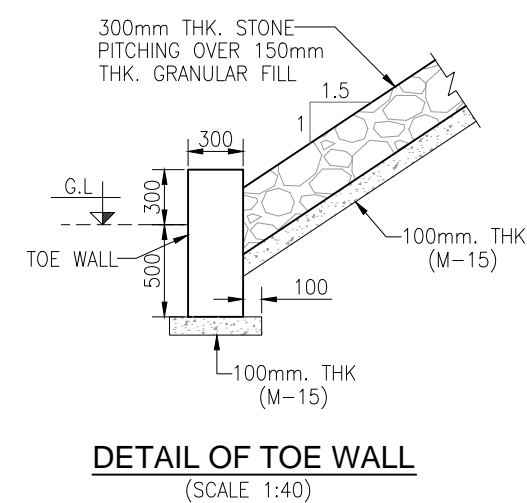
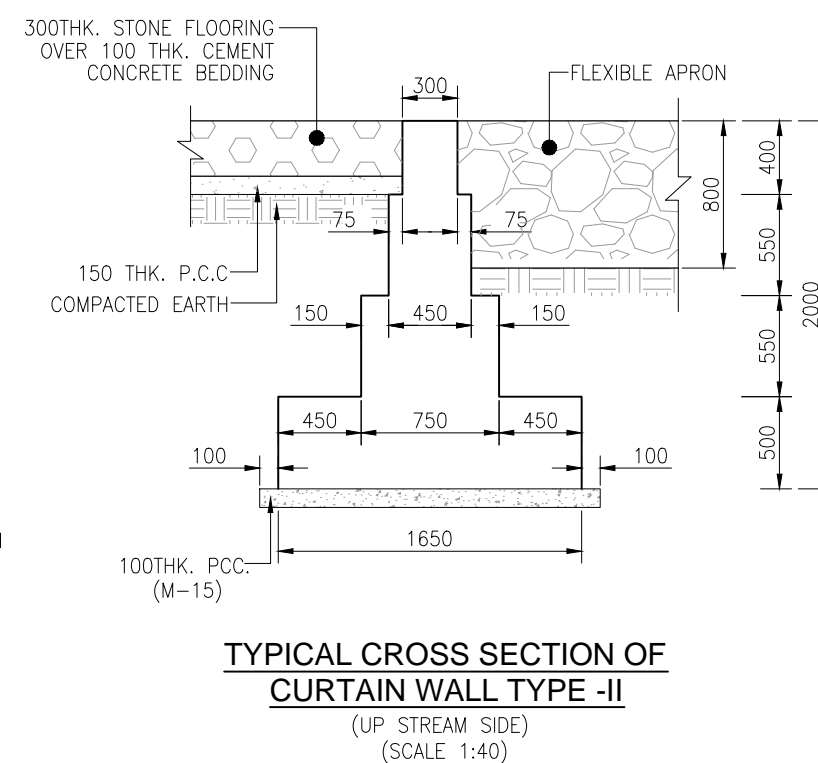
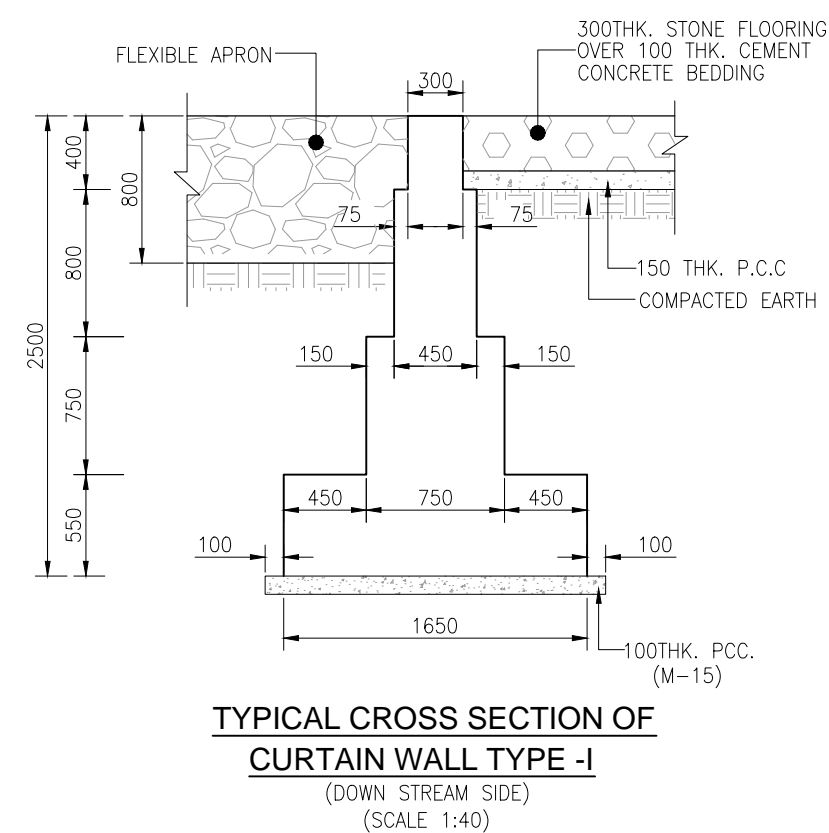
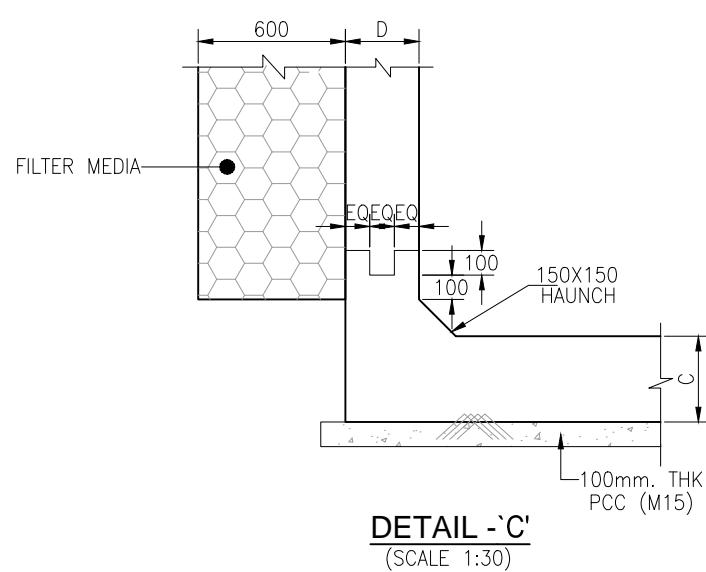
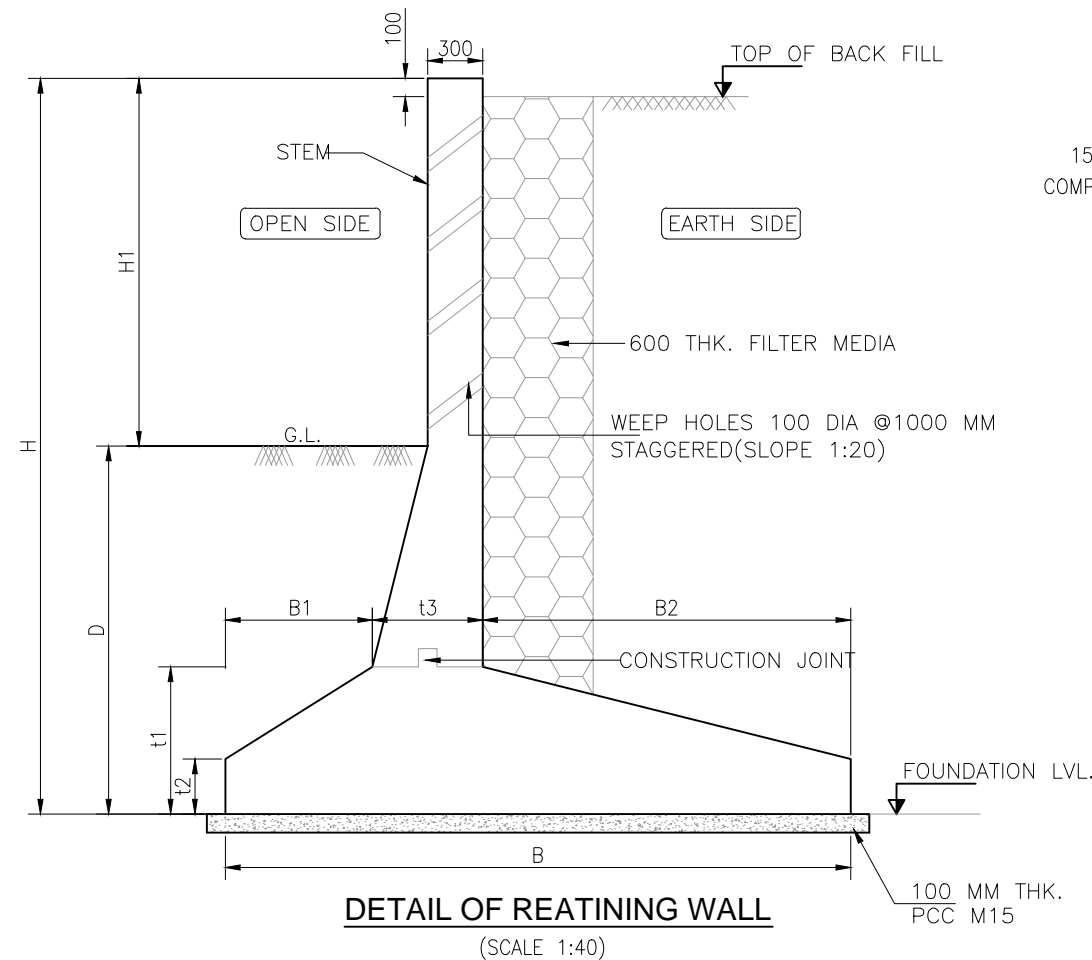
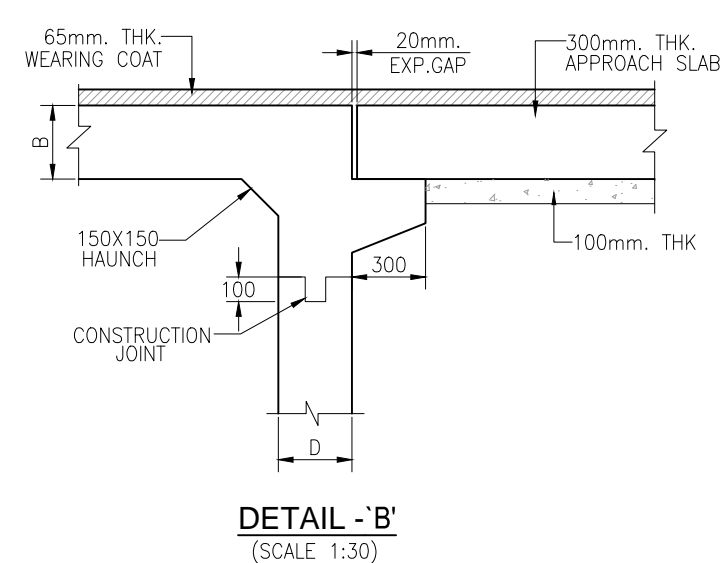
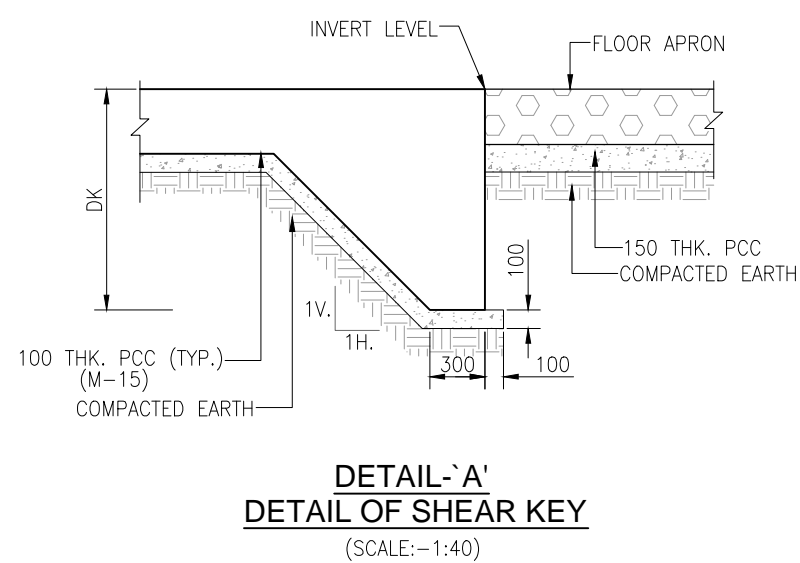
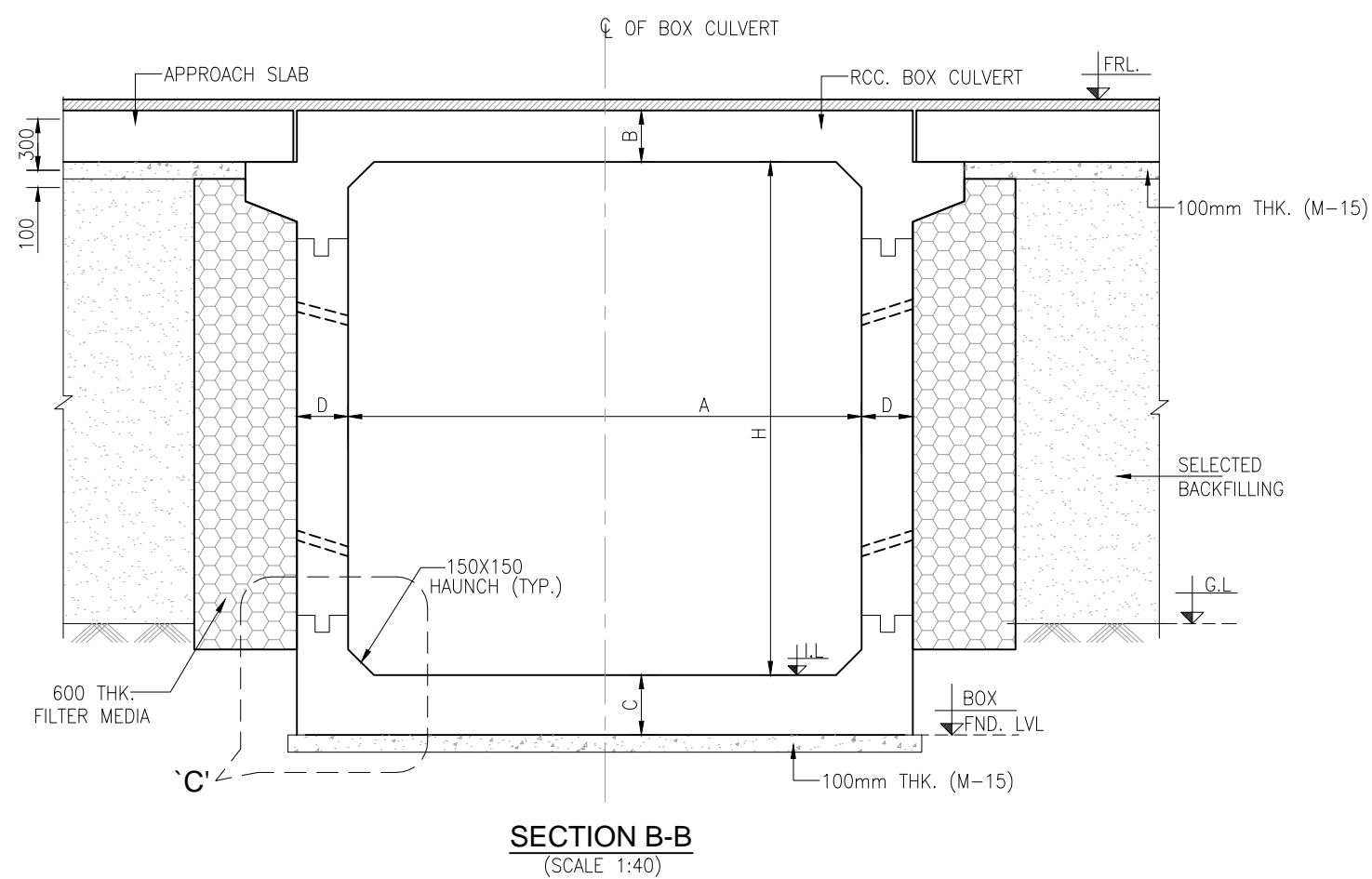
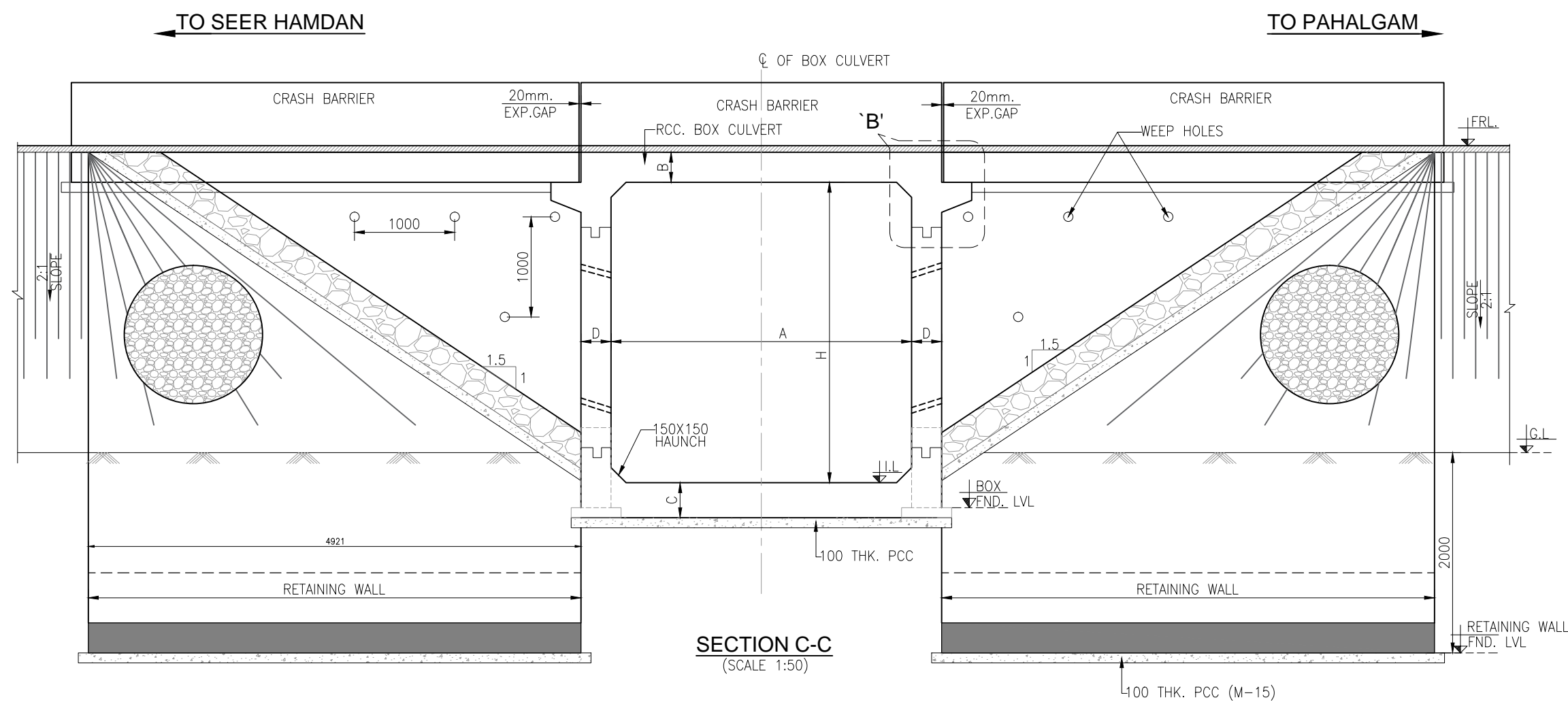
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REV.	DATE	DESCRIPTION	ENG.	DM



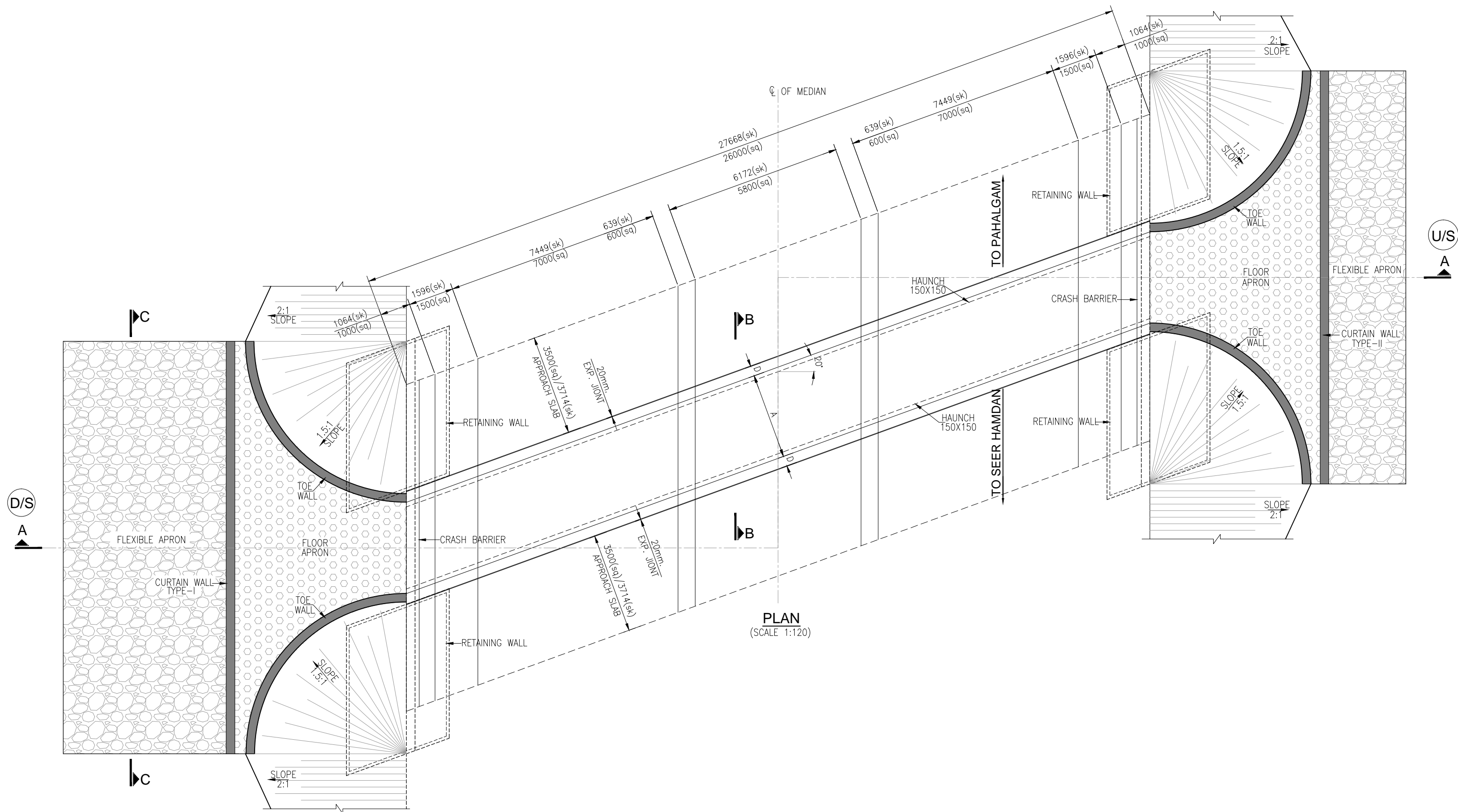
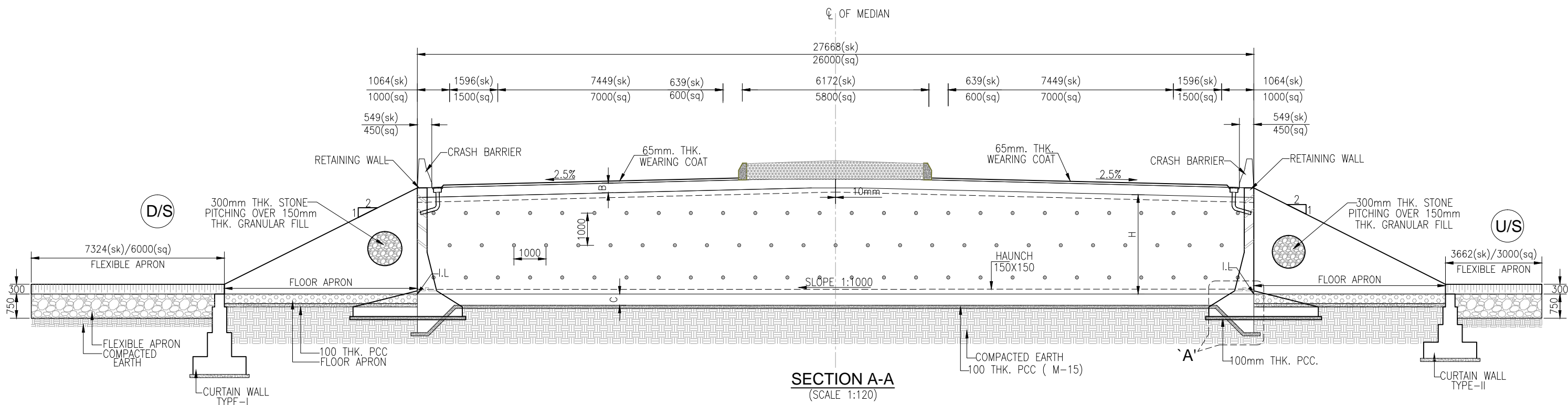


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REV.	DATE	DESCRIPTION	ENG.	DM					PACKAGE-2 SEER HAMDAN TO PAHALGAM		<table><tr><td>PAPER SIZE: A2</td><td>REV: 0</td></tr></table>				PAPER SIZE: A2	REV: 0								
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		A (SQ)	A (SK)	B	C	D (SQ)	D (SK)	h	v		SQUARE	SKEW	H	H1	
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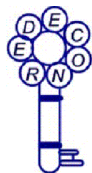
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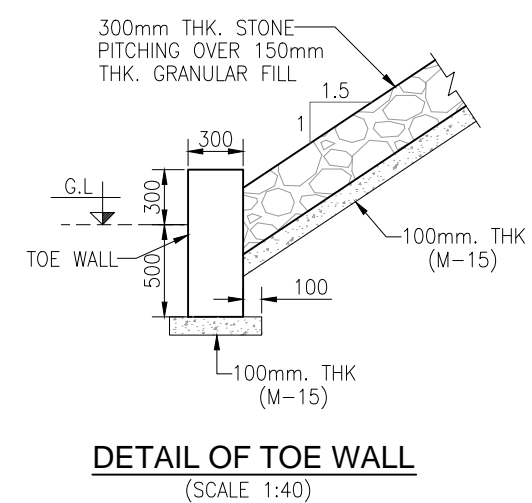
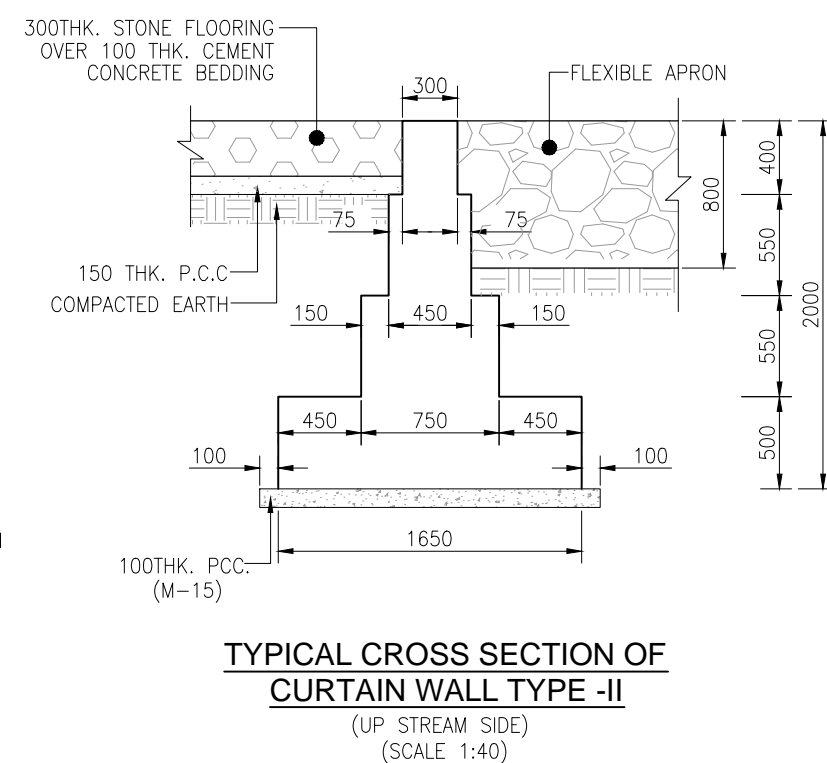
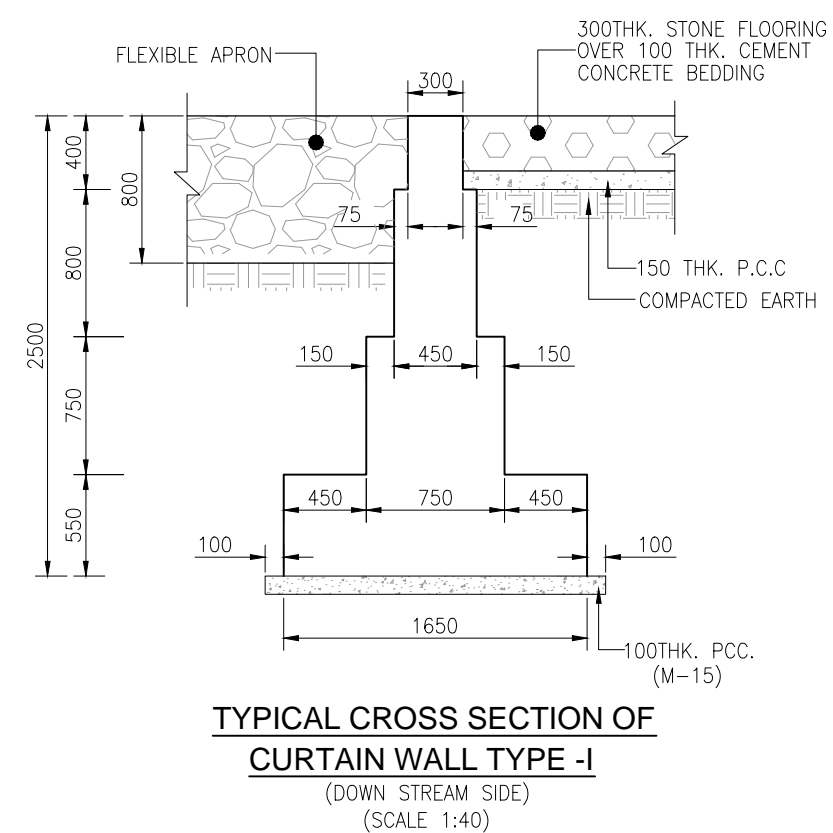
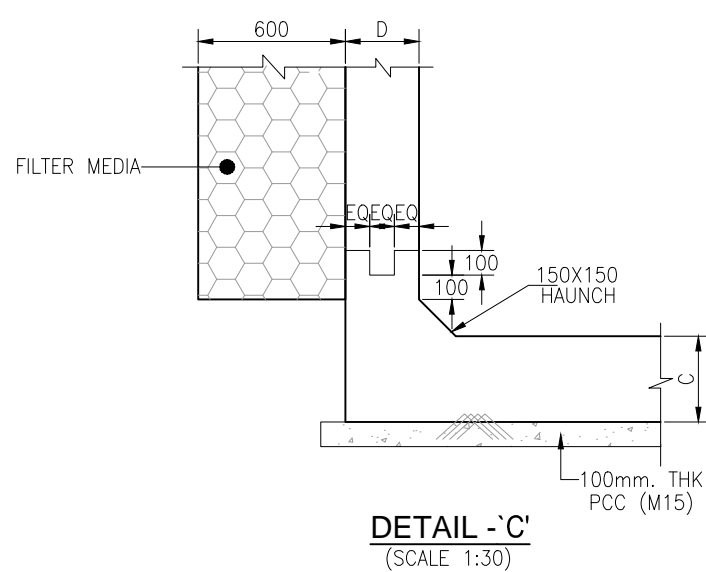
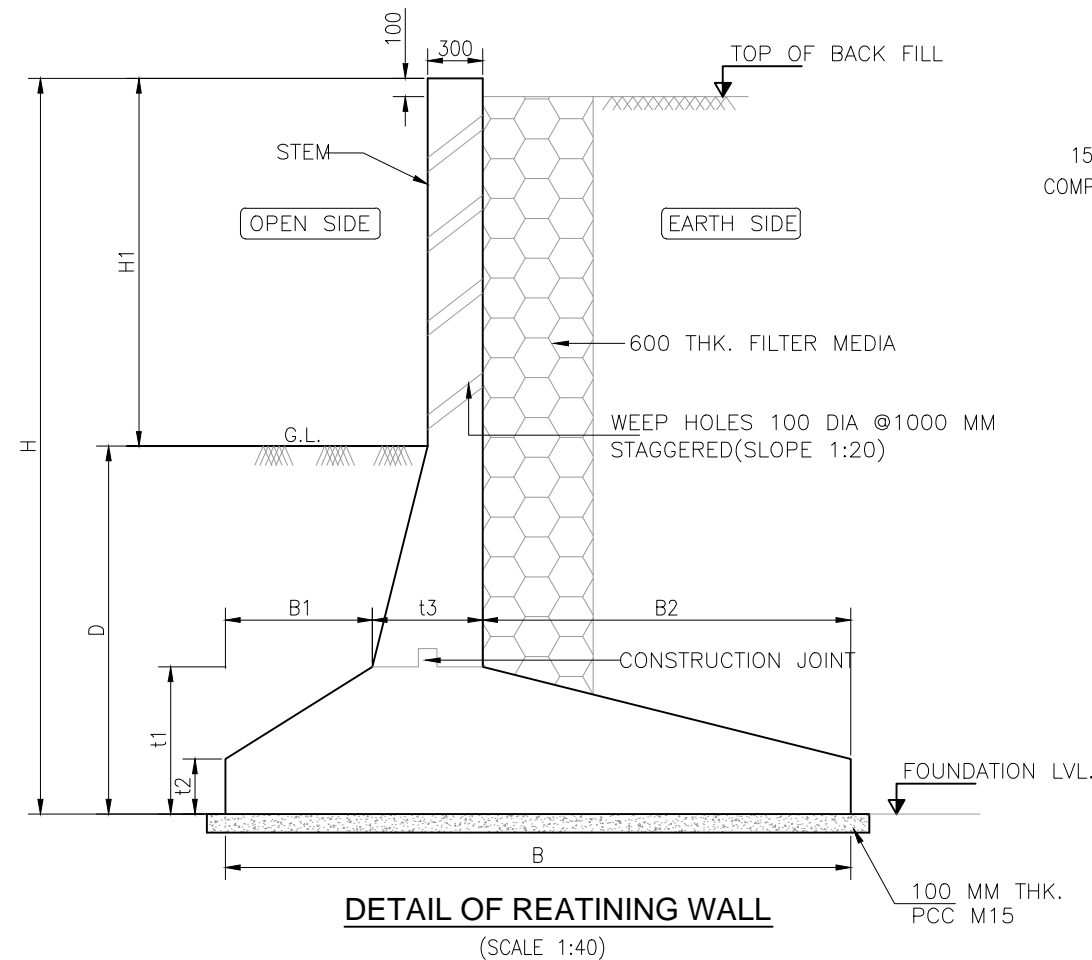
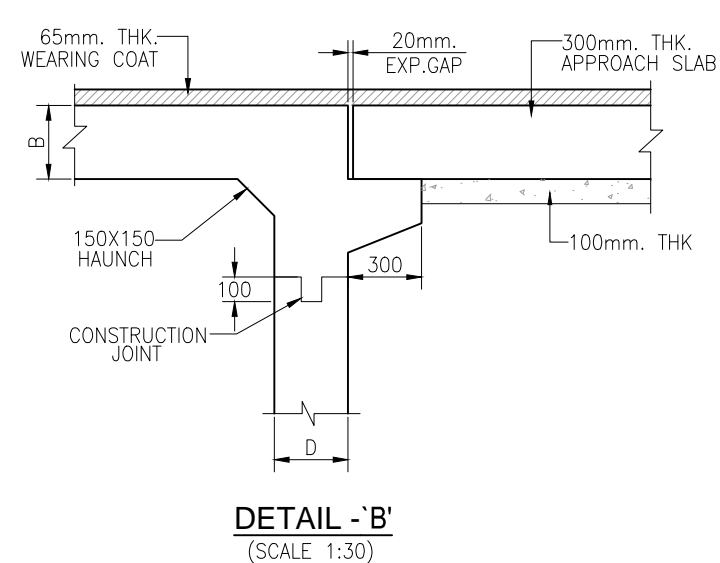
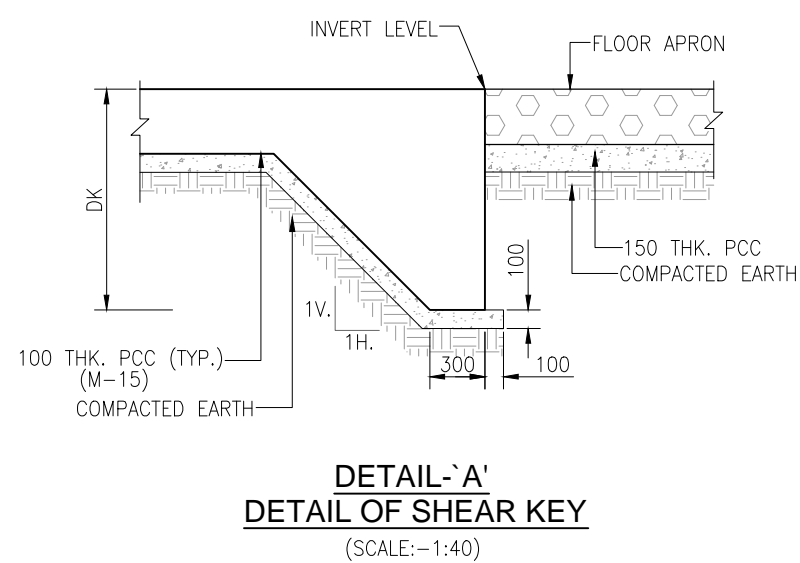
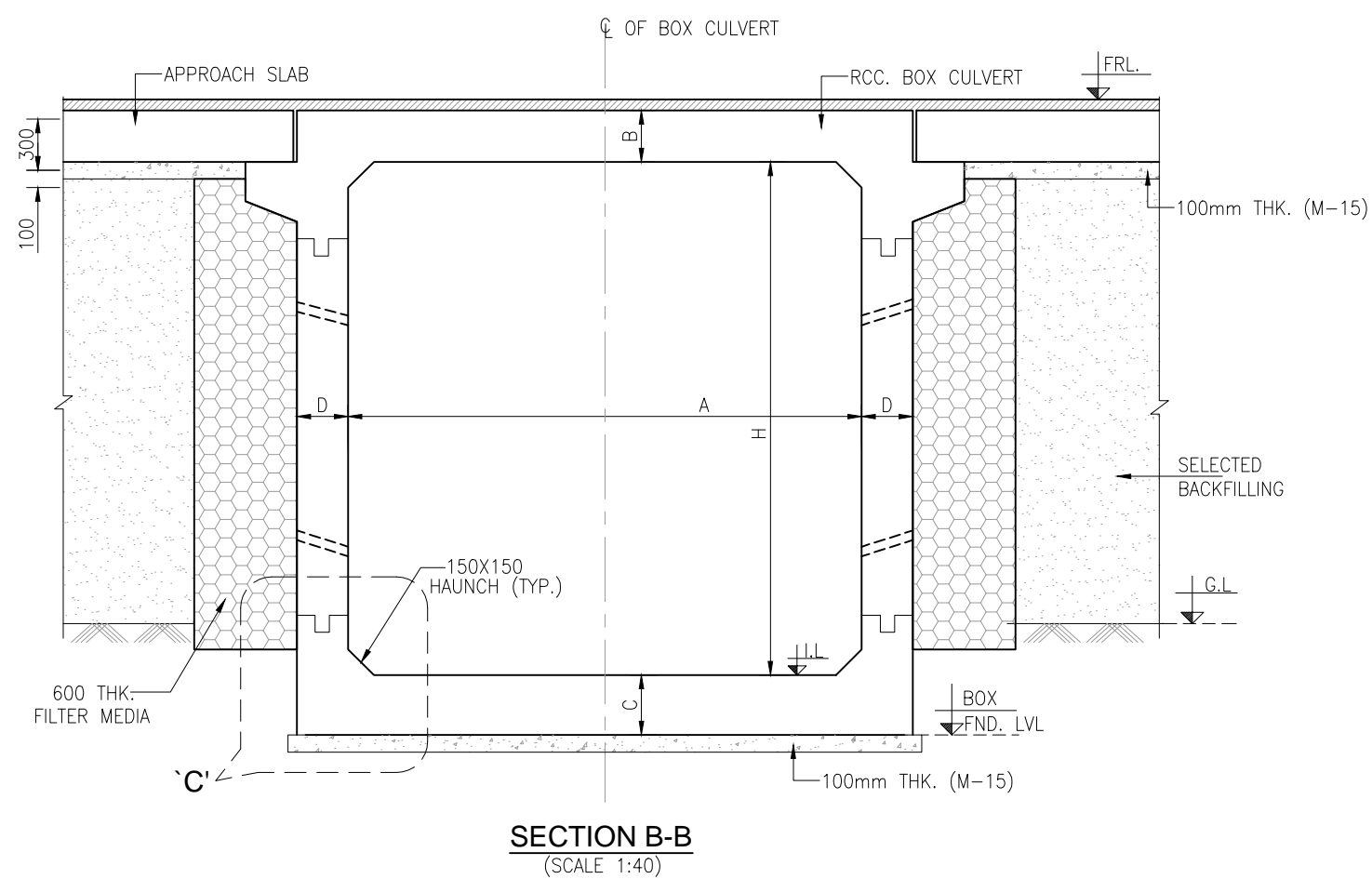
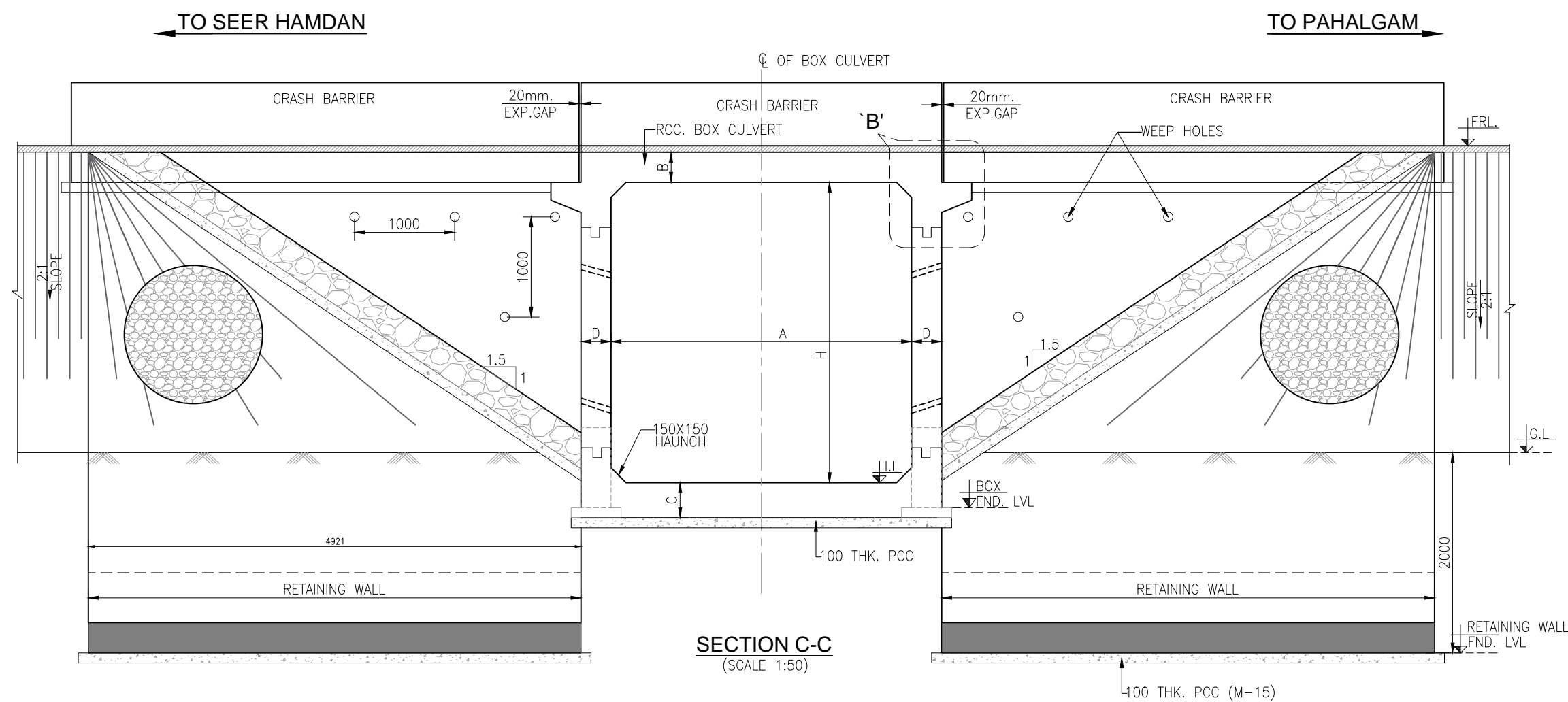
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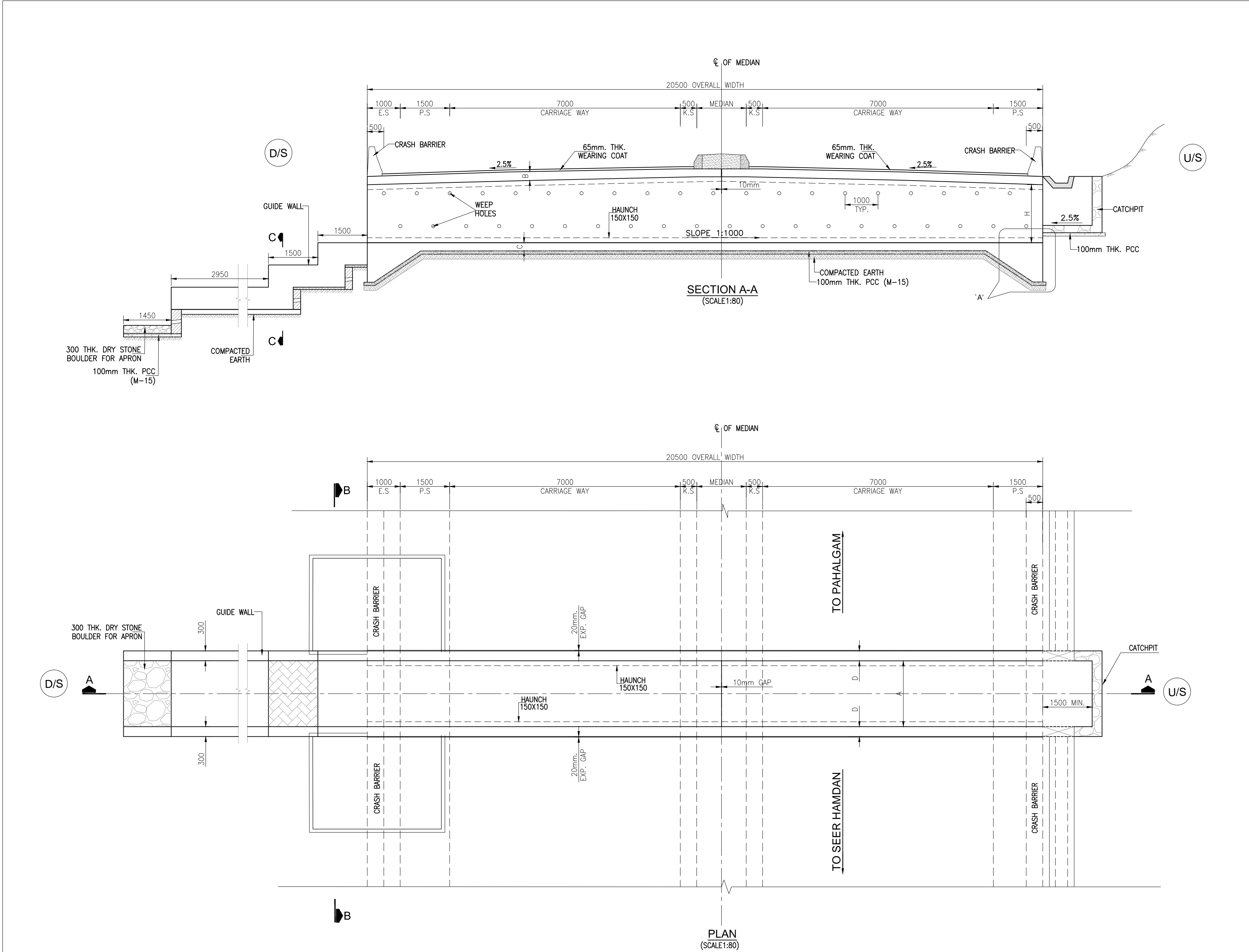
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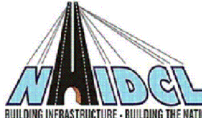
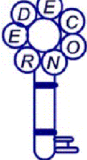


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SEER HAMDAN TO PAHALGAM  
TCS-4

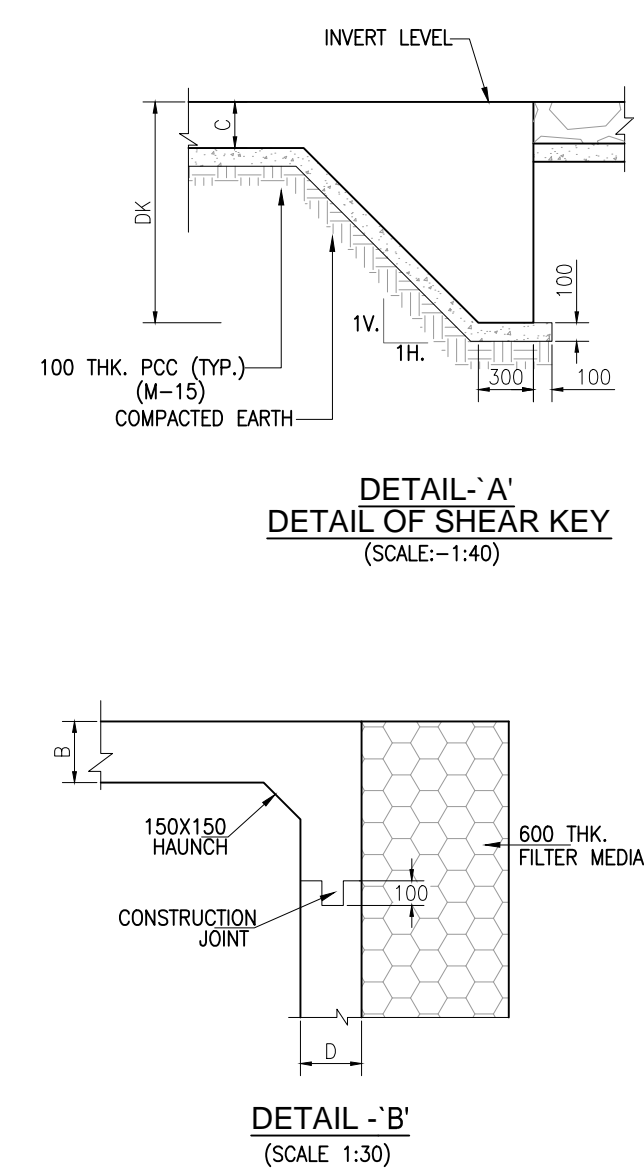
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2	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) 1M CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	02	R0
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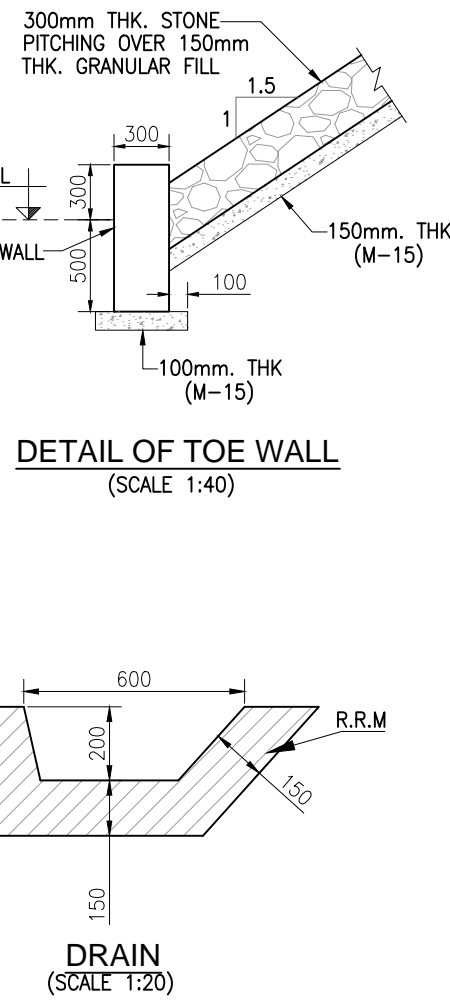
					<div>CLIENT:</div> <div></div> <div>NATIONAL HIGHWAYS &amp; INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.</div>	<div>CONSULTANT:</div> <div></div> <div>REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020</div>	<div>PROJECT:</div> <div>Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu &amp; Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501)</div> <div>PAKAGE- 2 SEER HAMDAN TO PAHALGAM</div>	DRAWING TITLE: GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x2.0x2.0) WITHOUT CUSHION (TCS-4)				SHEET No: 01 OF 02	
								DRAWING No: NHIDCL/J&K/NH-501/CUL/TYP./S-101				DATE: JAN. 2024	
								DRG. BYDESIGNEDCHECKEDAPPROVED				SCALE: AS SHOWN	
REV.	DATE	DESCRIPTION	ENG.	DM				G.NA.RVPS.IRM.				PAPER SIZE: A2	REV: 0







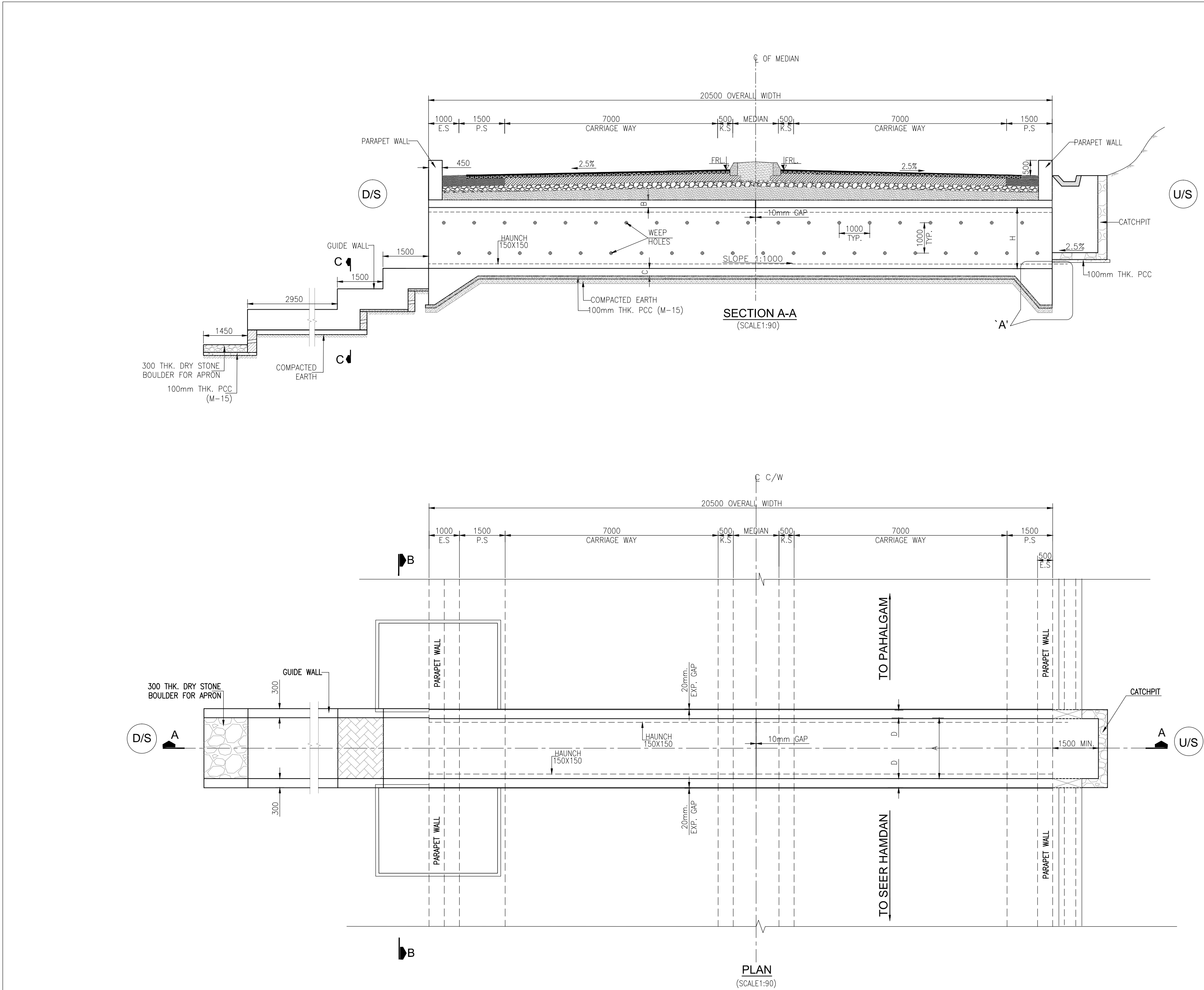
**NOTES:**

ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS, UNLESS OTHERWISE MENTIONED ONLY WRITTEN DIMENSION ARE TO BE FOLLOWED NO DIMENSION IS TO BE SCALED.





SR.NO	PROPOSED CHAINAGE	SPAN	TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.	HAUNCH		CARRIAGEWAY	TOTAL WIDTH	CLEAR HEIGHT	SKEW
		A	B	C	D	h	v			H	
1	31+203	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
2	31+460	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
3	31+525	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
4	31+750	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
5	31+890	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
6	31+960	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
7	32+315	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
8	34+883	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
9	34+996	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
10	35+217	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
11	35+455	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
12	35+780	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
13	36+111	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
14	36+239	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
15	36+448	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
16	36+804	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
17	37+003	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
18	37+429	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
19	37+882	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
20	37+994	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
21	38+057	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
22	38+831	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0
23	39+028	2	0.25	0.25	0.25	0.15	0.15	2X7	20500	2	Skew 0

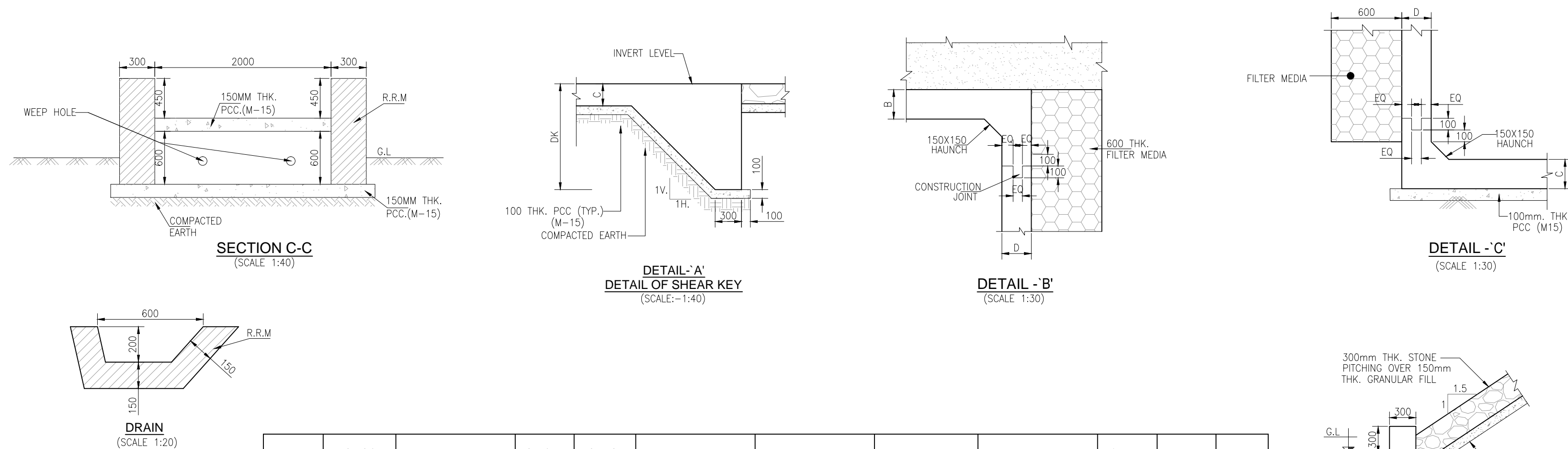
					<div>CLIENT:</div> <div></div> <div>NATIONAL HIGHWAYS &amp; INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.</div>	<div>CONSULTANT:</div> <div></div> <div>REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020</div>	<div>PROJECT:</div> <div>Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu &amp; Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501)</div> <div>PAKAGE- 2 SEER HAMDAN TO PAHALGAM</div>	<div>DRAWING TITLE:</div> <div>GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x2.0x2.0) WITHOUT CUSHION (TCS-4)</div> <div>DRAWING No:</div> <div>NHIDCL/J&amp;K/NH-501/CUL/TYP./S-101</div> <table><tr><td>DRG. BY</td><td>DESIGNED</td><td>CHECKED</td><td>APPROVED</td></tr><tr><td>G.N</td><td>A.R</td><td>VPS.</td><td>IRM.</td></tr></table>	DRG. BY	DESIGNED	CHECKED	APPROVED	G.N	A.R	VPS.	IRM.	<div>SHEET No:</div> <div>02 OF 02</div> <div>DATE:</div> <div>JAN. 2024</div> <div>SCALE:</div> <div>AS SHOWN</div> <div>PAPER SIZE:</div> <div>A2</div> <div>REV:</div> <div>0</div>
DRG. BY	DESIGNED	CHECKED	APPROVED														
G.N	A.R	VPS.	IRM.														
REV.	DATE	DESCRIPTION	ENG.	DM													



NOTES:				
1	ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS. UNLESS OTHERWISE MENTIONED ONLY WRITTEN DIMENSION ARE TO BE FOLLOWED NO DIMENSION IS TO BE SCALED.			
S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	CONDITION OF EXPOSURE	IRC-112:2020	MODERATE	
b	SEISMIC ZONE IMPORTANCE FACTOR	IRC SP114:2020	ZONE – V 1.2	
c	LIVE LOAD– CONSIDERED a. 3L CLASS–A b. CLASS A–2L PLUS 1LANE 70R W c. CLASS 70R TRACKED d. SPECIAL VEHICLE SV LOADING	IRC 6 :2017	CRITICAL OF a,b,c & d	
d	SNOW LOAD OF 500 kg/cum	LIVE LOAD	ACCUMULATION	
	i) COMBINE SNOW LOAD WITH LIVE LOAD	WHEELED VEH.	SNOW 250mm	
	ii) COMBINE SNOW LOAD WITH LIVE LOAD	TRACKED VEH.	SNOW 500mm	
	iii) COMBINE SNOW LOAD WITH LIVE LOAD	NIL	SNOW >500mm	
NOTE:- MAXIMUM RECORDED SNOW ACCUMULATION AS PER SITE = 1200mm				
2	TECHNICAL SPECIFICATION TO BE FOLLOWED			
S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	WEARING COURSE	MORT&H. SECTION 2702	65mm	
b	GRADE OF REBARS.	IS:1786.	Fe–500D	
c	BACK FILL BEHIND ABUT. RETURN/WING/ RETAINING WALL	IRC 78 2014	Ø :30 DEG. ≥:18kN/cum Δ:20DEG.	
d	WEEP HOLES,SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUT.& RETURN WALL	IRC 78 2014 MORT&H. SECTION 2706	100mm DIA 1000 c/c V/H	
e	WATER TO BE USED FOR CONCRETING, GROUTING & CURING	IRC-112-2020	–	
3	GRADE & CLEAR COVER			
ELEMENT DESCRIPTION		MATERIAL	GRADE	COVER
TOP SLAB		RCC	M30	50mm
OUTER WALLS	WATER FACE	RCC	M30	50mm
	EARTH FACE	RCC	M30	75mm
BASE SLAB	TOP	RCC	M30	75mm
	BOTTOM	RCC	M30	75mm
CRASH BARRIER		RCC	M40	50mm
APPROACH SLAB		RCC	M30	50mm
PCC CURTAIN WALL		PCC	M20	–
PCC		PCC	M15	–
4	DESIGN DETAILS:			
VALUE OF 'DK'		FOR BASE SLAB THICKNESS	SBC. (kN/Sqm)	TYPE OF FDN. STRATA
1200mm		UPTO 900mm	–	–
e+300mm		GREATER THAN 900mm		
* 'DK' = DEPTH OF KEY AT BASE; (e) = BASE SLAB THICKNESS				
5	SBC OF SOIL BELOW THE BOX STRUCTURE SHALL NOT BE LESS THAN ____kN/Sqm.SBC REQUIRED SHALL BE ENSURED BEFORE COMMENCEMENT OF THE EXECUTION.			
6	BEFORE STARTING UP THE EXECUTION VERIFY THE DIMENSION AND LEVELS. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF THE DESIGN CONSULTANT.			

					<div>CLIENT:</div> <div></div> <div>NATIONAL HIGHWAYS &amp; INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.</div>	<div>CONSULTANT:</div> <div></div> <div>REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020</div>	<div>PROJECT:</div> <div>Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu &amp; Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501)</div> <div>PACKAGE- 2 SEER HAMDAN TO PAHALGAM</div>	<div>DRAWING TITLE:</div> <div>GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x2.0x2.0) 1m CUSHION (TCS-4)</div>				<div>SHEET No:</div> <div>01 OF 02</div>	
								<div>DRAWING No:</div> <div>NHIDCL/J&amp;K/NH-501/CUL/TYP./S-101</div>	<div>DATE:</div> <div>JAN. 2024</div>				
								<div>DRG. BY</div> <div>G.N</div>	<div>DESIGNED</div> <div>A.R</div>	<div>CHECKED</div> <div>VPS.</div>	<div>APPROVED</div> <div>IRM.</div>	<div>SCALE:</div> <div>AS SHOWN</div>	
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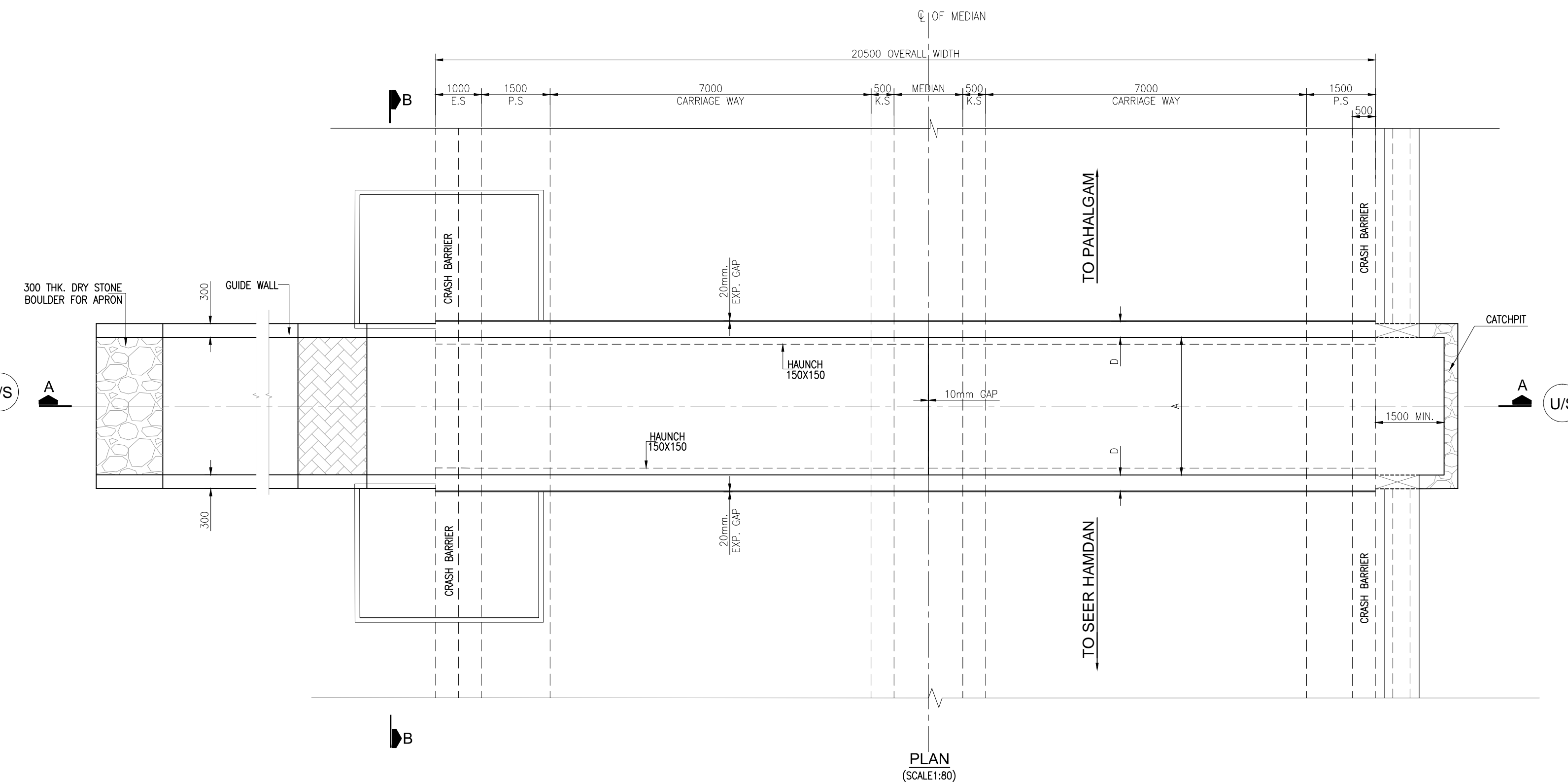




SR.NO	PROPOSED CHAINAGE	SPAN	TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.	HAUNCH		CARRIAGEWAY	TOTAL WIDTH	CLEAR HEIGHT	CUSHION	SKEW
						h	v					
1	29+269	2	0.25	0.3	0.25	0.15	0.15	2X7	20500	2	1	Skew 0
2	29+691	2	0.25	0.3	0.25	0.15	0.15	2X7	20500	2	1	Skew 0
3	29+757	2	0.25	0.3	0.25	0.15	0.15	2X7	20500	2	1	Skew 0
4	30+277	2	0.25	0.3	0.25	0.15	0.15	2X7	20500	2	1	Skew 0
5	30+930	2	0.25	0.3	0.25	0.15	0.15	2X7	20500	2	1	Skew 0
6	34+940	2	0.25	0.3	0.25	0.15	0.15	2X7	20500	2	1	Skew 0
7	37+126	2	0.25	0.3	0.25	0.15	0.15	2X7	20500	2	1	Skew 0
8	37+203	2	0.25	0.3	0.25	0.15	0.15	2X7	20500	2	1	Skew 0

**NOTES:**

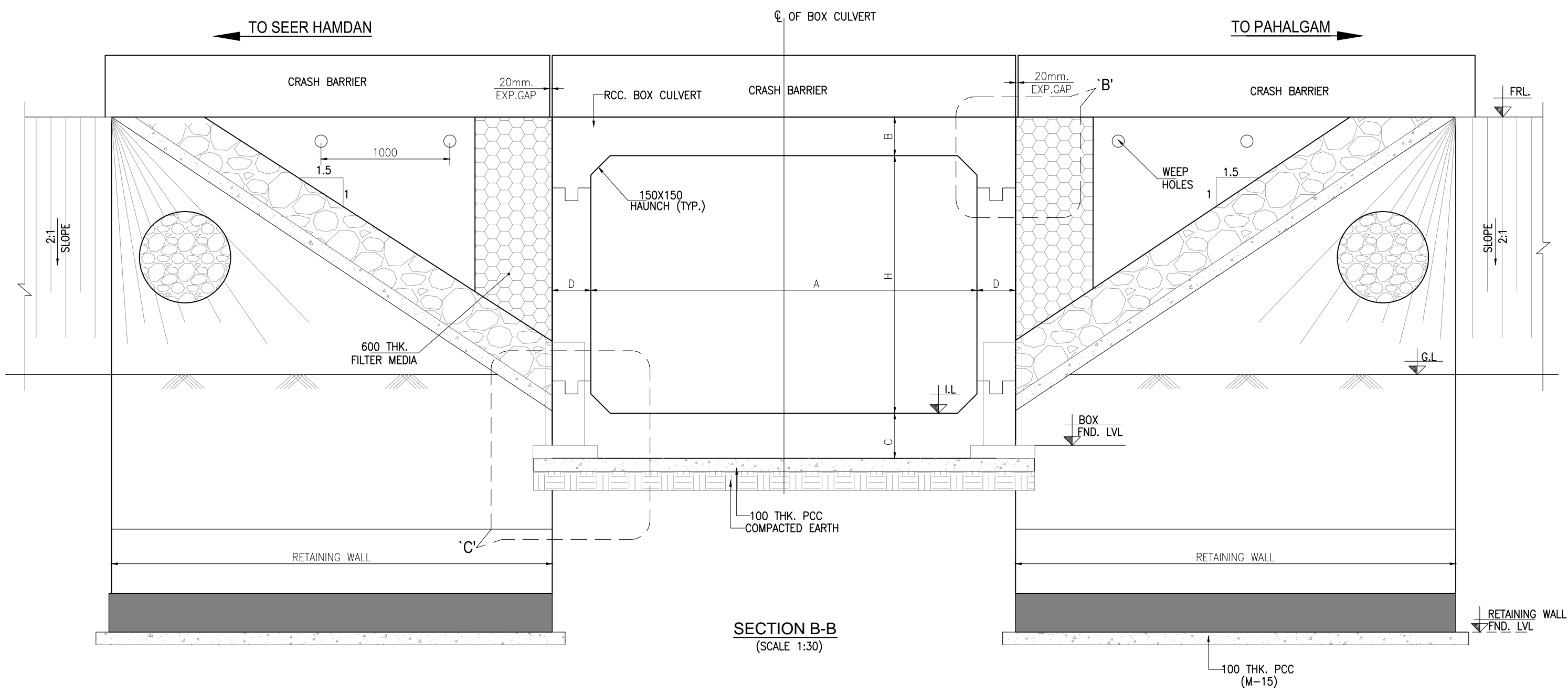
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					<div>CLIENT:</div> <div></div> <div>NATIONAL HIGHWAYS &amp; INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.</div>	<div>CONSULTANT:</div> <div></div> <div>REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020</div>	<div>PROJECT:</div> <div>Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu &amp; Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501)</div> <div>PAKAGE- 2 SEER HAMDAN TO PAHALGAM</div>	<div>DRAWING TITLE:</div> <div>GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x2.0x2.0) 1m CUSHION (TCS-4)</div>				<div>SHEET No:</div> <div>02 OF 02</div>	
								<div>DRAWING No:</div> <div>NHIDCL/J&amp;K/NH-501/CUL/TYP/S-101</div>				<div>DATE:</div> <div>JAN. 2024</div>	
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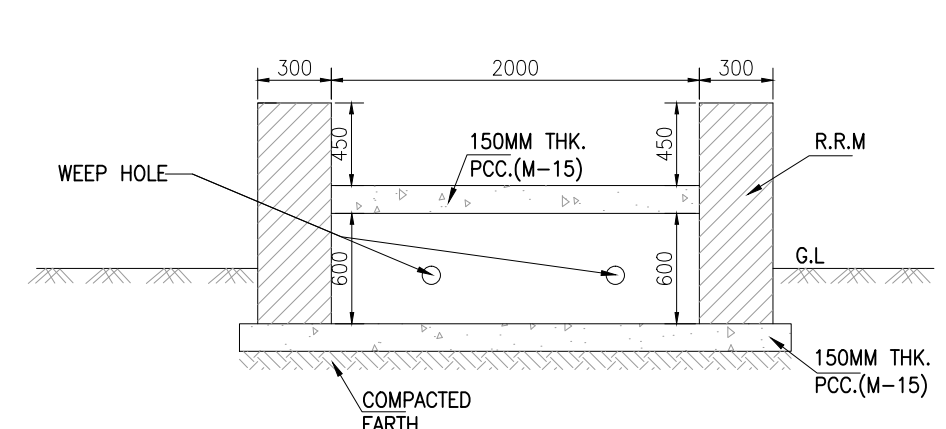
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DRAWING No: NHIDCL/J&K/NH-501/CUL/TYP./S-101				DATE: JAN. 2024									
DRG. BY	DESIGNED	CHECKED	APPROVED	SCALE: AS SHOWN									
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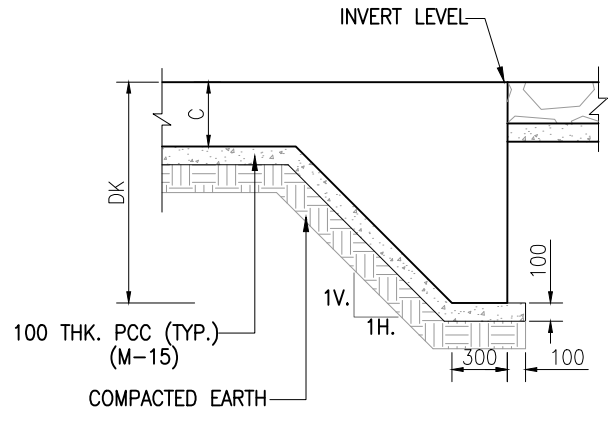




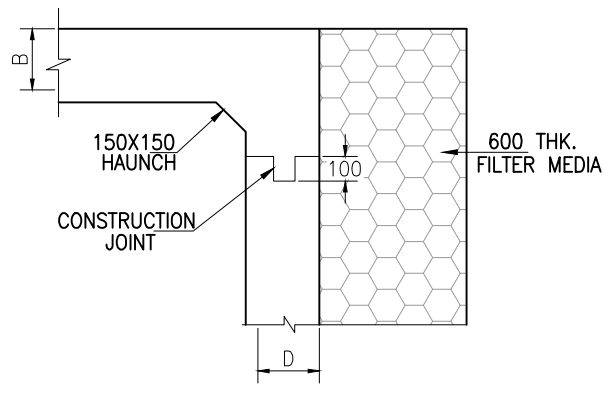
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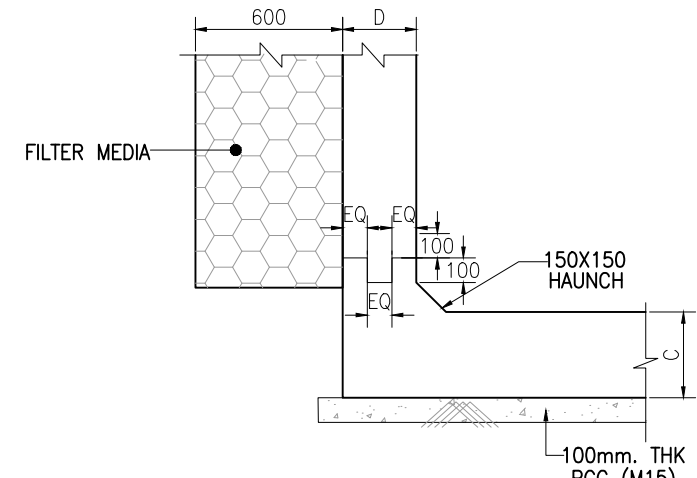
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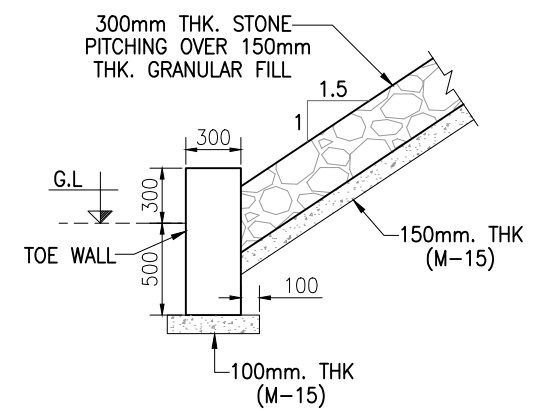
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DETAIL OF SHEAR KEY  
(SCALE:-1:40)



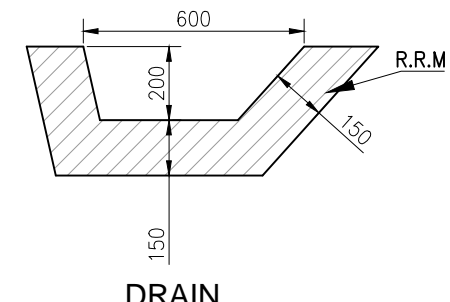
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DETAIL - 'C'  
(SCALE 1:30)





DETAIL OF TOE WALL  
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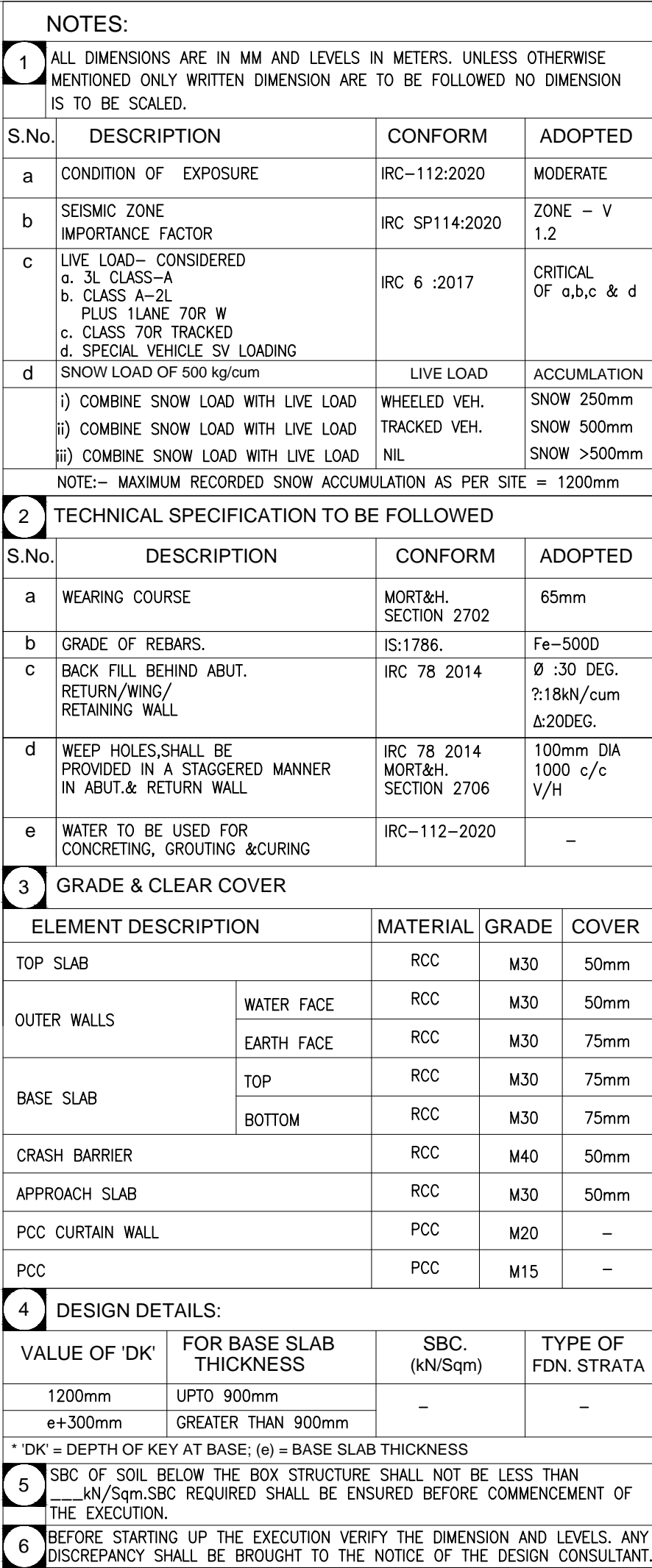




DRAIN  
(SCALE 1:20)

SR.NO	PROPOSED CHAINAGE	SPAN	TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.	HAUNCH		CARRIAGEWAY	TOTAL WIDTH	CLEAR HEIGHT	SKEW
		A	B	C	D	h	v			H	
1	35+100	3	0.25	0.3	0.25	0.15	0.15	2X7	20500	2	Skew 0

NOTES:  
1 ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS. UNLESS OTHERWISE MENTIONED ONLY WRITTEN DIMENSION ARE TO BE FOLLOWED NO DIMENSION IS TO BE SCALED.

					<div>CLIENT:</div> <div></div> <div>NATIONAL HIGHWAYS &amp; INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.</div>	<div>CONSULTANT:</div> <div></div> <div>REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020</div>	<div>PROJECT:</div> <div>Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu &amp; Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501)</div> <div>PACKAGE- 2 SEER HAMDAN TO PAHALGAM</div>	<div>DRAWING TITLE:</div> <div>GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x3.0x2.0) WITHOUT CUSHION (TCS-4)</div>				<div>SHEET No:</div> <div>02 OF 02</div>	
								<div>DRAWING No:</div> <div>NHIDCL/J&amp;K/NH-501/CUL/TYP./S-101</div>	<div>DATE:</div> <div>JAN. 2024</div>				
								<div>DRG. BY</div> <div>G.N</div>	<div>DESIGNED</div> <div>A.R</div>	<div>CHECKED</div> <div>V.PS.</div>	<div>APPROVED</div> <div>IRM.</div>	<div>SCALE:</div> <div>AS SHOWN</div>	
REV.	DATE	DESCRIPTION	ENG.	DM								<div>PAPER SIZE:</div> <div>A2</div>	<div>REV:</div> <div>0</div>



						<div>CLIENT:</div> <div></div> <div>NATIONAL HIGHWAYS &amp; INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.</div>	<div>CONSULTANT:</div> <div></div> <div>REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020</div>	<div>PROJECT:</div> <div>Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu &amp; Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501)</div> <div>PAKAGE- 2 SEER HAMDAN TO PAHALGAM</div>	<div>DRAWING TITLE:</div> <div>GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x3.0x3.0) WITHOUT CUSHION (TCS-4)</div> <div>DRAWING No:</div> <div>NHIDCL/J&amp;K/NH-501/CUL/TYP./S-101</div> <div><div>DRG. BY</div><div>DESIGNED</div><div>CHECKED</div><div>APPROVED</div></div> <div><div>G.N</div><div>A.R</div><div>VPS.</div><div>IRM.</div></div>	<div>SHEET No:</div> <div>01 OF 02</div> <div>DATE:</div> <div>JAN. 2024</div> <div>SCALE:</div> <div>AS SHOWN</div> <div><div>PAPER SIZE: A2</div><div>REV: 0</div></div>					
REV.	DATE	DESCRIPTION	ENG.	DM											

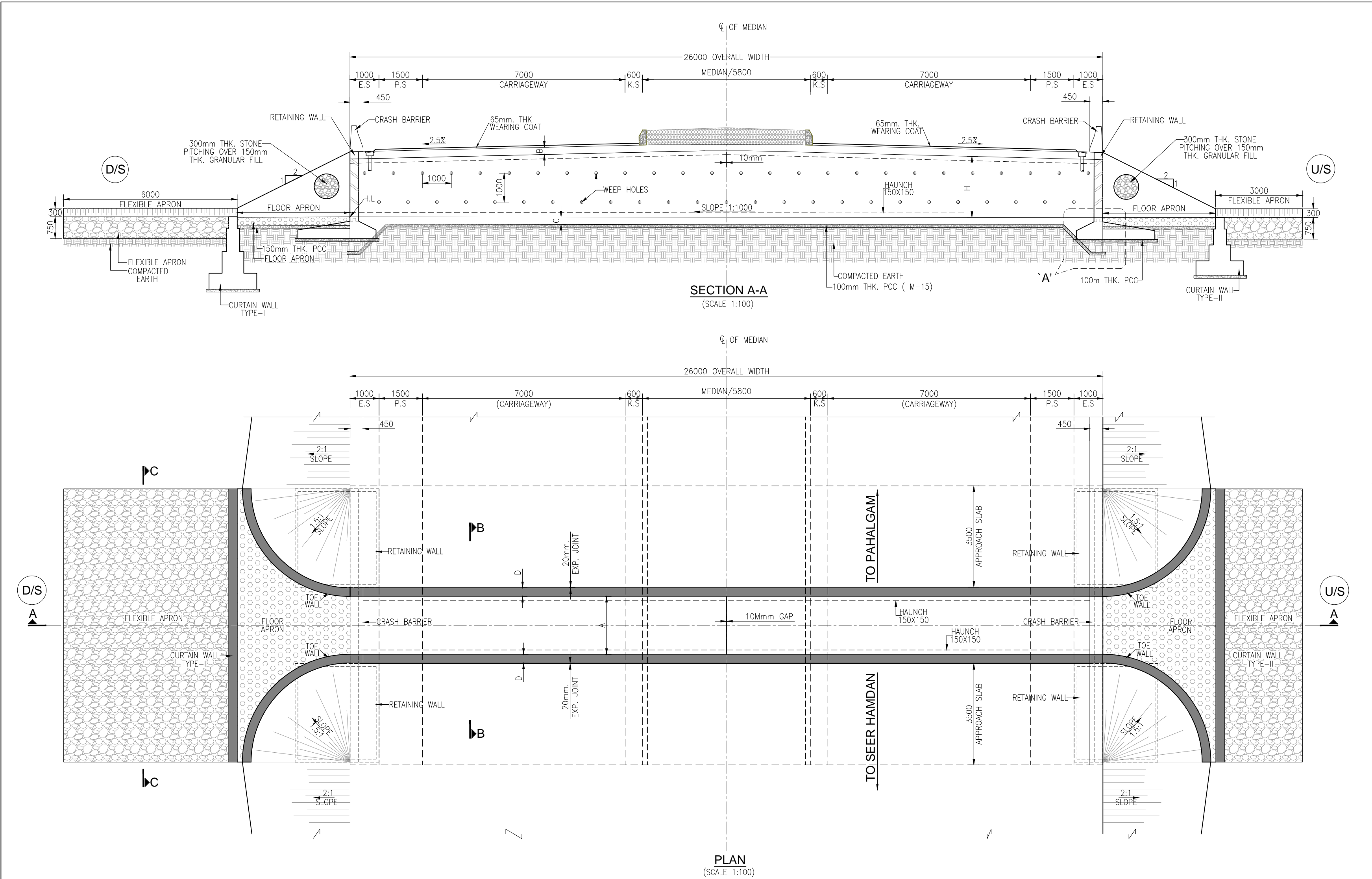




DRAWING INDEX PACKAGE 2  
SEER HAMDAN TO PAHALGAM  
TCS-5


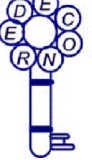
SL.No.	DRAWING TITLE	DRAWING No.	SHEET	REV.
1	TYPICAL GENERAL ARRANGEMENT DRAWING FOR BOX CULVERT (1X2.0X2.0) WITHOUT CUSHION	NHIDCL / J&K / NH-501 / CUL / TYP. / S-101	02	R0





NOTES:				
1	ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS. UNLESS OTHERWISE MENTIONED ONLY WRITTEN DIMENSION ARE TO BE FOLLOWED NO DIMENSION IS TO BE SCALED.			
S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	CONDITION OF EXPOSURE	IRC-112:2020	MODERATE	
b	SEISMIC ZONE IMPORTANCE FACTOR	IRC SP114:2020	ZONE – V 1.2	
c	LIVE LOAD– CONSIDERED a. 3L CLASS–A b. CLASS A–2L PLUS 1LANE 70R W c. CLASS 70R TRACKED d. SPECIAL VEHICLE SV LOADING	IRC 6 :2017	CRITICAL OF a,b,c & d	
d	SNOW LOAD OF 500 kg/cum	LIVE LOAD	ACCUMULATION	
	i) COMBINE SNOW LOAD WITH LIVE LOAD	WHEELED VEH.	SNOW 250mm	
	ii) COMBINE SNOW LOAD WITH LIVE LOAD	TRACKED VEH.	SNOW 500mm	
	iii) COMBINE SNOW LOAD WITH LIVE LOAD	NIL	SNOW >500mm	
NOTE:- MAXIMUM RECORDED SNOW ACCUMULATION AS PER SITE = 1200mm				
2	TECHNICAL SPECIFICATION TO BE FOLLOWED			
S.No.	DESCRIPTION	CONFORM	ADOPTED	
a	WEARING COURSE	MORT&H. SECTION 2702	65mm	
b	GRADE OF REBARS.	IS:1786.	Fe-500D	
c	BACK FILL BEHIND ABUT. RETURN/WING/ RETAINING WALL	IRC 78 2014	Ø :30 DEG. ?:18kN/cum Δ:20DEG.	
d	WEEP HOLES,SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUT.& RETURN WALL	IRC 78 2014 MORT&H. SECTION 2706	100mm DIA 1000 c/c V/H	
e	WATER TO BE USED FOR CONCRETING, GROUTING &CURING	IRC-112-2020	-	
3	GRADE & CLEAR COVER			
ELEMENT DESCRIPTION		MATERIAL	GRADE	COVER
TOP SLAB		RCC	M30	50mm
OUTER WALLS	WATER FACE	RCC	M30	50mm
	EARTH FACE	RCC	M30	75mm
BASE SLAB	TOP	RCC	M30	75mm
	BOTTOM	RCC	M30	75mm
CRASH BARRIER		RCC	M40	50mm
APPROACH SLAB		RCC	M30	50mm
PCC CURTAIN WALL		PCC	M20	-
PCC		PCC	M15	-
4	DESIGN DETAILS:			
VALUE OF 'DK'		FOR BASE SLAB THICKNESS	SBC. (kN/Sqm)	TYPE OF FDN. STRATA
1200mm		UPTO 900mm	-	-
e+300mm		GREATER THAN 900mm		
* 'DK' = DEPTH OF KEY AT BASE; (e) = BASE SLAB THICKNESS				
5	SBC OF SOIL BELOW THE BOX STRUCTURE SHALL NOT BE LESS THAN ____kN/Sqm.SBC REQUIRED SHALL BE ENSURED BEFORE COMMENCEMENT OF THE EXECUTION.			
6	BEFORE STARTING UP THE EXECUTION VERIFY THE DIMENSION AND LEVELS. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF THE DESIGN CONSULTANT.			

SR.NO	PROPOSED CHAINAGE	SPAN	TOP SLAB THK.	BOTTOM SLAB THK.	WALL THK.	HAUNCH		CARRIAGEWAY	TOTAL WIDTH	CLEAR HEIGHT	SKEW
		A	B	C		D	h		v	H	
1	20+529	2	0.25	0.25	0.25	0.15	0.15	2X7	21500	2	Skew 0
2	20+856	2	0.25	0.25	0.25	0.15	0.15	2X7	21500	2	Skew 0
3	21+100	2	0.25	0.25	0.25	0.15	0.15	2X7	21500	2	Skew 0

REV.	DATE	DESCRIPTION	ENG.	DM	CLIENT:  NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.	CONSULTANT:  REDECON (I) Pvt. Ltd. REDECON HOUSE E-49/4, Okhla Phase-II, New Delhi-110020	PROJECT: Consultancy Services for Preparation of Detailed Project Report for 2 laning with paved shoulder in the UT of Jammu & Kashmir and Ladakh." FROM KHANABAL TO BALTAL(NH-501) PACKAGE-2 SEER HAMDAN TO PAHALGAM	DRAWING TITLE: GENERAL ARRANGEMENT DRAWING TYPICAL BOX CULVERT (1x2.0x2.0) WITHOUT CUSHION (TCS-5)				SHEET No: 01 OF 02	
								DRAWING No: NHIDCL/J&K/NH-501/CUL/TYP./S-101				DATE: JAN.2024	
								DRG. BY	DESIGNED	CHECKED	APPROVED	SCALE: AS SHOWN	
								G.N	A.R	VPS.	IRM.	PAPER SIZE: A2	REV: 0

