



Consultancy Services for the Preparation of Feasibility Study and DPR for 2 lane with Paved Shoulder of newly declared NH-208 Chainage From Km 75+700 to Km 101+300 for execution on EPC Mode in the State of Tripura

Final Detailed Project Report Package-V (Srirampur - Ganki Section of NH-208)

DRAWING VOLUME PART-B (STRUCTURE PART)

Submitted To
**National Highways & Infrastructure
Development Corporation Ltd, New Delhi**

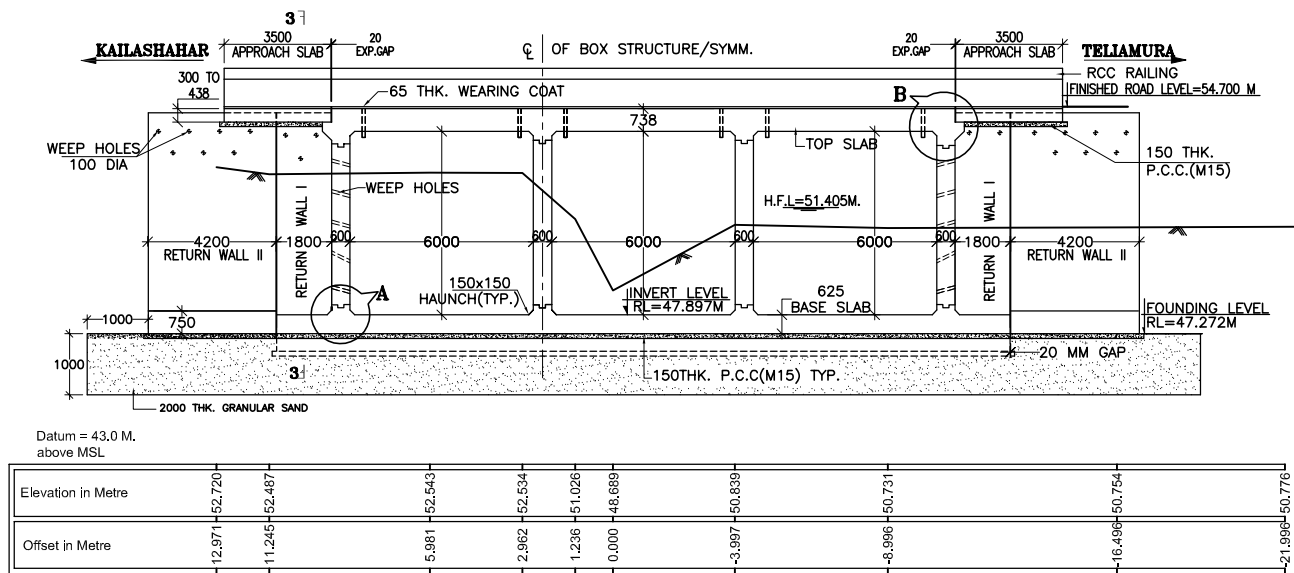


Consultant
C. E. Testing Company Pvt. Ltd.
124-A, NSC Bose Road, Kolkata 700092

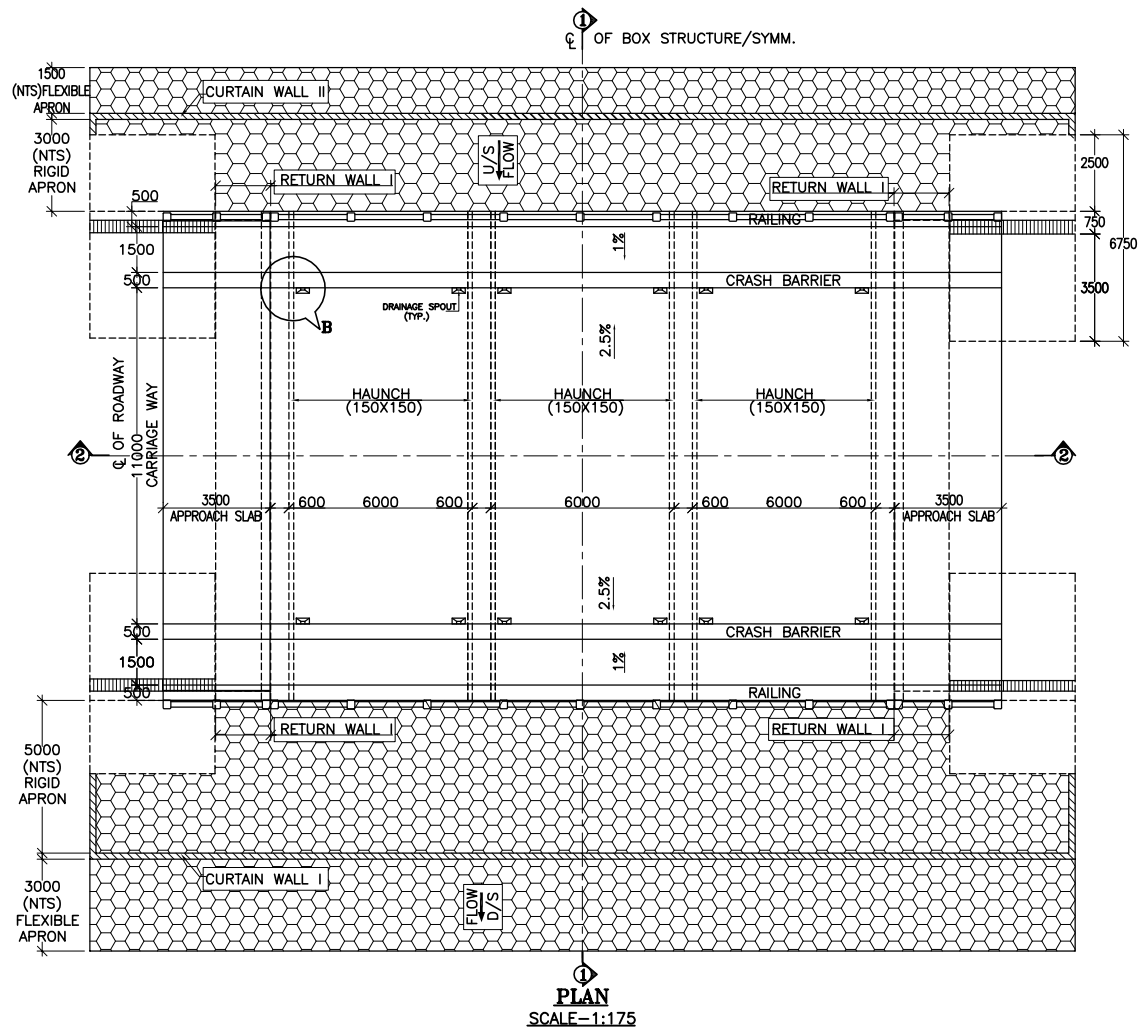


CONTENT
(PROPOSED MAJOR & MINOR
STRUCTURES/BRIDGES OF NH-208)
PACKAGE-V

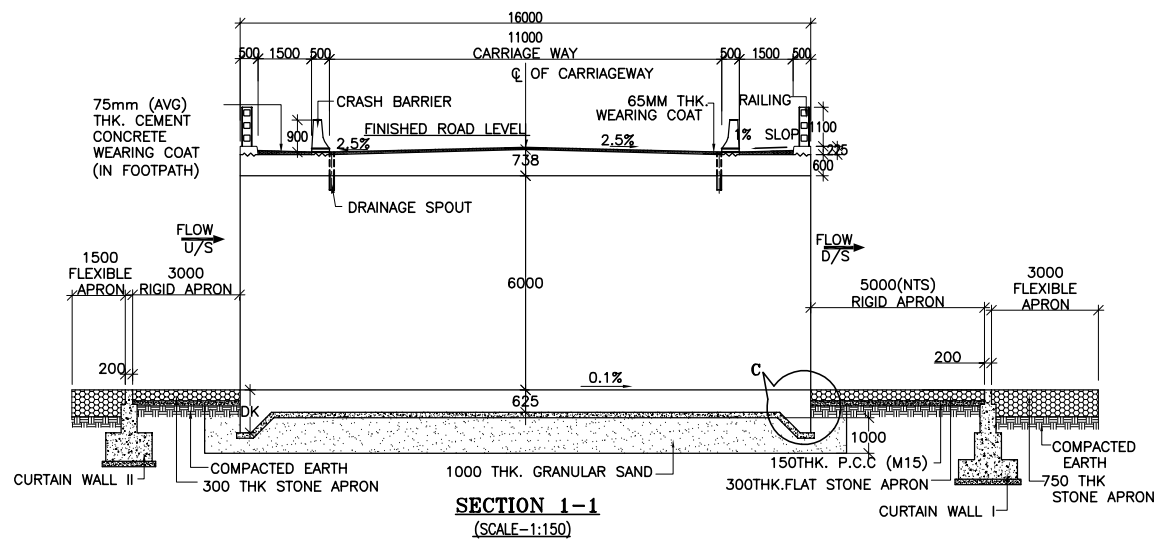
SL. NO.	DESIGN CHAINAGE	STR. NO.	DESCRIPTION	DRAWING NO.	NO. OF SHEETS
01.	86.046 KM	87/1	3 X 6.0M X 6.0M R.C.C BOX BRIDGE :-		
			GENERAL ARRANGEMENT	CET/BDG/2015/3580/NH-208/FDPR/MN/GA	02
			REINFORCEMENT DETAILS	CET/BDG/2015/3580/NH-208/FDPR/MN/RCC	01
			MISCELLANEOUS DRAWING	CET/BDG/2015/3580/NH-208/FDPR/MN/MISC	01
02.	86.307 KM	87/2	3 X 6.0M X 6.0M R.C.C BOX BRIDGE :-		
			GENERAL ARRANGEMENT	CET/BDG/2015/3580/NH-208/FDPR/MN/GA	02
			REINFORCEMENT DETAILS	CET/BDG/2015/3580/NH-208/FDPR/MN/RCC	01
			MISCELLANEOUS DRAWING	CET/BDG/2015/3580/NH-208/FDPR/MN/MISC	01
03.	87.729 KM	88/1	2 X 5.0M X 5.0M R.C.C BOX BRIDGE :-		
			GENERAL ARRANGEMENT	CET/BDG/2015/3580/NH-208/FDPR/MN/GA	02
			REINFORCEMENT DETAILS	CET/BDG/2015/3580/NH-208/FDPR/MN/RCC	01
			MISCELLANEOUS DRAWING	CET/BDG/2015/3580/NH-208/FDPR/MN/MISC	01
04.	89.038 KM	90/1	2 X 5.0M X 5.0M R.C.C BOX BRIDGE :-		
			GENERAL ARRANGEMENT	CET/BDG/2015/3580/NH-208/FDPR/MN/GA	02
			REINFORCEMENT DETAILS	CET/BDG/2015/3580/NH-208/FDPR/MN/RCC	01
			MISCELLANEOUS DRAWING	CET/BDG/2015/3580/NH-208/FDPR/MN/MISC	01
05.	93.056 KM	94/1	4 X 6.0M X 6.0M R.C.C BOX BRIDGE :-		
			GENERAL ARRANGEMENT	CET/BDG/2015/3580/NH-208/FDPR/MN/GA	02
			REINFORCEMENT DETAILS	CET/BDG/2015/3580/NH-208/FDPR/MN/RCC	01
			MISCELLANEOUS DRAWING	CET/BDG/2015/3580/NH-208/FDPR/MN/MISC	01
06.	96.347 KM	97/1	1 X 6.0M X 7.0M R.C.C BOX BRIDGE :-		
			GENERAL ARRANGEMENT	CET/BDG/2015/3580/NH-208/FDPR/MN/GA	02
			REINFORCEMENT DETAILS	CET/BDG/2015/3580/NH-208/FDPR/MN/RCC	01
			MISCELLANEOUS DRAWING	CET/BDG/2015/3580/NH-208/FDPR/MN/MISC	01
07.	97.685 KM	98/3	2 X 6.0M X 6.0M R.C.C BOX BRIDGE :-		
			GENERAL ARRANGEMENT	CET/BDG/2015/3580/NH-208/FDPR/MN/GA	02
			REINFORCEMENT DETAILS	CET/BDG/2015/3580/NH-208/FDPR/MN/RCC	01
			MISCELLANEOUS DRAWING	CET/BDG/2015/3580/NH-208/FDPR/MN/MISC	01
08.	99.064 KM	100/1	1 X 40.0M PSC T-GIRDER :-		
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			REINFORCEMENT DETAILS	CET/BDG/2015/3580/NH-208/FDPR/MN/RCC	05
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SECTION 2-2
(SCALE-1:175)

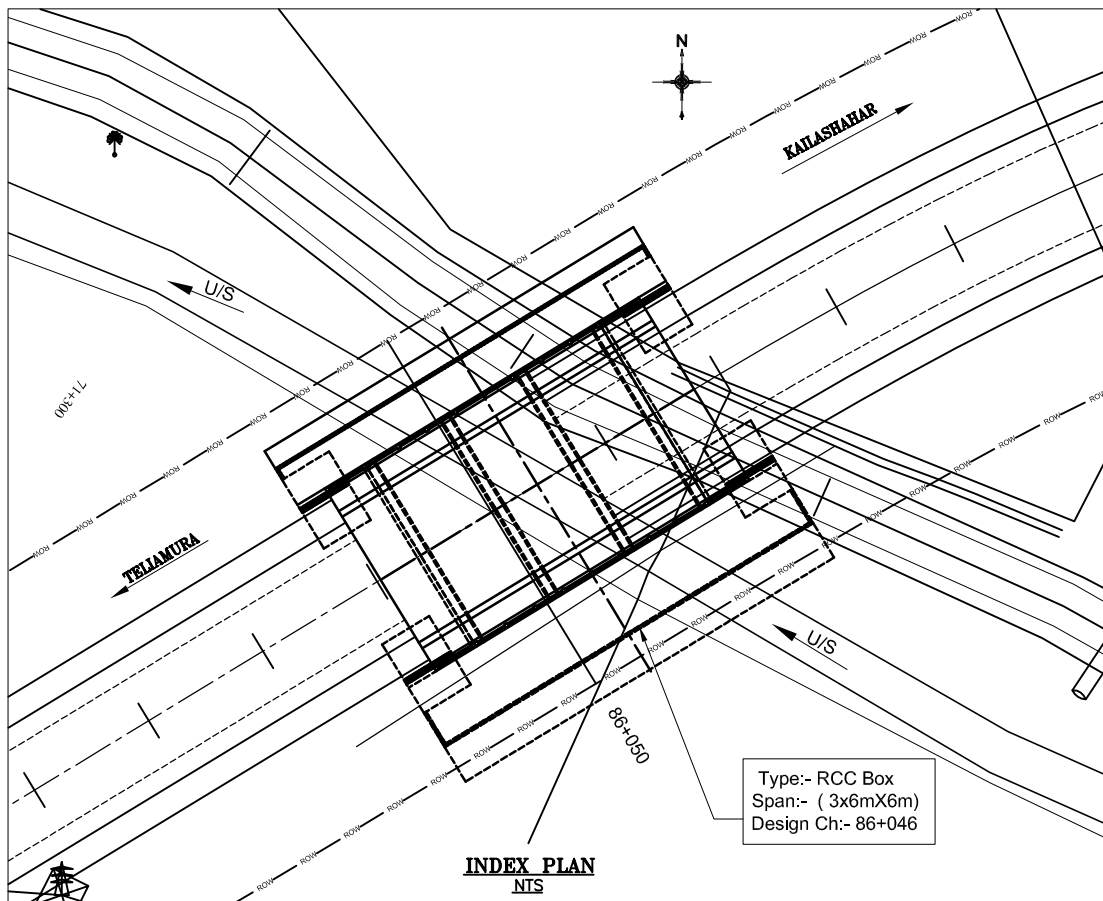
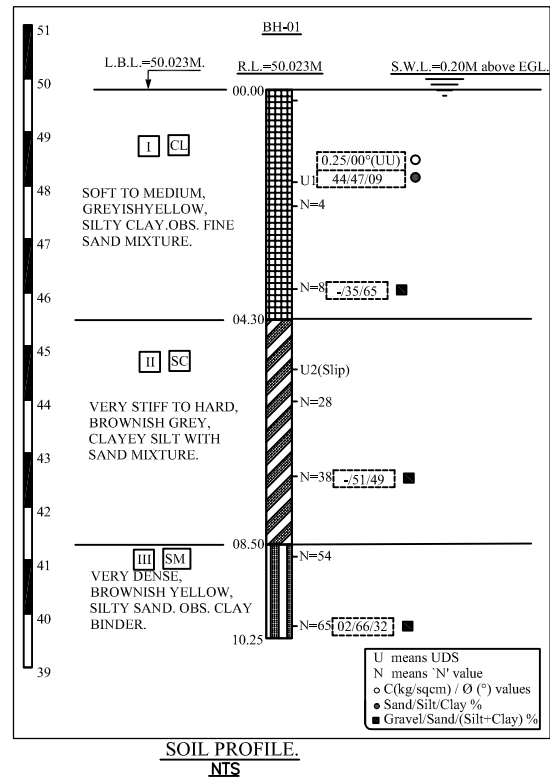


PLAN
SCALE-1:175



SECTION 1-1
(SCALE-1:150)

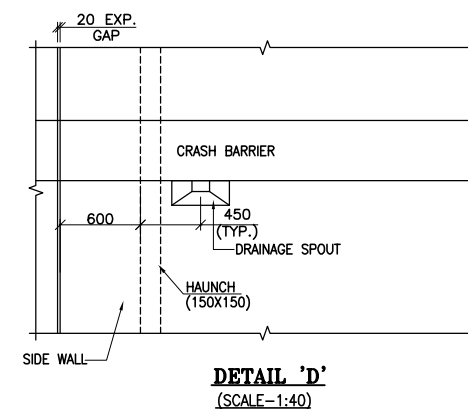
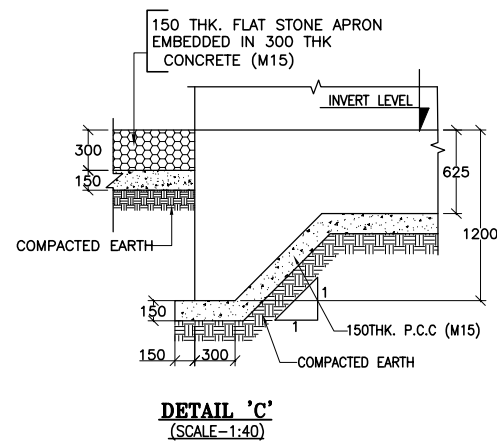
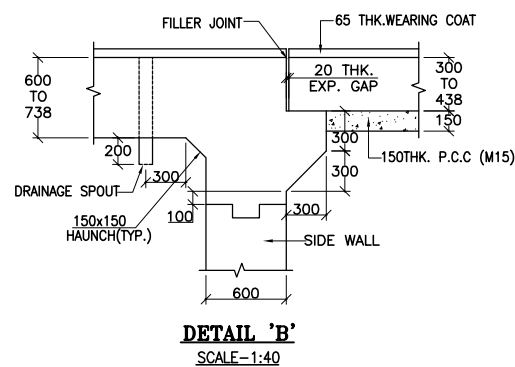
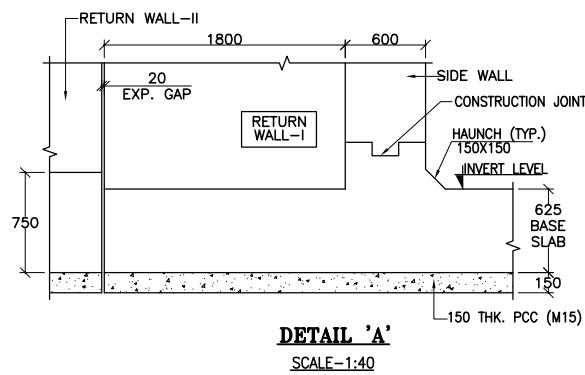
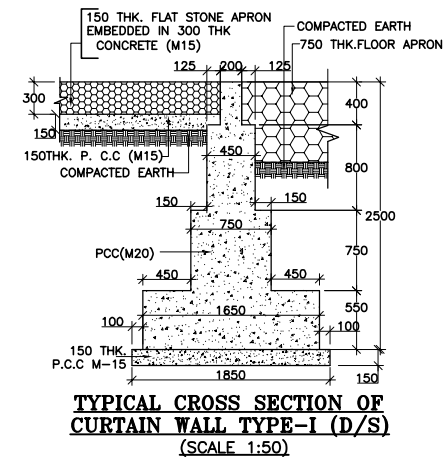
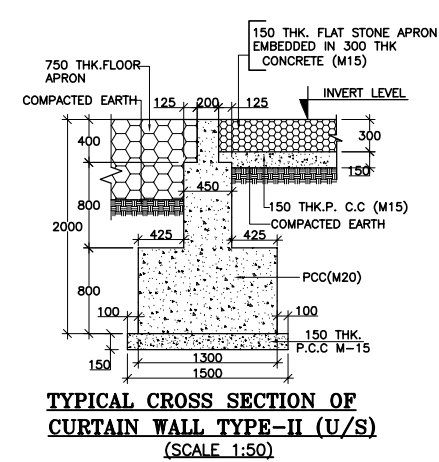
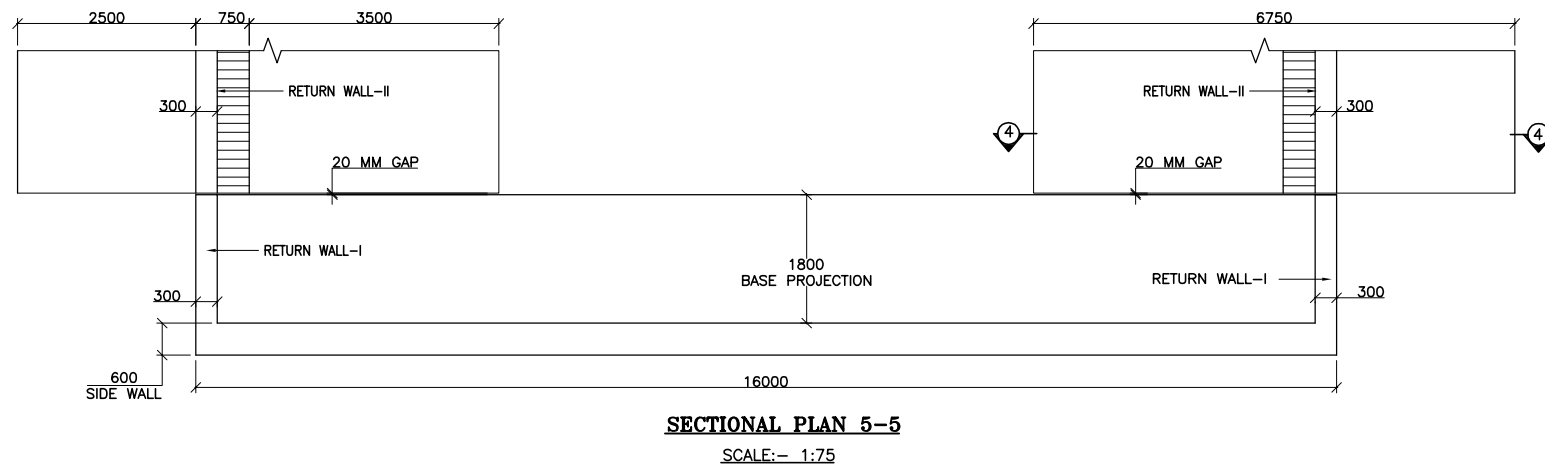
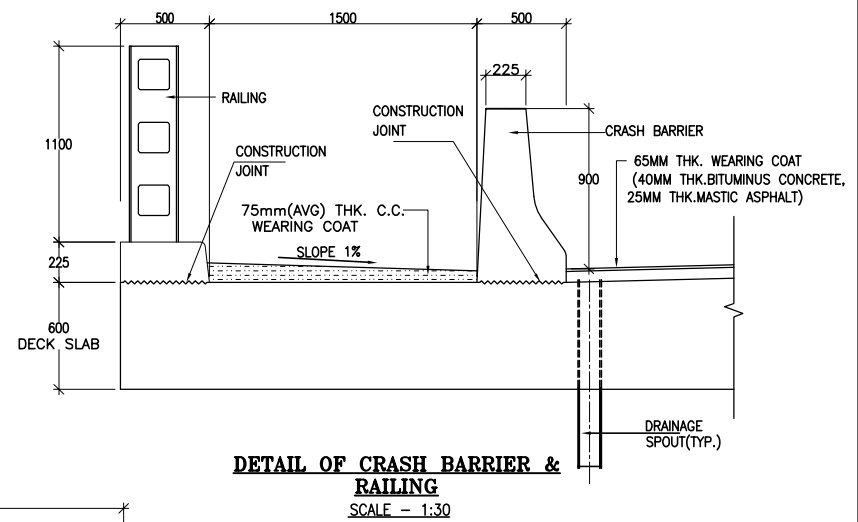
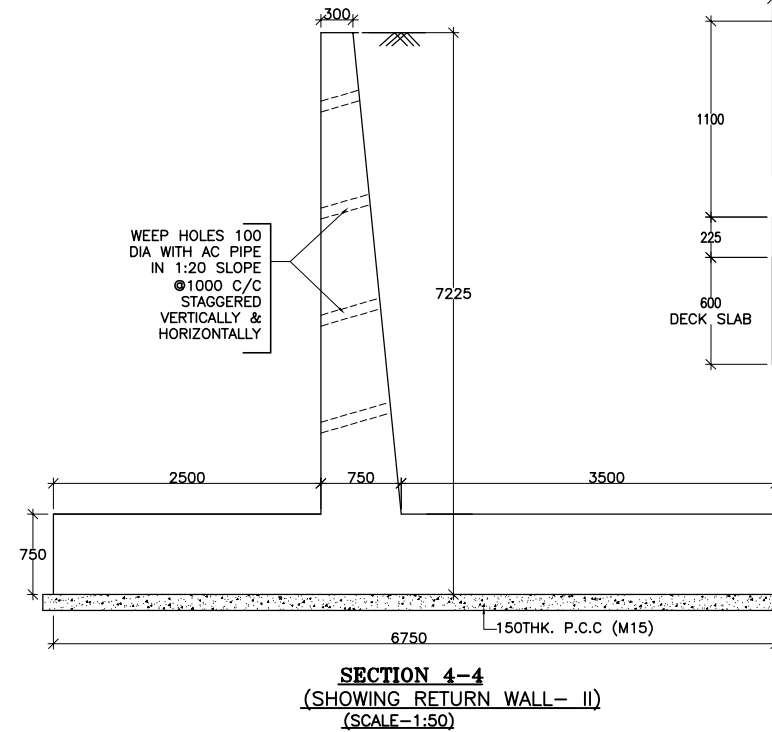
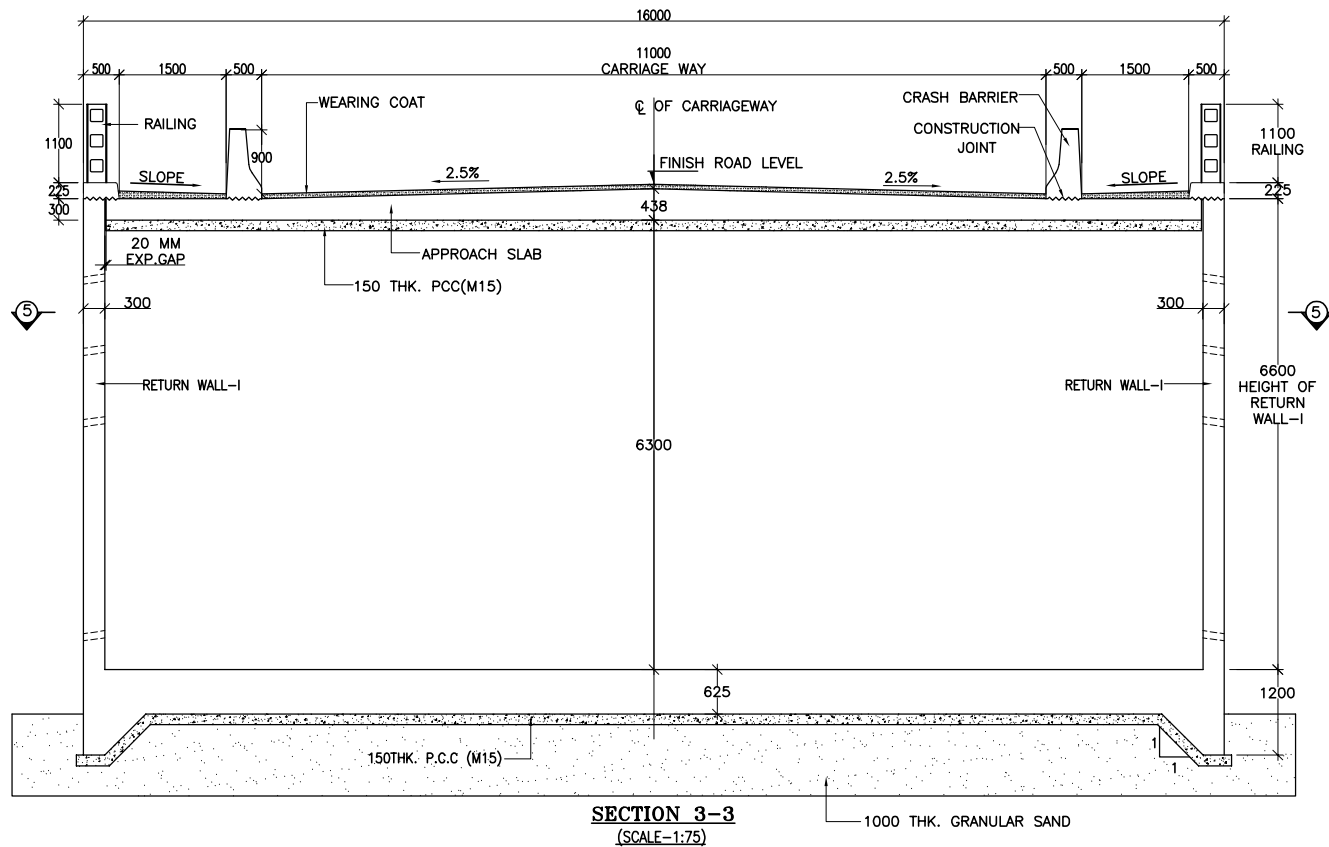
FOR BASE SLAB THICKNESS	VALUE OF 'DK'
UPTO 900mm	1200 mm
e>900 mm	e+300 mm
	e = BASE SLAB THICKNESS



INDEX PLAN
NTS

- NOTES :**
- ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
 - GRADE OF CONCRETE :-
BOX STRUCTURE - M30
RETURN WALL - M30
APPROACH SLAB - M30
RAILING - M30
CURTAIN WALL - M20
LEVELING COURSE(P.C.C) - M15
CRASH BARRIER- M40 & KERB-M30
 - GRADE OF STEEL Fe-500 AS PER I.S.-1786.
 - CLASS A, 3 LANES OR CLASS A1 LANE+CLASS 70R PRODUCING WORST EFFECT WILL BE CONSIDERED
 - PROPERTIES OF BACKFILL SOIL $\gamma = 2.0t/m^3$, $\phi = 30^\circ$.
 - FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
 - SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 - 1.0M SAND FILLING SHOULD BE PROVIDED BELOW THE RAFT FOUNDATION IN ORDER TO ATTAIN A BEARING CAPACITY 10T/SQM.
 - NORMAL SCOUR LEVEL-49.229M.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. :-
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO-02)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO-01)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
(SHEET NO-01)

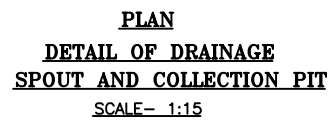
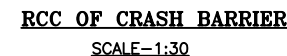
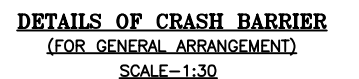
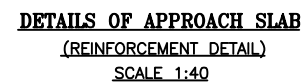
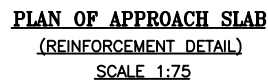
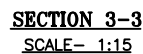
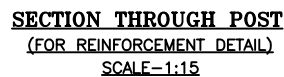
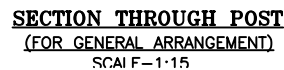
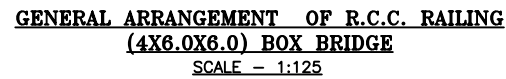
					SCALE: AS SHOWN	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	GENERAL ARRANGEMENT OF R.C.C BOX BRIDGE (3X6.0M X 6.0M) (AT CHAINAGE 86.046 KM)	CONSULTANT : CETEST Engineering Consultants ANISO 9001, 14001 & OHSAS 18001 Certified Company	CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/GA
					DATE: Nov, 2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME: Kailashahar to Teliamura Section of NH-208 Package:-V (Km 75+700 to Km 101+300)			Revision Mkd. - R0
											Drawn By. Design By. Checked By. Approved By.
											S.Dalui R. Majumdar A. Dey B.Koner



- NOTES :**
1. ALL DIMENTIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
 2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO.-: CET/BDG/2015/3580/NH-208/FDPR/MN/GA (SHEET NO-01)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC (SHEET NO-01)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISC (SHEET NO-01)

					SCALE: AS SHOWN	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	GENERAL ARRANGEMENT OF R.C.C BOX BRIDGE (3X6.0M X 6.0M)	CONSULTANT : CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/GA
										Revision Mkd. - R0
										Sheet No. - 02 of 02
										Drawn By.
										Design By.
										Checked By.
										Approved By.
										S.Dalui
										R. Majumdar
										A. Dey
										B.Koner

NO.	DATE	DESCRIPTION	CHKD.	APPRD.
1				
2				
3				
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NOTE :

1. ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE NOTED.

NOTES FOR RAILING :

1. REINFORCEMENT OF RAILING POST SHOULD BE SUITABLY ANCHORED IN DECK SLAB.
2. CASTING OF POST SHALL BE DONE IN SINGLE POUR AFTER ACCURATELY POSITIONING THE PRECAST HANDRAIL.
3. RAILING SHALL BE CONSTRUCTED ONLY AFTER THE STRUCTURAL CONCRETE OF SUPERSTRUCTURE HAS HARDENED AND SHUTTERING IS RELEASED.
4. EXPANSION GAPS IN RAILING SHALL BE PROVIDED AT THE SAME LOCATIONS AS IN THE DECK SLAB.

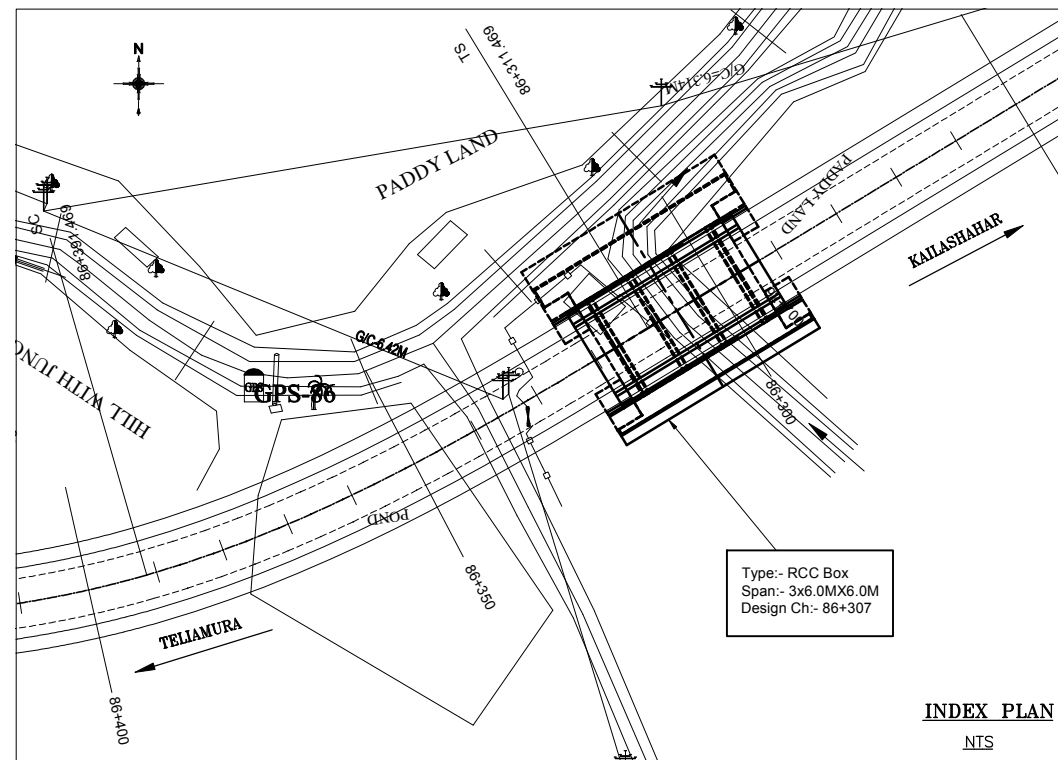
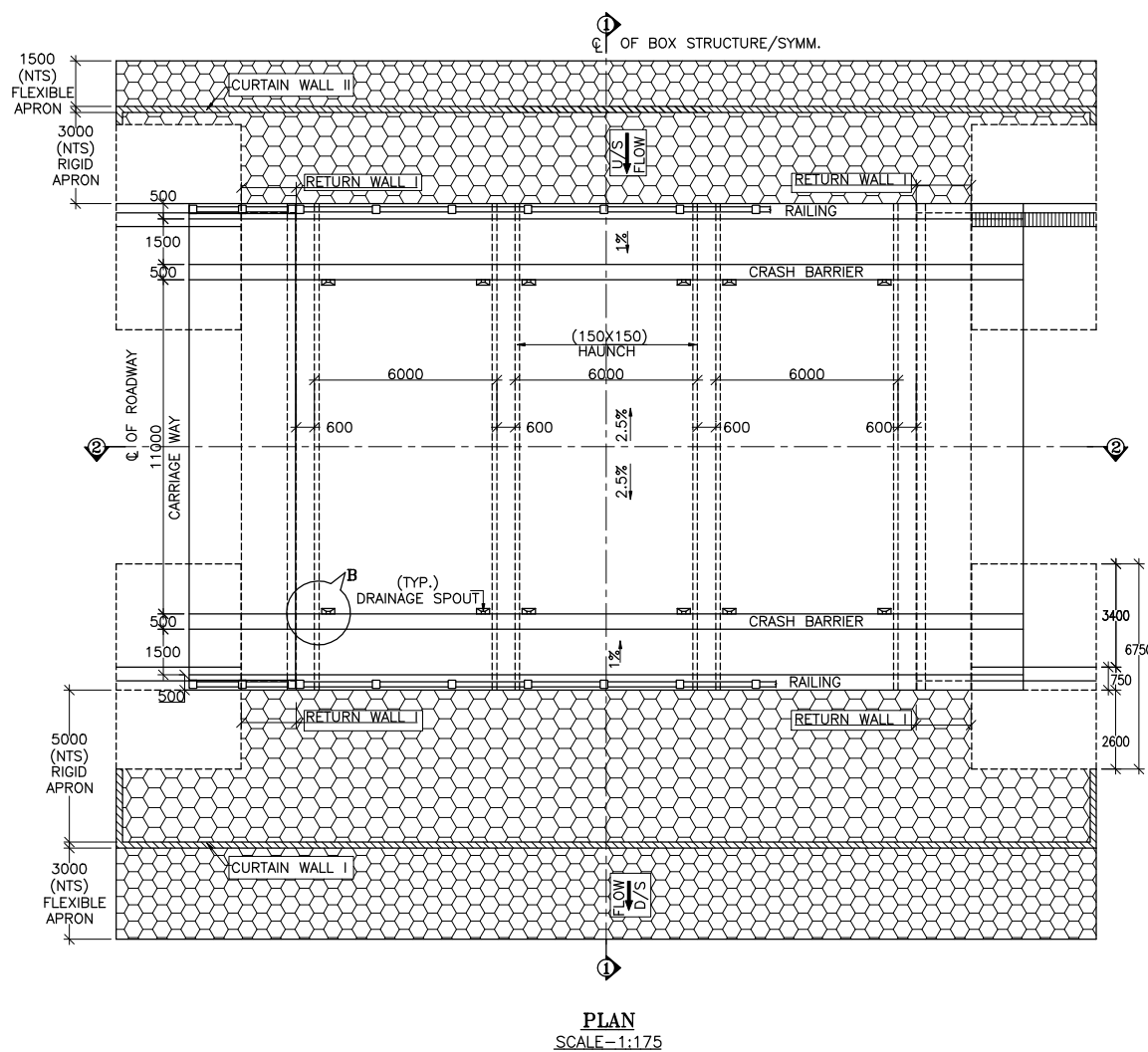
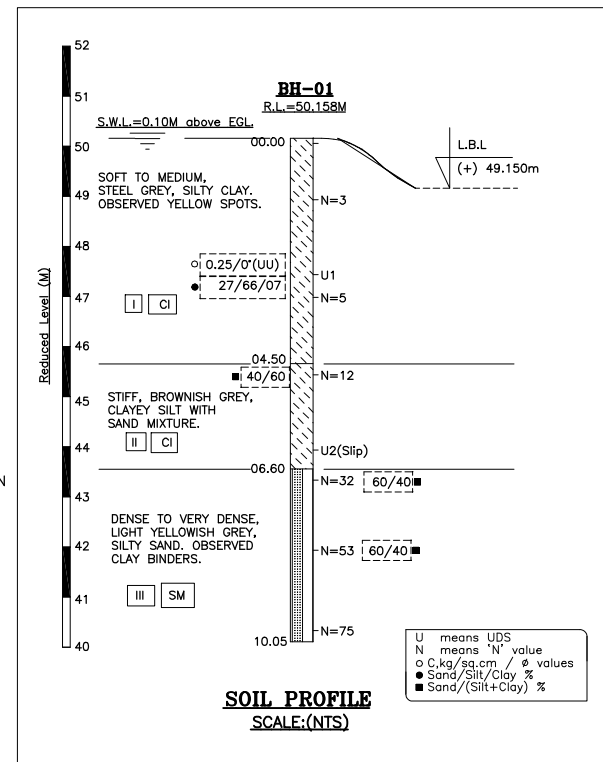
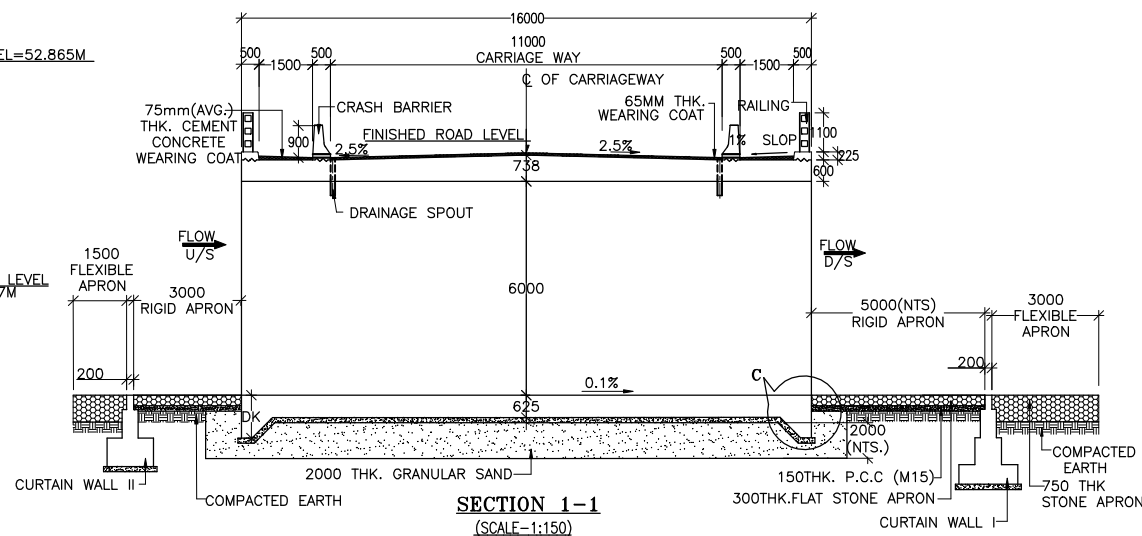
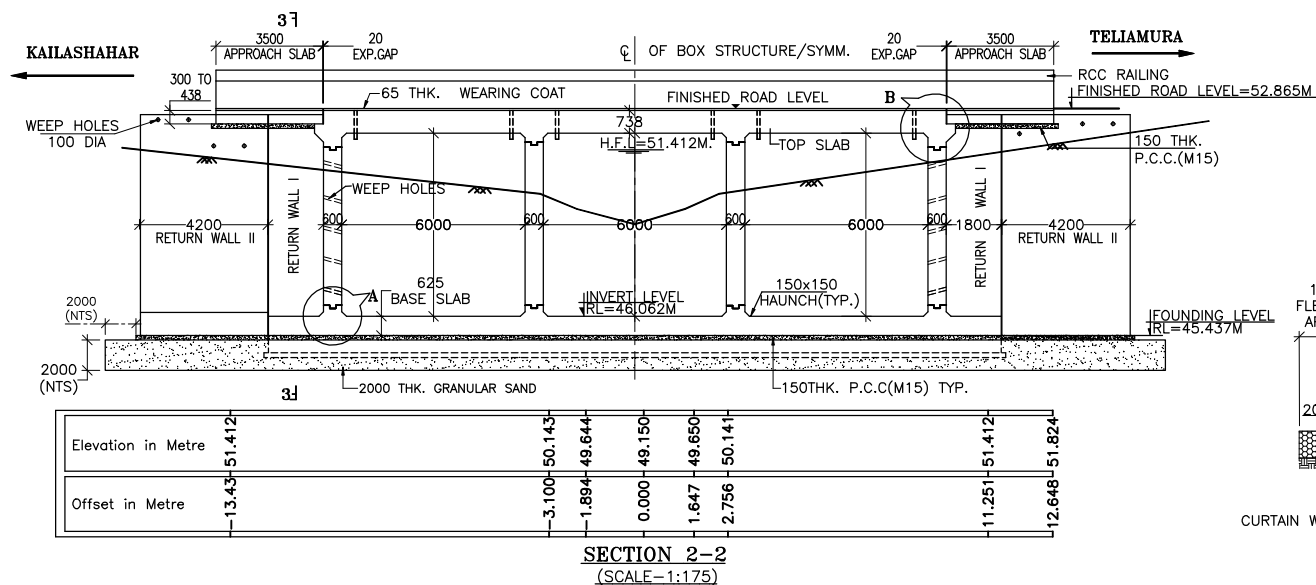
NOTES FOR DRAINAGE SPOUT

1. ONLY FIGURED DIMENSIONS ARE TO BE FOLLOWED.
- ALL STEEL WORK SHALL BE AS PER IS - 2062.
3. DRAINAGE SPOUT & COLLECTION PIT ASSEMBLY SHALL BE FABRICATED FROM MILD STEEL & AFTER FABRICATION, THE COMPLETE ASSEMBLY EXCEPT GRATING SHALL BE GIVEN A HOT DIPPED GALVANIZED COATING.
4. THE REINFORCEMENT OF TOP SLAB OF BOX SHALL BE SUITABLY MODIFIED TO ACCOMMODATE THE DRAINAGE SPOUT.
5. THE DRAINAGE SPOUT SHALL BE GALVANIZED AFTER WELDING THE PLATES & FLATS.

REFERENCE DRAWINGS :

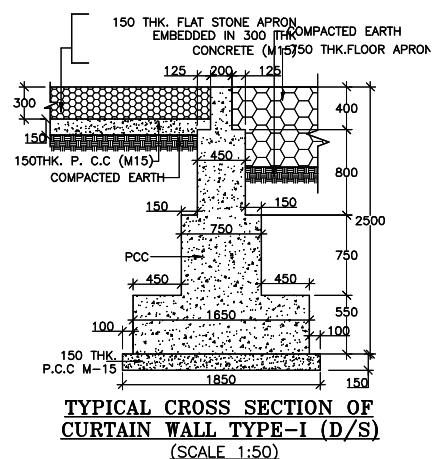
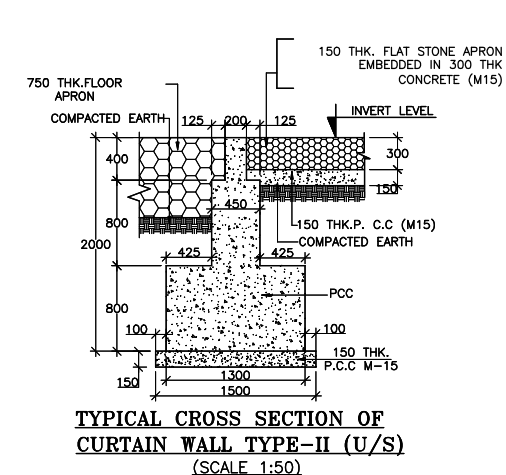
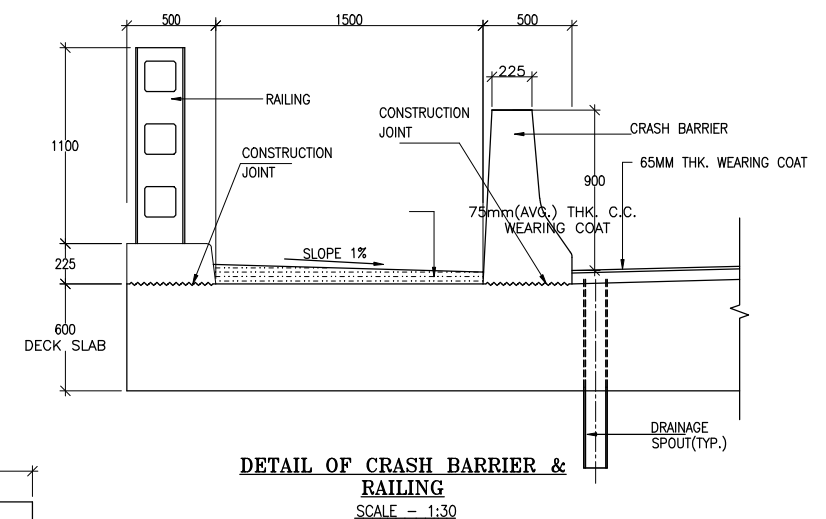
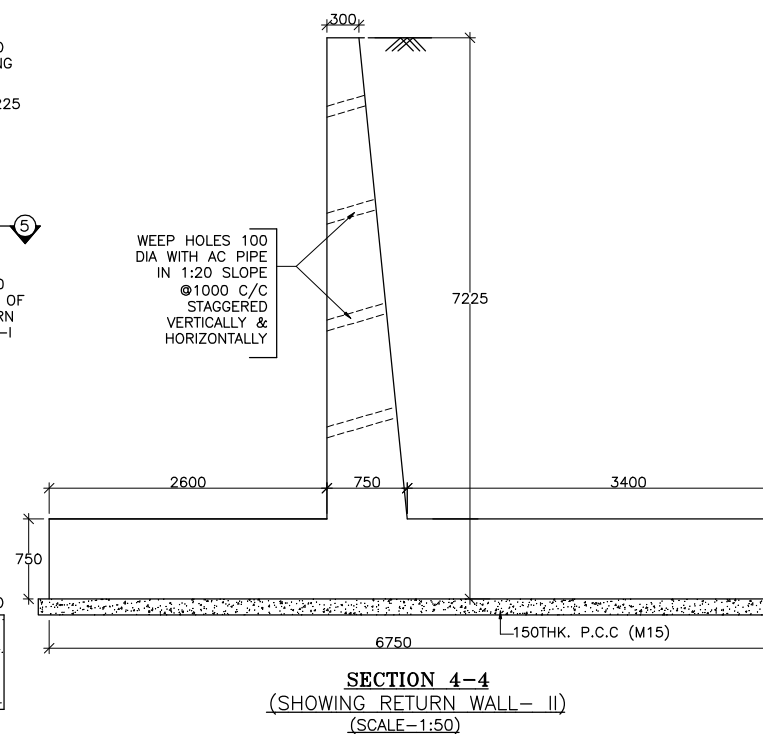
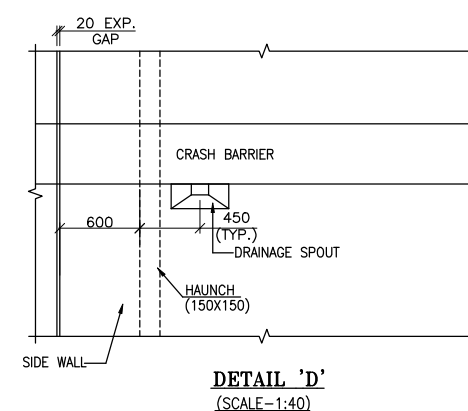
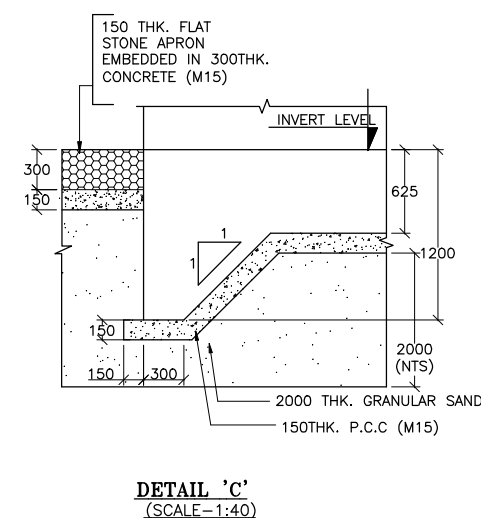
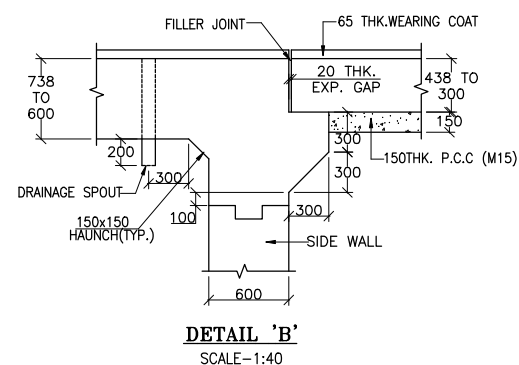
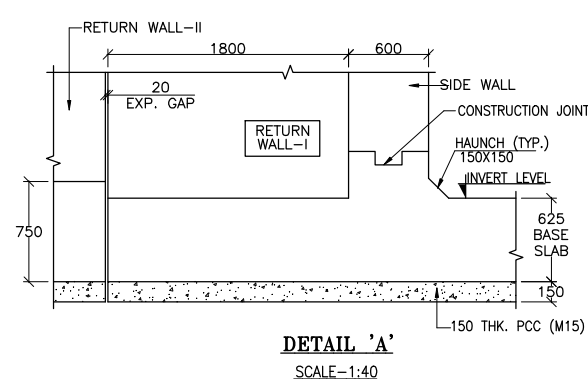
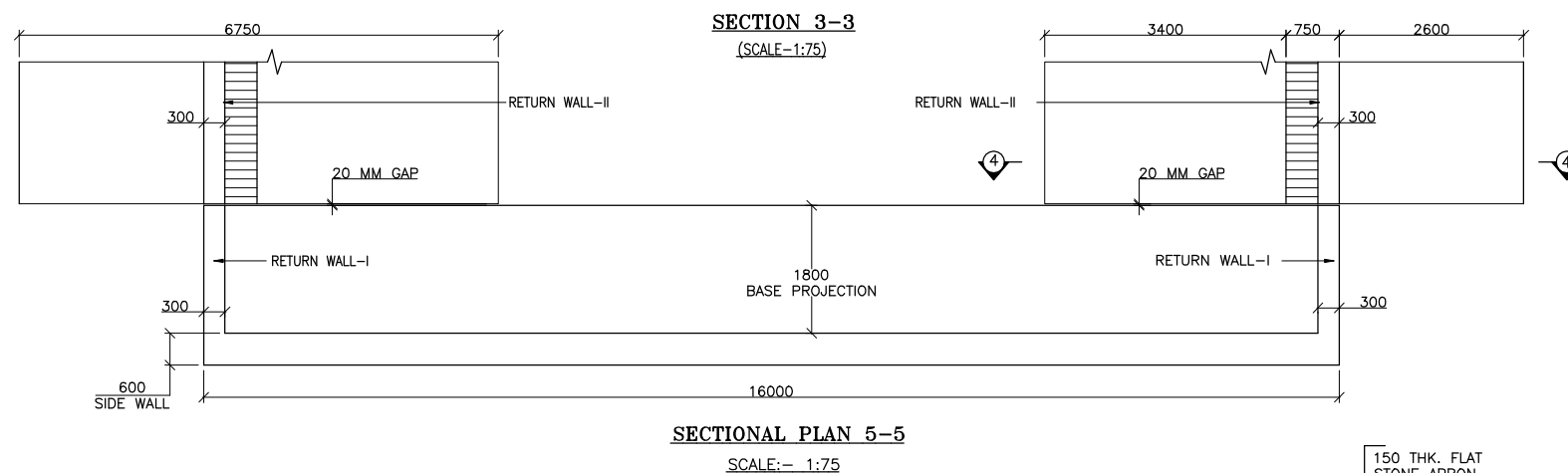
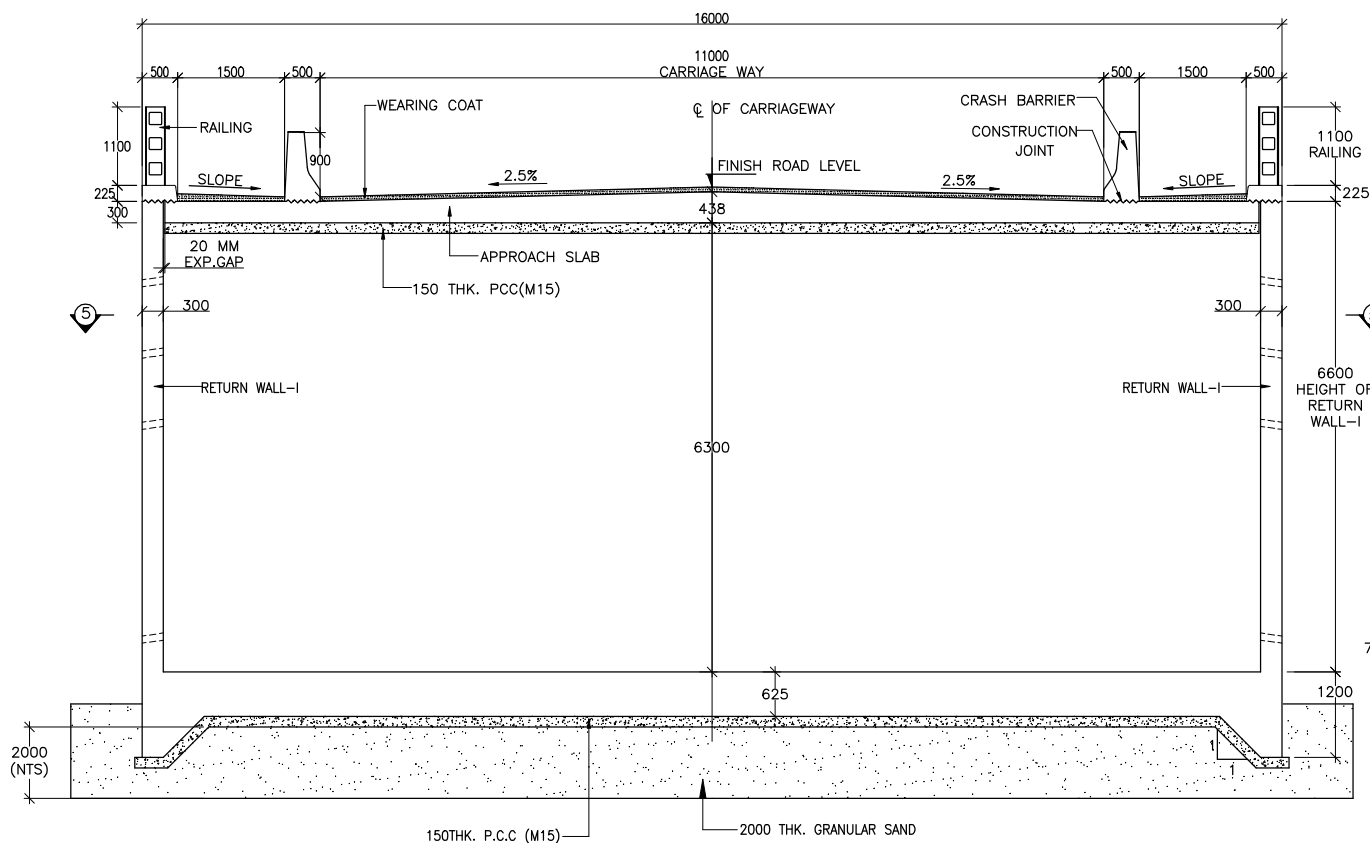
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(SHEET NO. 01 & 02)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO. 01)

					SCALE:	CLIENT:	Public Works Department	National Highways & Infrastructure	DETAILS OF DRAINAGE SPOUT, EXP. GAP	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No.	CET/BDG/2015/3580/NH-208/FDPR/MN/MISC		
					AS SHOWN	Government of Tripura	Development Corporation Ltd.	RCC RAILING & CRASH BARRIER	Revision Mkd. - R0		Sheet No. - 01 of 01			
					DATE:	PROJECT:	Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME:		Drawn By. Design By. Checked By. Approved By.			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	Nov,2019				Kailashahar to Teliamura Section of NH-208					
REVISIONS									Package:-V (Km 75+700 to Km 101+300)					



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RETURN WALL - M30
APPROACH SLAB - M30
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CRASH BARRIER- M40 & KERB-M30
 - GRADE OF STEEL Fe-500 AS PER I.S.-1786.
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 - FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
 - SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 - 2M SAND FILLING SHOULD BE PROVIDED BELOW THE RAFT FOUNDATION IN ORDER TO ATTAIN THE BEARING CAPACITY-10T/Sqm
 - MAXIMUM SCOUR LEVEL-47.850 M.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. :-
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO-02)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO-01)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISE
(SHEET NO-01)

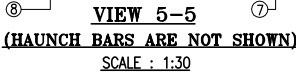
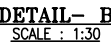
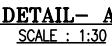
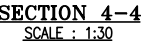
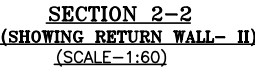
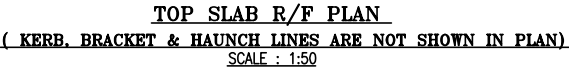
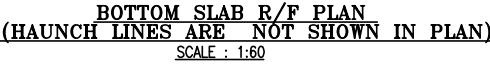
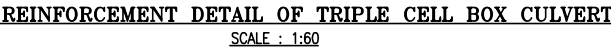
					SCALE: AS SHOWN	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	GENERAL ARRANGEMENT OF TRIPLE CELL R.C.C BOX BRIDGE (3X6.0 X 6.0) (AT CHAINAGE 86.307KM)	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/GA			
										Revision Mkd. - R0	Sheet No. - 01 of 02		
										Drawn By.	Design By.	Checked By.	Approved By
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: Nov,2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME: Kailashahar to Teliamura Section of NH-208 Package:-V (Km 75+700 to Km 101+300)					
REVISIONS													



- NOTES :**

 1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
 2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO.:-
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO-01)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO-01)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
(SHEET NO-01)

					SCALE: AS SHOWN	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	GENERAL ARRANGEMENT OF TRIPLE CELL R.C.C BOX BRIDGE (3X6.0 X 6.0)	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/GA				
										Revision Mkd. - R0	Sheet No. - 02 of 02			
										Drawn By.	Design By.	Checked By.	Approved By	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: Nov.,2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)	ROAD NAME: Kailashahar to Teliamura Section of NH-208 Package:-V (Km 75+700 to Km 101+300)				T. Ganguli	A. Mukherjee	A. Dey	B.Koner
REVISIONS														



SCHEDULE OF REINFORCEMENT			
SL. NO.	BAR MARK	DIA. OF BARS (mm)	SPACING (mm)
1.	①	16	150
2.	②	16	150
3.	③	12	200
4.	④	20	150
5.	⑤	20	150
6.	⑥	16	150
7.	⑦	12	200
8.	⑧	12	200
9.	⑧a	12	5(Nos)
10.	⑨	16	150
11.	⑩	12	200
12.	⑪	20	150
13.	⑫	16	150
14.	⑬	12	200
15.	⑭	12	200
16.	⑮	12	200
17.	⑯	12	200
18.	⑰	12	200
19.	⑱	12	5(Nos)
20.	⑲	12	200

LEGEND:-

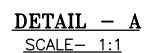
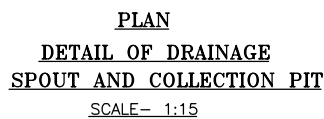
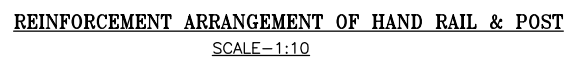
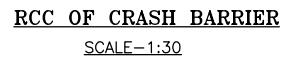
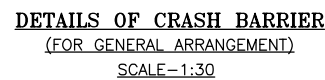
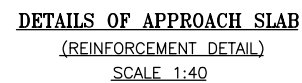
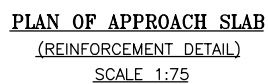
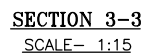
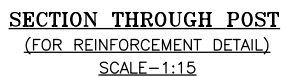
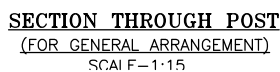
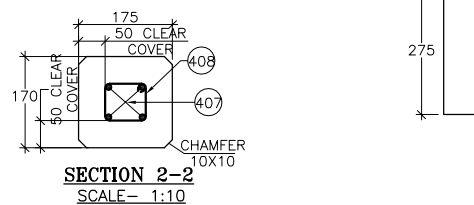
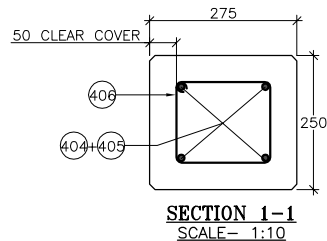
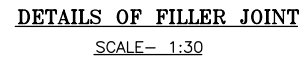
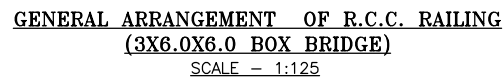
REAR FACE / TOP FACE / EARTH FACE BAR	-----
FRONT FACE / BOTTOM FACE / OPPOSITE TO EARTH FACE BAR	=====

NOTES :

1. ALL DIMENSIONS ARE IN MM.
2. CONC. GRADE SHALL BE M-30 & M-25 WHERE APPLICABLE.
3. ALL REINFORCING STEEL SHALL BE OF HYSD BARS
(GRADE DESIGNATION Fe-500) CONFORMING TO IS: 1786.
4. CLEAR COVER =TOP SLAB 40MM, SIDE WALL 50MM, BOTTOM SLAB 75.
5. LAP LENGTH & DEVELOPMENT LENGTH (L_d) OF
REINFORCING BARS SHALL BE DONE IN ACCORDANCE WITH
RELEVANT CLAUSE IRC : 112-2011.
6. WELDING OF BARS SHALL NOT BE PERMITTED.
7. SHARP EDGES OF CONCRETE WILL NOT BE PERMITTED.
8. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO:
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO. 01 & 02)

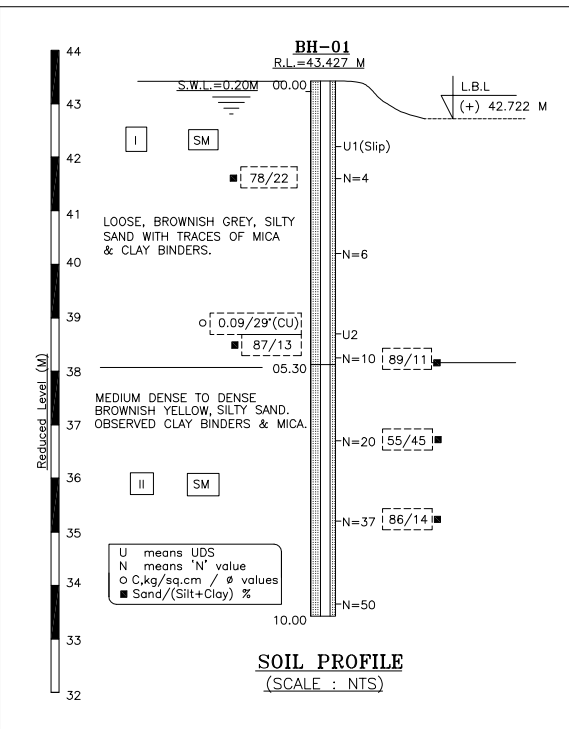
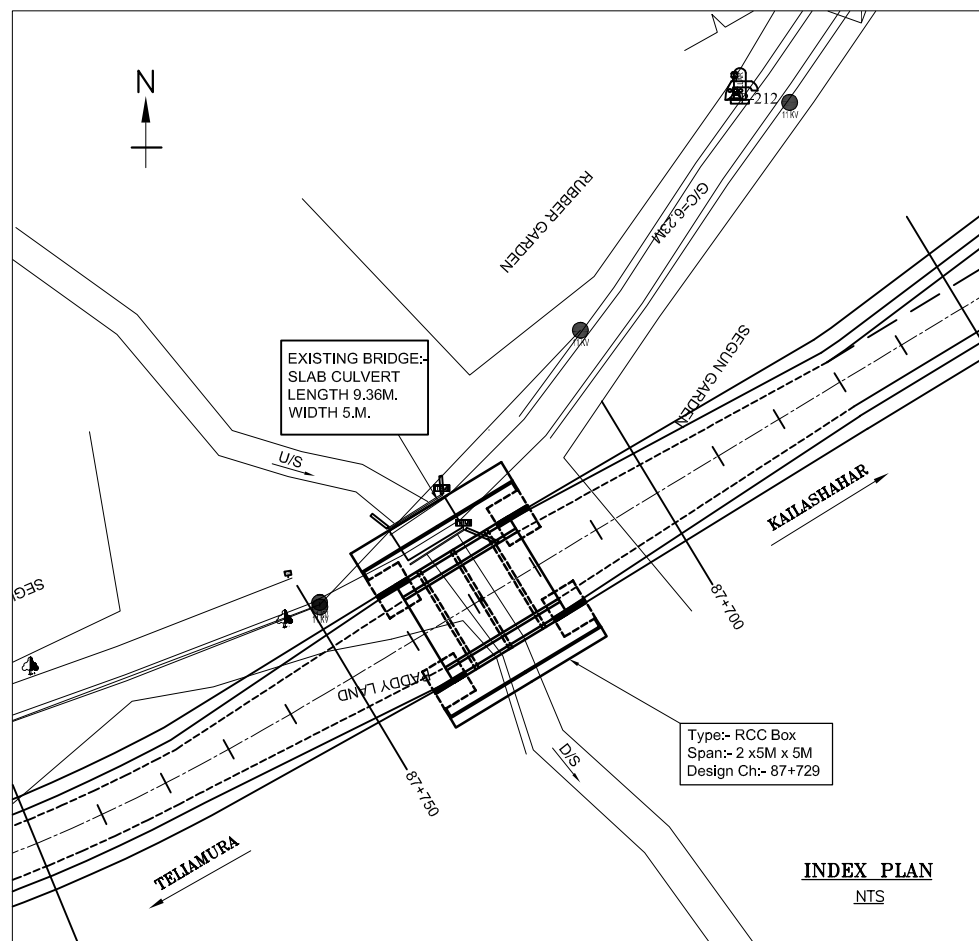
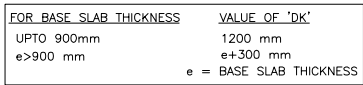
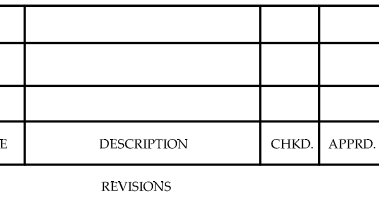
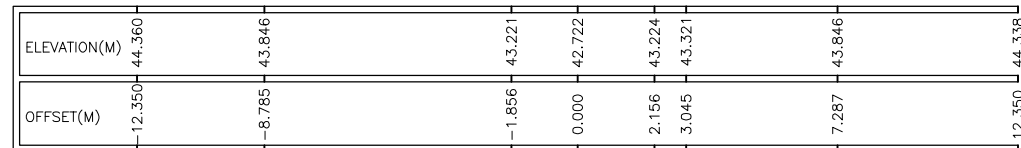
CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
(SHEET NO. 01 OF 01)

					SCALE:	CLIENT:	Public Works Department	National Highways & Infrastructure	REINFORCEMENT DETAILS OF	CONSULTANT : CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No.	CET/BDG/2015/3580/NH-208/FDPR/MN/RCC		
					AS SHOWN	Government of Tripura	Development Corporation Ltd.	RCC BOX BRIDGE (3X6.0M X6.0M)	Revision Mkd. - R0		Sheet No. - 01 of 01			
											Drawn By.	Design By.	Checked By.	Approved By.
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE:	PROJECT:	Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME:					
					Nov,2019				Kailashahar to Teliamura Section of NH-208					
REVISIONS									Package:-V (Km 75+700 to Km 101+300)		T. Ganguli	A. Mukherjee	A. Dey	B.Koner



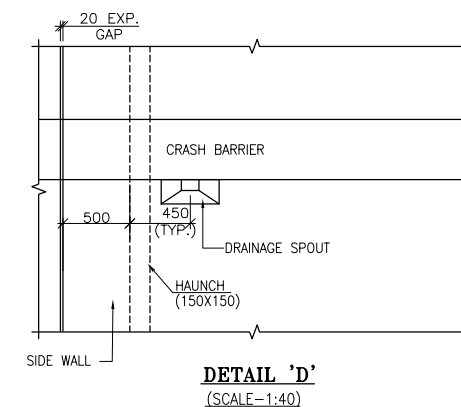
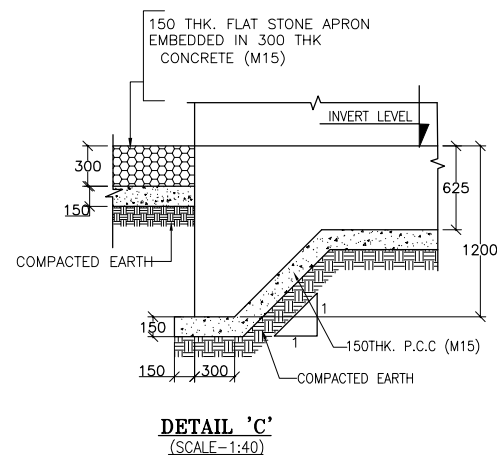
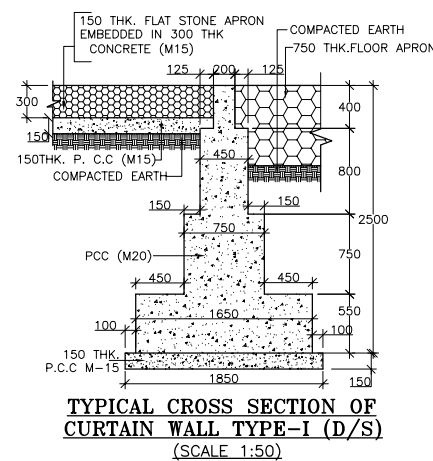
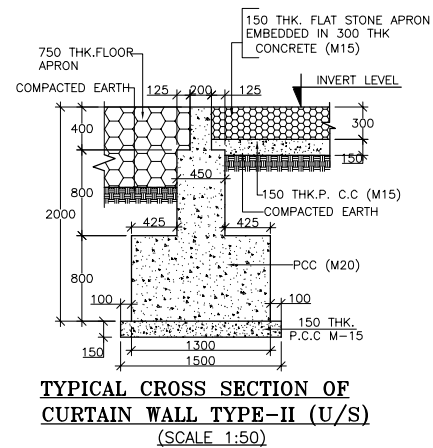
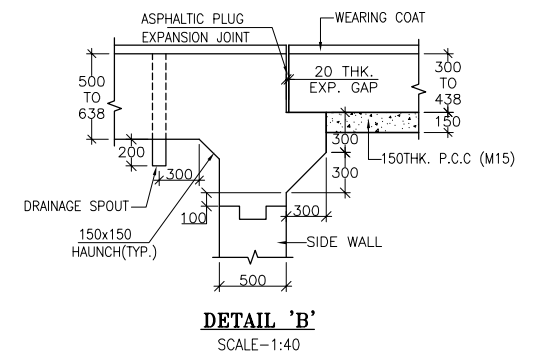
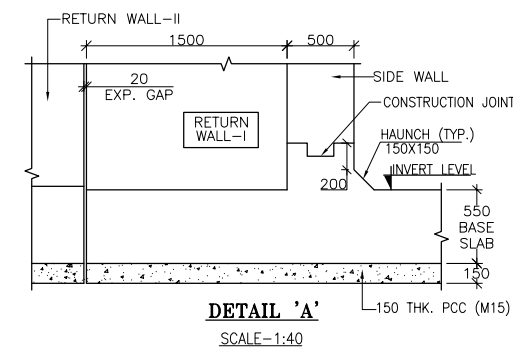
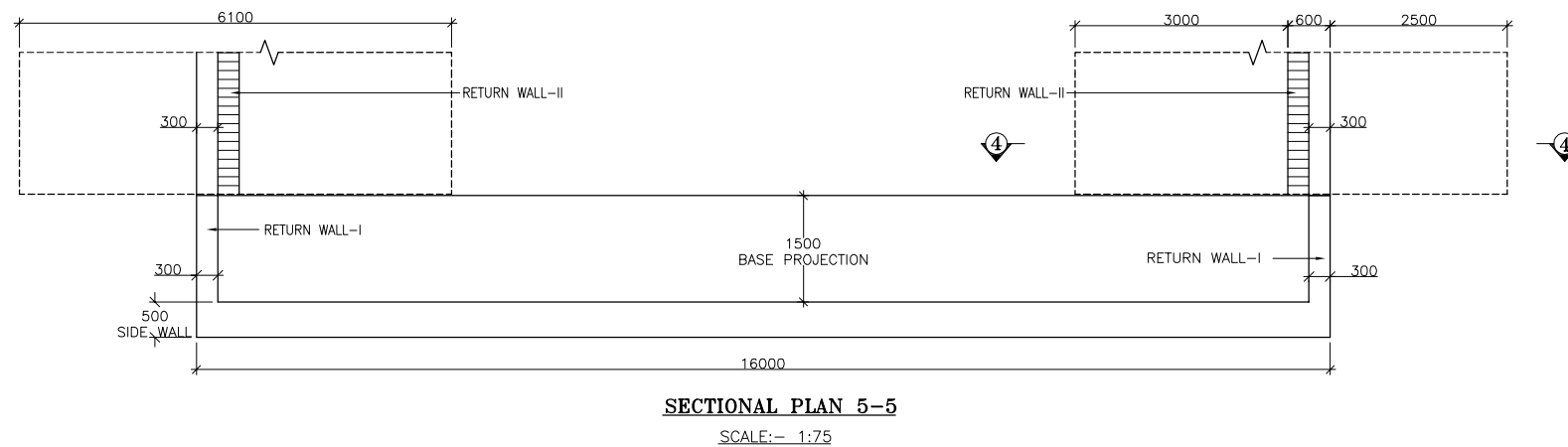
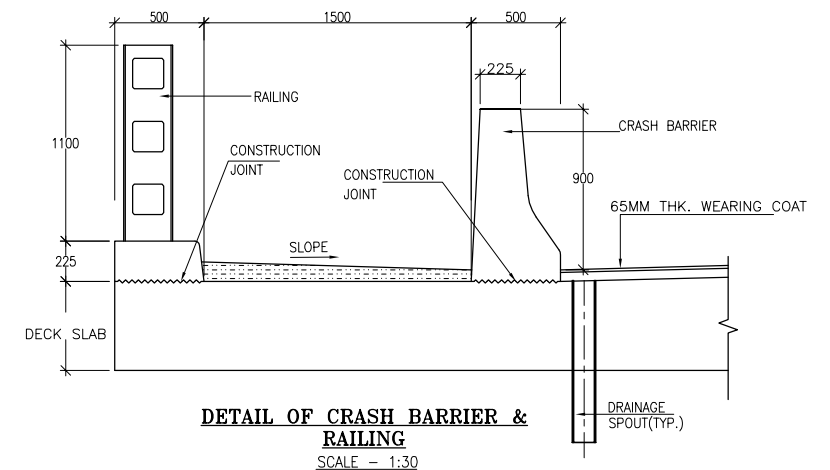
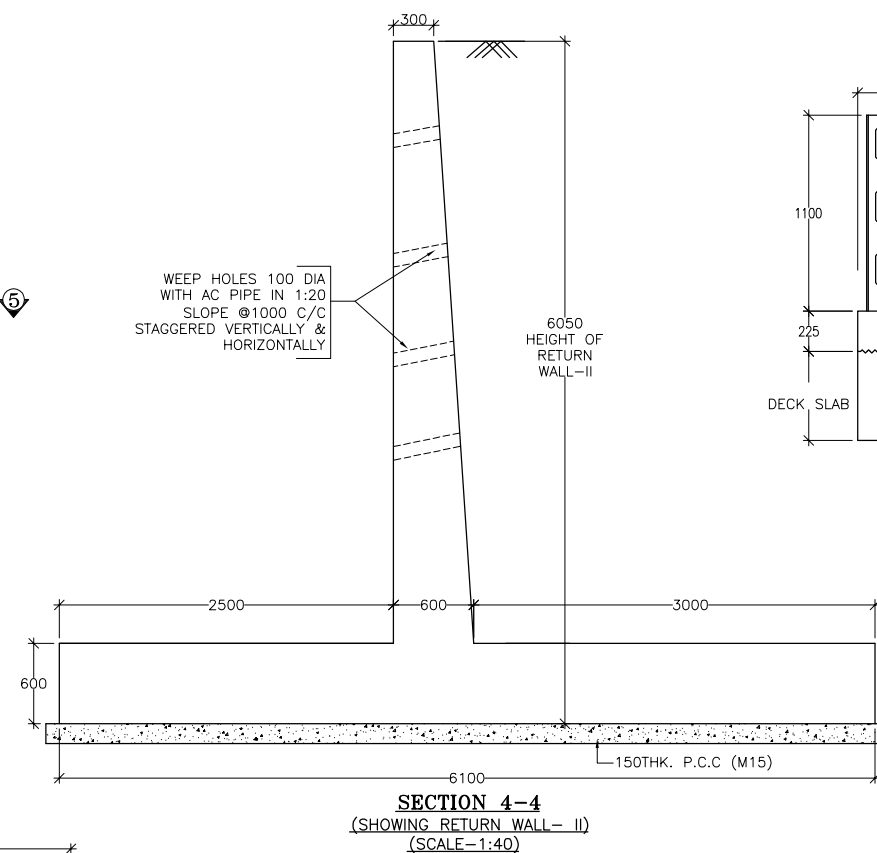
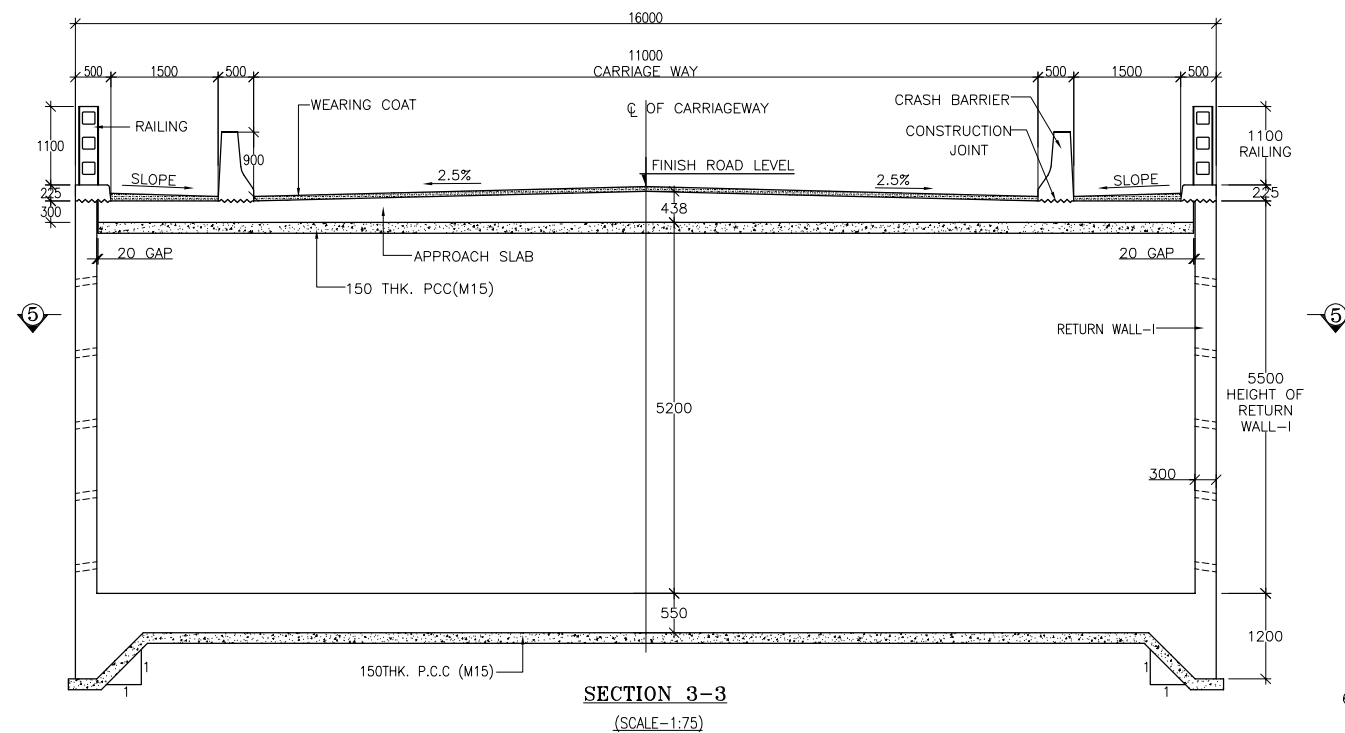
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO. 01 & 02)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO. 01)

					SCALE:	CLIENT:	Public Works Department	National Highways & Infrastructure	DETAILS OF DRAINAGE SPOUT, EXP. GAP	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No.	CET/BDG/2015/3580/NH-208/FDPR/MN/MISC				
					AS SHOWN	Government of Tripura	Development Corporation Ltd.	RCC RAILING & CRASH BARRIER			Revision Mkd. - R0	Sheet No. - 01 of 01				
					DATE:	PROJECT:	Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME:			Drawn By.	Design By.	Checked By.	Approved By.	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	Nov,2019				Kailashahar to Teliamura Section of NH-208							
REVISIONS									Package:-V (Km 75+700 to Km 101+300)				T. Ganguli	A. Mukherjee	A. Dey	B.Koner



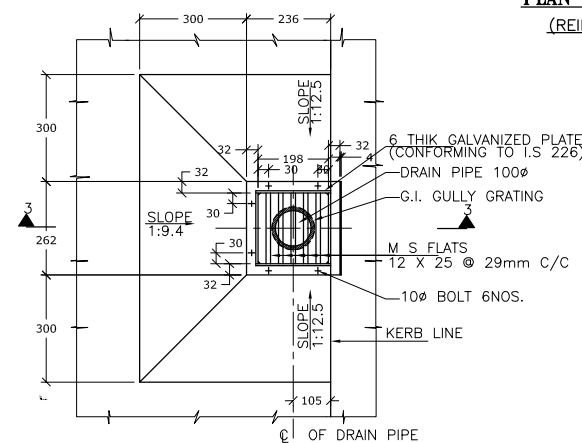
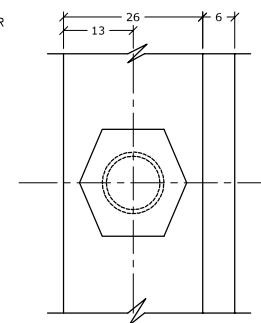
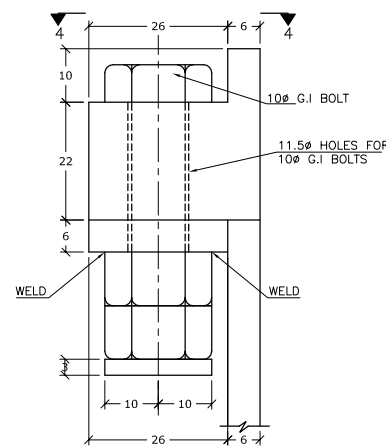
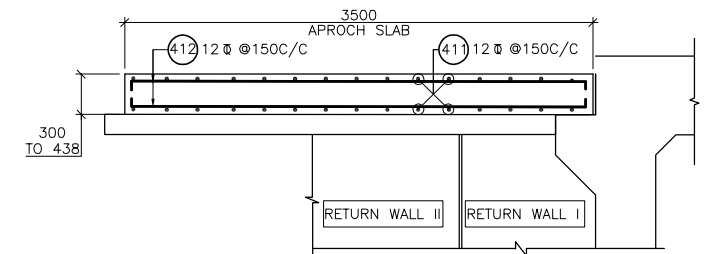
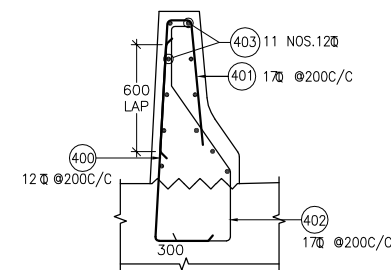
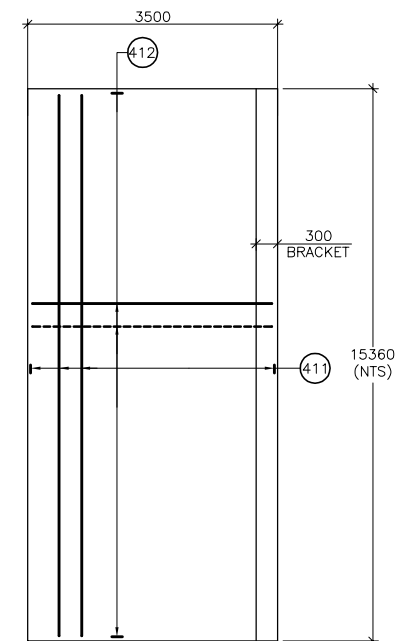
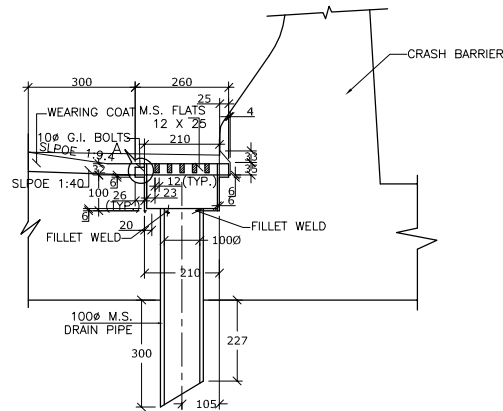
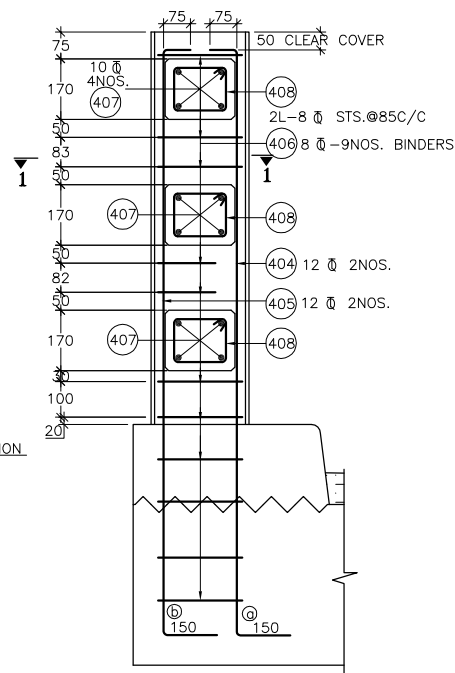
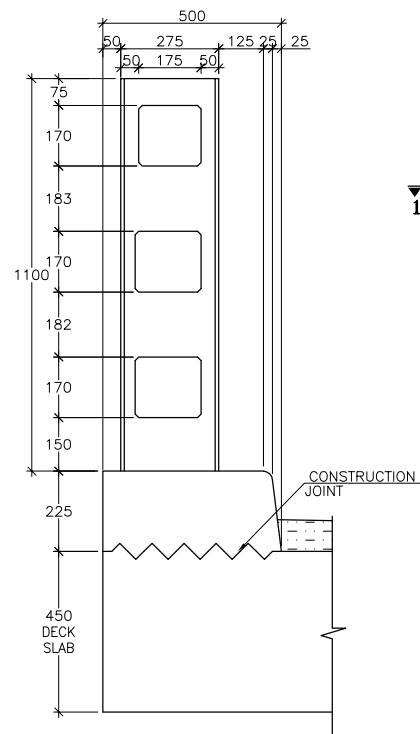
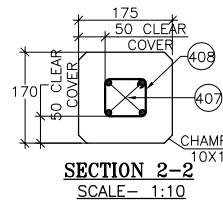
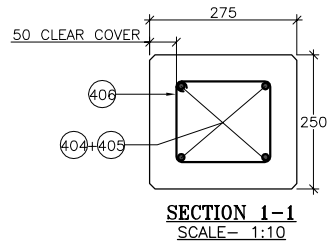
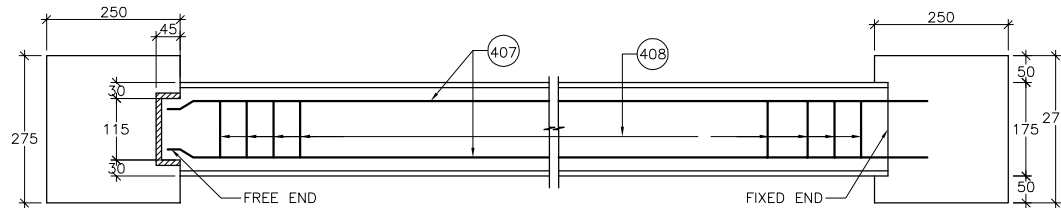
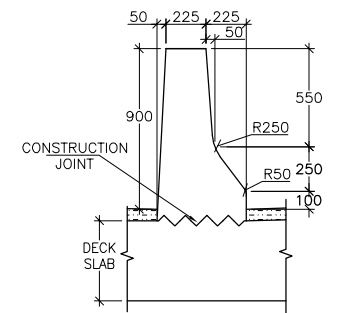
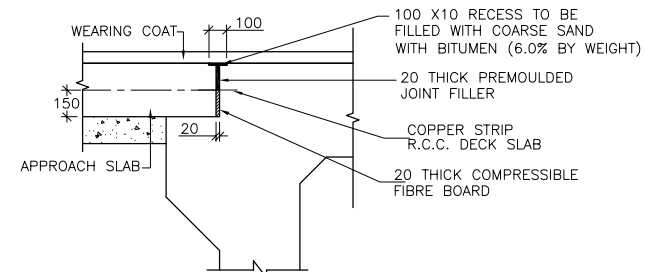
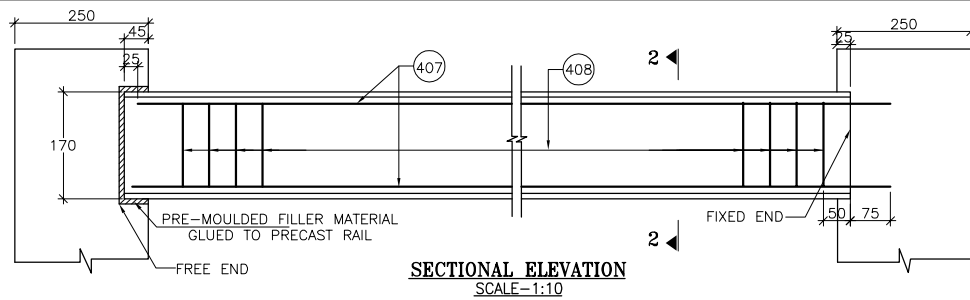
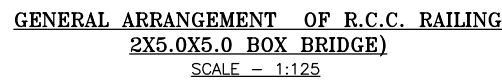
- NOTES :**
1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
 2. GRADE OF CONCRETE :-
BOX STRUCTURE – M30
RETURN WALL – M30
APPROACH SLAB – M30
RCC RAILING – M30
CURTAIN WALL – M20
LEVELING COURSE(P.C.C) – M15
CRASH BARRIER– M40 & KERB-M30
 3. GRADE OF STEEL Fe-500 AS PER I.S.-1786.
 4. CLASS A 3 LANES OR CLASS A 1 LANE+ CLASS 70R PRODUCING WORST EFFECT WILL BE CONSIDERED.
 5. PROPERTIES OF BACKFILL SOIL $\gamma=1.8\text{t/m}^3$, $\phi=30^\circ$.
 6. FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
 7. SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 8. THE SOIL BELOW FOUNDATION LEVEL SHOULD BE WELL COMPACTED TO ACHIEVE MINIMUM BEARING CAPACITY OF 10T/Sq.m.
 9. NORMAL SCOUR LEVEL-42.722 M.
 - 10.THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. :-
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO. 02 OF 02)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO. 01 OF 01)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
(SHEET NO. 01 OF 01)

					SCALE:	CLIENT:	Public Works Department	National Highways & Infrastructure	GENERAL ARRANGEMENT DRAWING OF	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No.	CET/BDG/2015/3580/NH-208/FDPR/MN/GA		
					AS SHOWN		Government of Tripura	Development Corporation Ltd.	RCC BOX BRIDGE 2X5.0M X5.0M		Revision Mkd. - R0	Sheet No. - 01 of 02		
									CHAINAGE : 87.729KM		Drawn By.	Design By.	Checked By.	Approved By.
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE:	PROJECT:	Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME:					
REVISIONS					Nov,2019				Kailashahar to Teliamura Section of NH-208					
									Package:-V (Km 75+700 to Km 101+300)					



- NOTES :**
1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
 2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. :-
 CET/BDG/2015/3580/NH-208/FDPR/MN/GA
 (SHEET NO. 01 OF 02)
 CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
 (SHEET NO. 01 OF 01)
 CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
 (SHEET NO. 01 OF 01)

					SCALE:	CLIENT:	Public Works Department	National Highways & Infrastructure	GENERAL ARRANGEMENT DRAWING OF	CETEST Engineering Consultants ANSO 9001, ISO 9001 & CE-SAS 18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No.	CET/BDG/2015/3580/NH-208/FDPR/MN/GA				
					AS SHOWN	Government of Tripura	Development Corporation Ltd.	RCC BOX BRIDGE 2X5.0M X5.0M	Revision Mkd. - R0		Sheet No. - 02 of 02					
					DATE:	PROJECT:	Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME:			Drawn By.	Design By.	Checked By.	Approved By.	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	Nov,2019				Kailashahar to Teliamura Section of NH-208							
REVISIONS									Package:-V (Km 75+700 to Km 101+300)			S.Dalui	A. Mukherjee	A. Dey	B.Koner	



NOTE :

1. ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE NOTED.

NOTES FOR RAILING :

1. REINFORCEMENT OF RAILING POST SHOULD BE SUITABLY ANCHORED IN DECK SLAB.
2. CASTING OF POST SHALL BE DONE IN SINGLE POUR AFTER ACCURATELY POSITIONING THE PRECAST HANDRAIL.
3. RAILING SHALL BE CONSTRUCTED ONLY AFTER THE STRUCTURAL CONCRETE OF SUPERSTRUCTURE HAS HARDENED AND SHUTTERING IS RELEASED.
4. EXPANSION GAPS IN RAILING SHALL BE PROVIDED AT THE SAME LOCATIONS AS IN THE DECK SLAB.

NOTES FOR DRAINAGE SPOUT

1. ONLY FIGURED DIMENSIONS ARE TO BE FOLLOWED.
2. ALL STEEL WORK SHALL BE AS PER IS - 2062.
3. DRAINAGE SPOUT & COLLECTION PIT ASSEMBLY SHALL BE FABRICATED FROM MILD STEEL & AFTER FABRICATION, THE COMPLETE ASSEMBLY EXCEPT GRATING SHALL BE GIVEN A HOT DIPPED GALVANIZED COATING.
4. THE REINFORCEMENT OF TOP SLAB OF BOX SHALL BE SUITABLY MODIFIED TO ACCOMMODATE THE DRAINAGE.
5. THE DRAINAGE SPOUT SHALL BE GALVANIZED AFTER WELDING THE PLATES & FLATS.

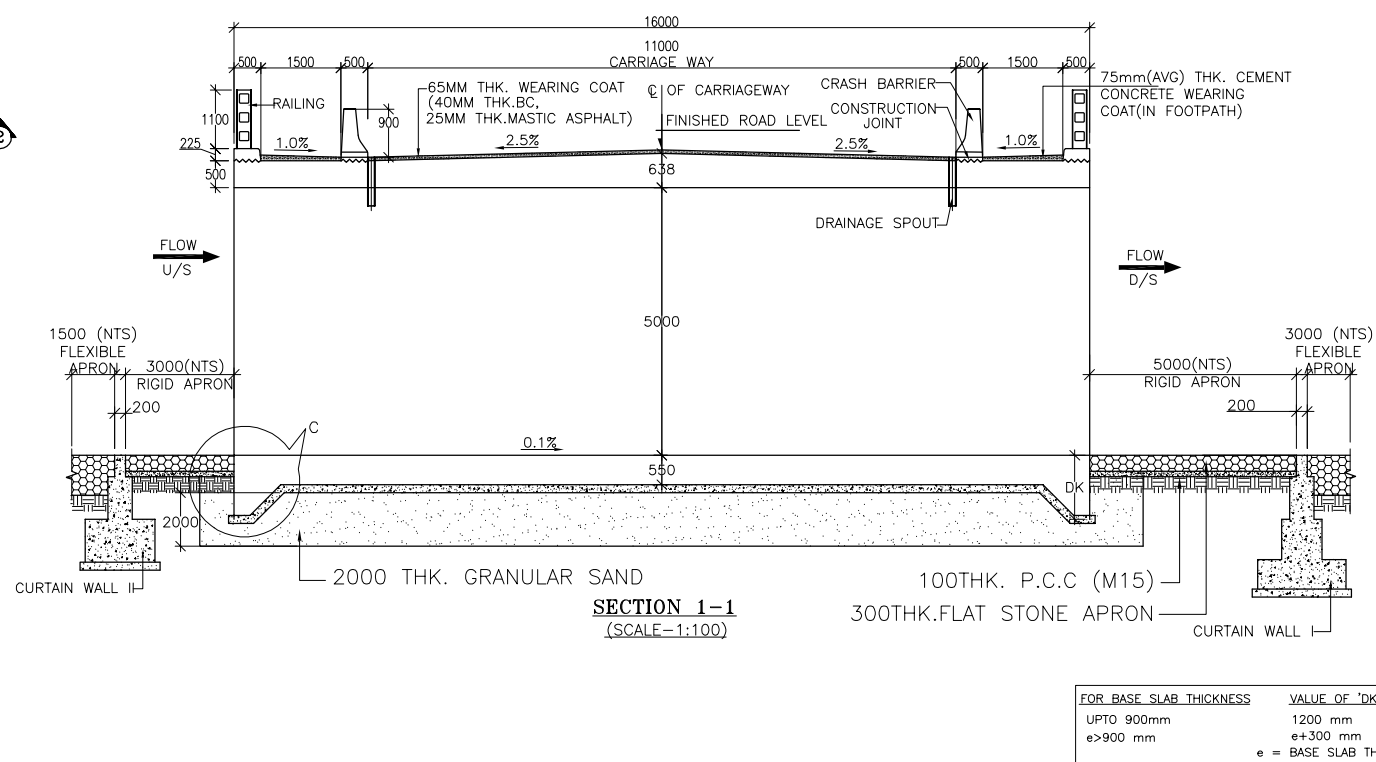
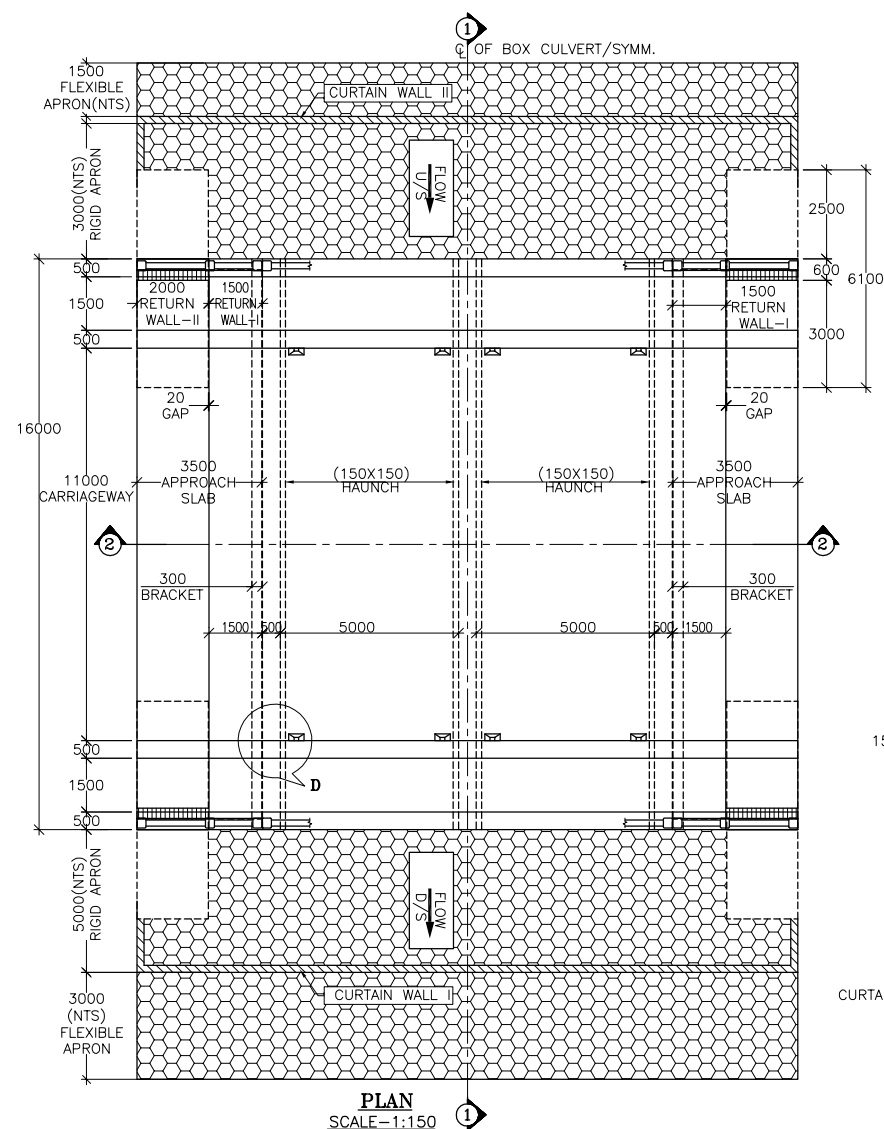
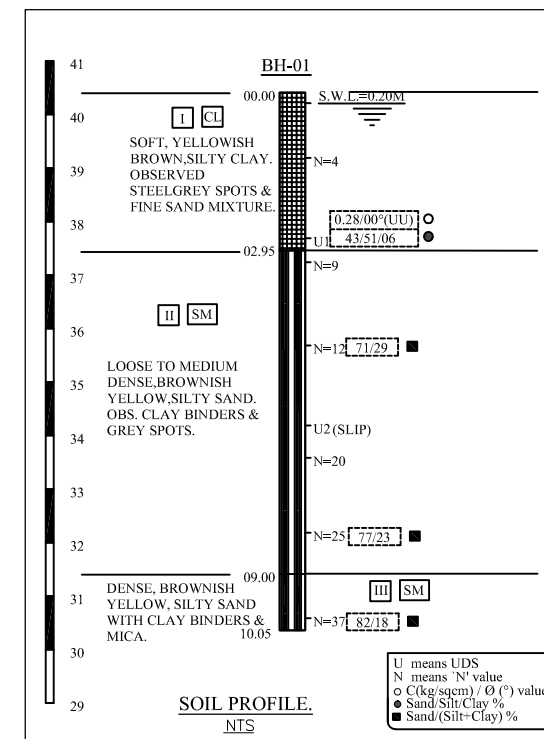
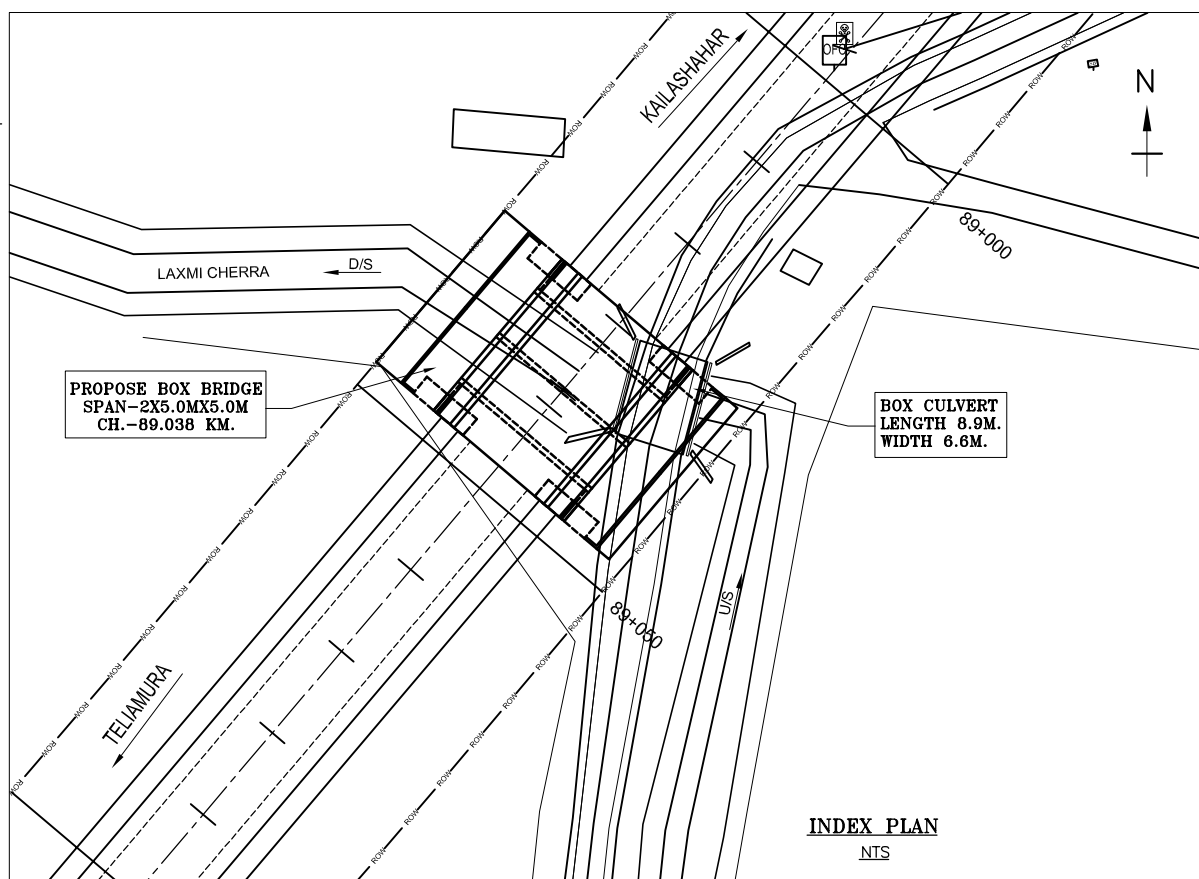
REFERENCE DRAWINGS :

CET/BDG/2015/3580/NH-208/FDPR/MN/(STR-88/1)/GA
(SHEET NO. 01 TO 02)

CET/BDG/2015/3580/NH-208/FDPR/MN/(STR-88/1)/RCC
(SHEET NO. 01 OF 01)

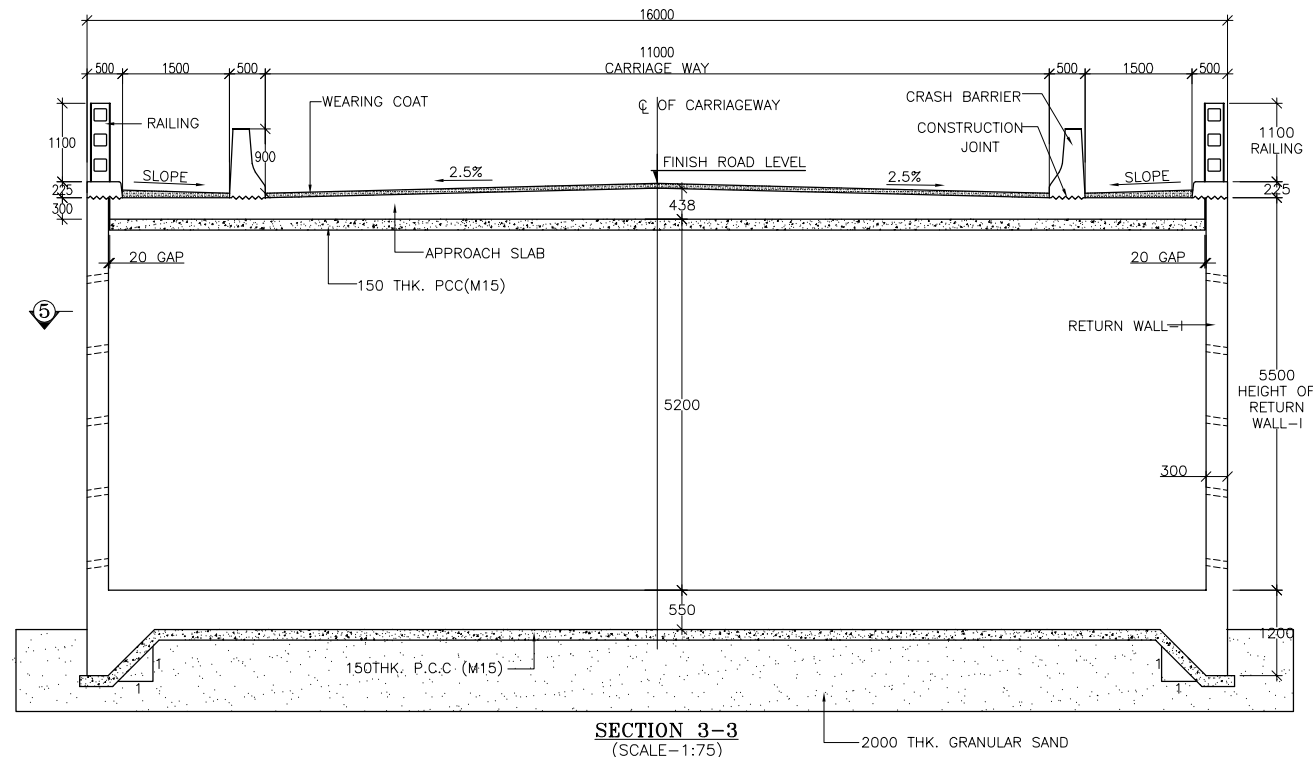
CET/BDG/2015/3580/NH-208/FDPR/MN/(STR-88/1)/MISC
(SHEET NO. 01 OF 01)

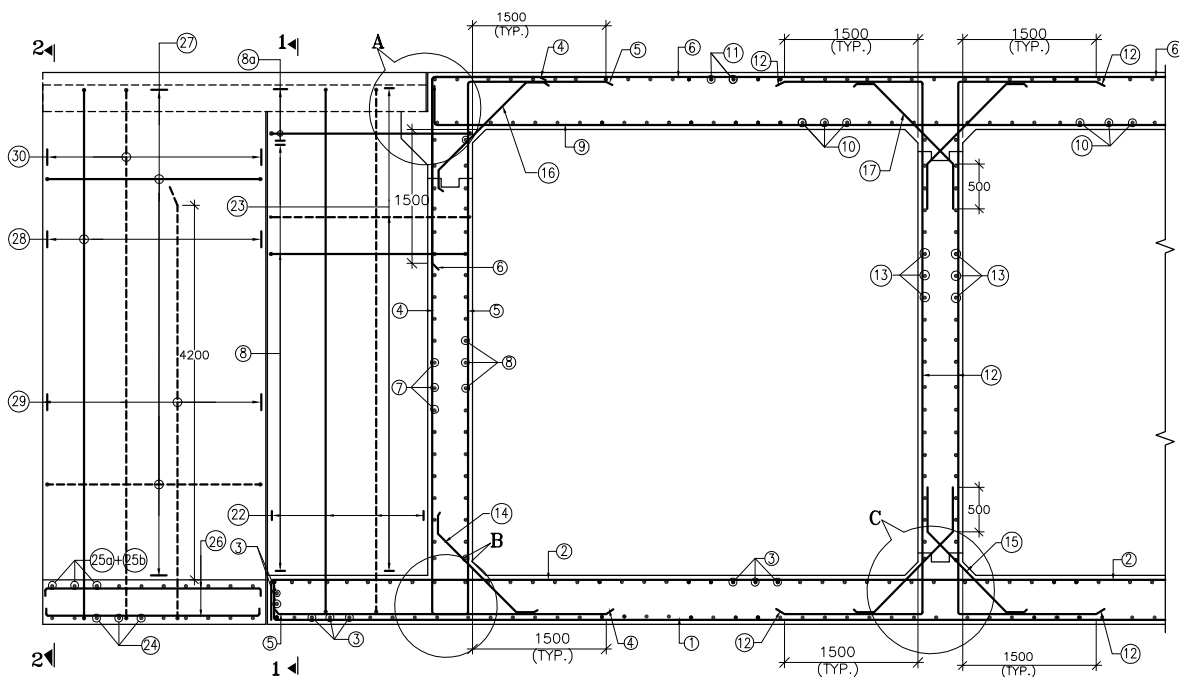
						SCALE:	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	DETAILS OF DRAINAGE SPOUT, EXP. GAP RCC RAILING & CRASH BARRIER	CONSULTANT :  CE TESTING COMPANY PVT. LTD. An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
						AS SHOWN					Revision Mkd. - R0
											Sheet No. - 01 of 01
											Drawn By.
											Design By.
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.		Nov,2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME: Kailashahar to Teliamura Section of NH-208 Package:-V (Km 75+700 to Km 101+300)		Checked By.
											Approved By.
REVISIONS											S. Dalui
											A. Mukherjee
											A. Dey
											B.Koner



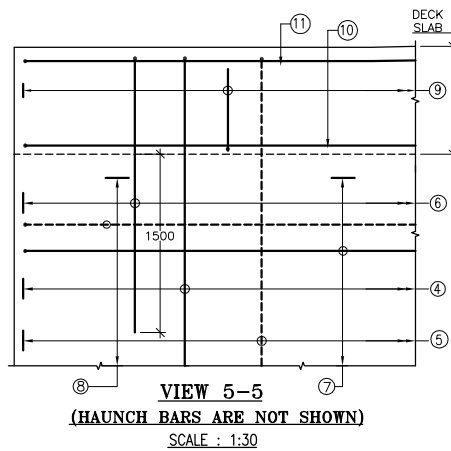
- ## NOTES :
1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
 2. GRADE OF CONCRETE :-
BOX STRUCTURE - M30
RETURN WALL - M30
APPROACH SLAB - M30
RAILING - M30
CURTAIN WALL - M20
LEVELING COURSE(P.C.C) - M15
CRASH BARRIER- M40 & KERB-M30
 3. GRADE OF STEEL Fe-500 AS PER I.S.-1786.
 4. CLASS A, 3 LANES OR CLASS A1 LANE+CLASS 70R PRODUCING WORST EFFECT WILL BE CONSIDERED
 5. PROPERTIES OF BACKFILL SOIL $\leq 1.8t/m^3$, $\phi = 30^\circ$.
 6. FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
 7. SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 8. 2.0M SAND FILLING SHOULD BE PROVIDED BELOW THE RAFT FOUNDATION IN ORDER TO ATTAIN A BEARING CAPACITY 12T/SQM.
 9. NORMAL SCOUR LEVEL-37.204 M.
 10. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. :-
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO. 02 OF 02)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO. 01 OF 01)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
(SHEET NO. 01 OF 01)

[illegible]

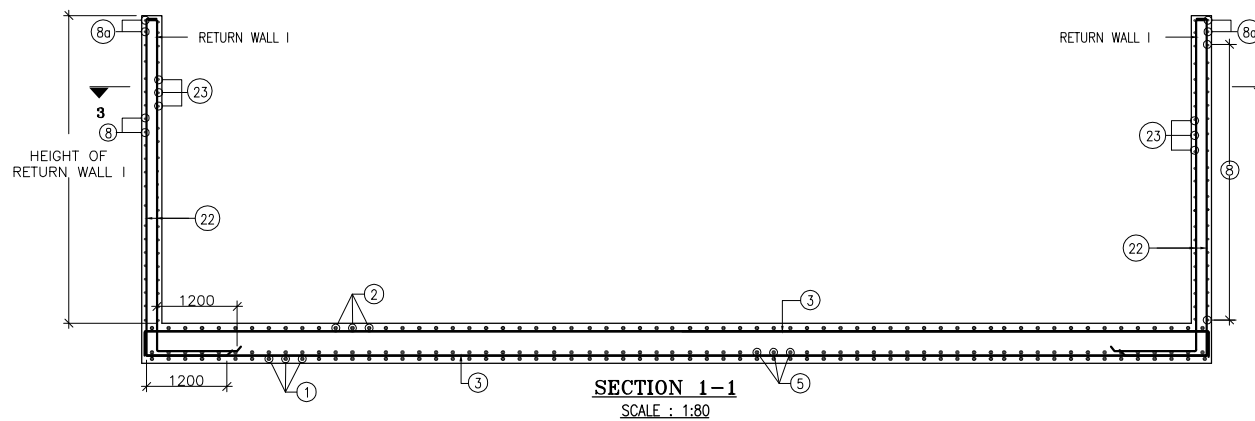




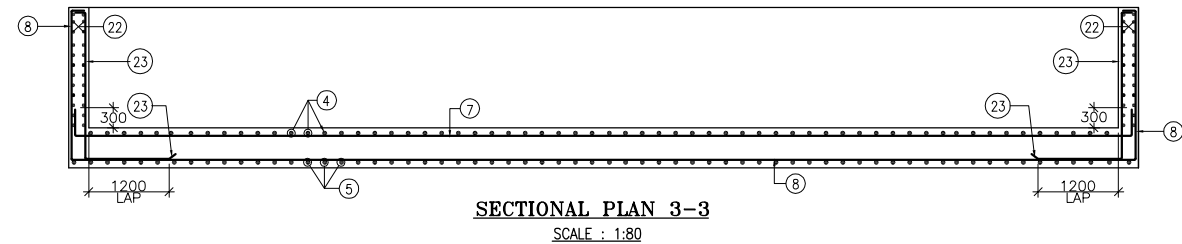
REINFORCEMENT DETAIL OF DOUBLE CELL BOX BRIDGE
SCALE : 1:60



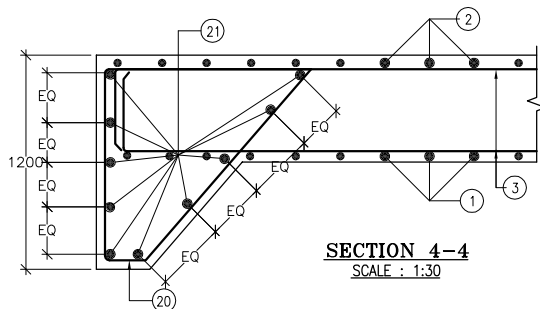
VIEW 5-5
(HAUNCH BARS ARE NOT SHOWN)
SCALE : 1:30



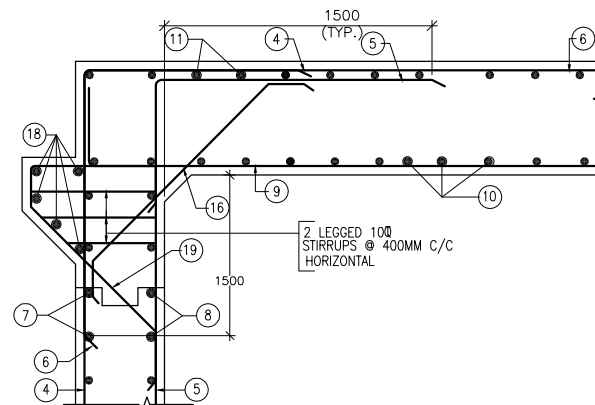
SECTION 1-1
SCALE : 1:80



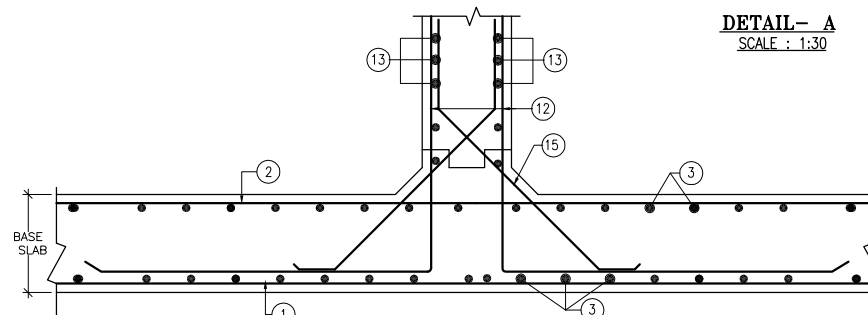
SECTIONAL PLAN 3-3
SCALE : 1:80



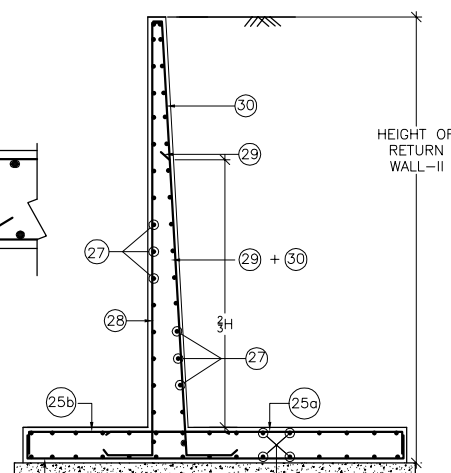
SECTION 4-4
SCALE : 1:30



DETAIL- A
SCALE : 1:30



DETAIL- C
SCALE : 1:30



SECTION 2-2
(SHOWING RETURN WALL- II)
(SCALE-1:60)

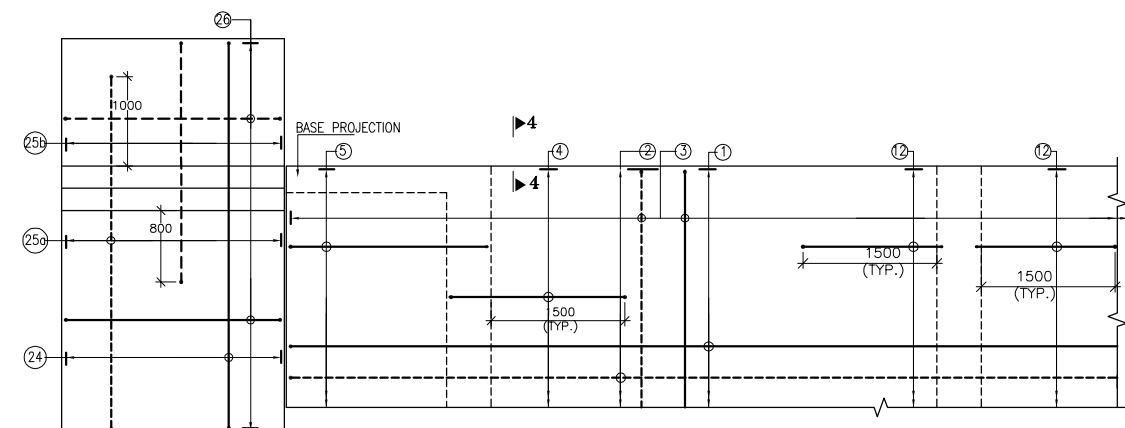
LEGEND:-
REAR FACE / TOP FACE / EARTH FACE BAR -----
FRONT FACE / BOTTOM FACE / OPPOSITE TO EARTH FACE BAR _____

SCHEDULE OF REINFORCEMENT

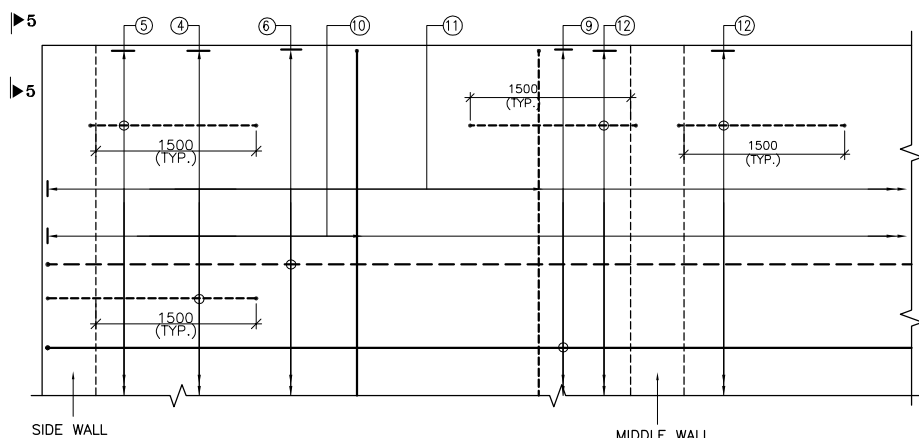
SL. NO.	BAR MARK	DIA. OF BARS (mm)	SPACING (mm)	SL. NO.	BAR MARK	DIA. OF BARS (mm)	SPACING (mm)
1.	①	20	150	21.	②①	10	150
2.	②	20	150	22.	②①	10	10(Nos)
3.	③	12	200	23.	②②	12	200
4.	④	20	150	24.	②③	20	100
5.	⑤	20	150	25.	②④	20	150
6.	⑥	16	150	26.	②⑤	20	125
7.	⑦	12	200	27.	②⑥	20	125
8.	⑧	12	200	28.	②⑦	10	200
9.	⑧a	12	5(Nos)	29.	②⑧	10	175
10.	⑨	16	150	30.	②⑨	12	150
11.	⑩	12	200	31.	②⑩	25	100
12.	⑪	12	200	32.	③①	25	200
13.	⑫	16	150				
14.	⑬	12	200				
15.	⑭	12	200				
16.	⑮	12	200				
17.	⑯	12	200				
18.	⑰	12	200				
19.	⑱	12	5(Nos)				
20.	⑲	12	200				

NOTES :

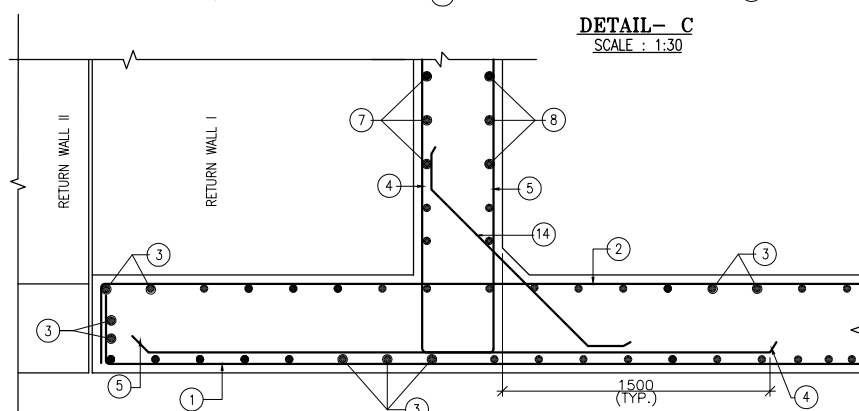
- ALL DIMENSIONS ARE IN MM.
- CONC. GRADE SHALL BE M-30 & M-25 WHERE APPLICABLE.
- ALL REINFORCING STEEL SHALL BE OF HYSD BARS (GRADE DESIGNATION Fe-500) CONFORMING TO IS: 1786.
- CLEAR COVER :- TOP SLAB=40
SIDE WALL = 50 , MIDDLE WALL = 50 & BOTTOM SLAB = 75.
- LAP LENGTH & DEVELOPMENT LENGTH (Ld) OF REINFORCING BARS SHALL BE DONE IN ACCORDANCE WITH RELEVANT CLAUSE IRC : 112-2011.
- WELDING OF BARS SHALL NOT BE PERMITTED.
- SHARP EDGES OF CONCRETE WILL NOT BE PERMITTED.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO: CET/BDG/2015/3580/NH-208/FDPR/MN/GA (SHEET NO. 01 & 02)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISC (SHEET NO. 01 OF 01)



BOTTOM SLAB R/F PLAN
(HAUNCH LINES ARE NOT SHOWN IN PLAN)
SCALE : 1:60

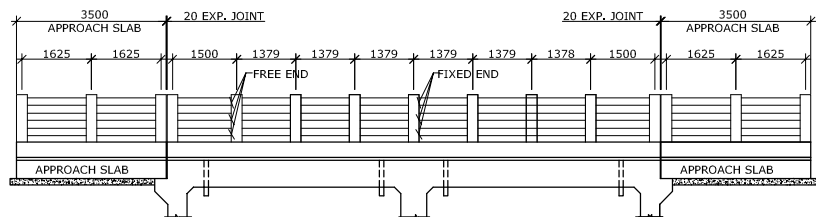


TOP SLAB R/F PLAN
(KERB, BRACKET & HAUNCH LINES ARE NOT SHOWN IN PLAN)
SCALE : 1:50

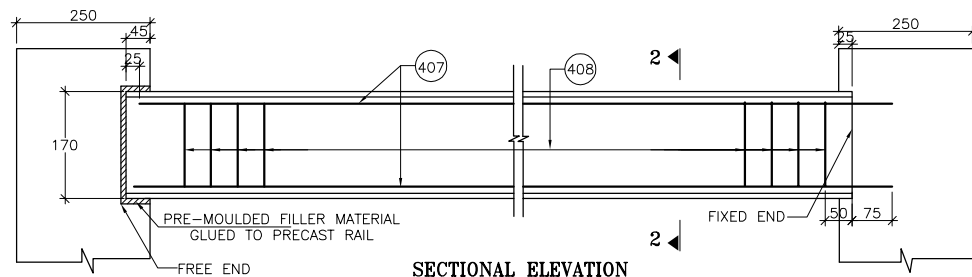


DETAIL- B
SCALE : 1:30

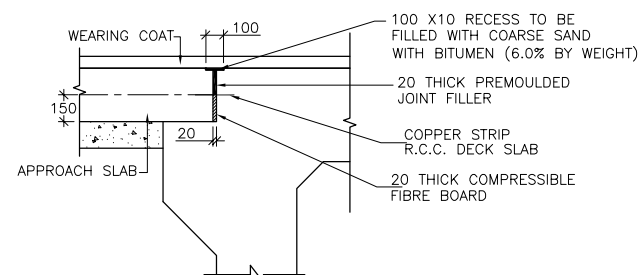
					SCALE: AS SHOWN	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	REINFORCEMENT DETAILS OF DOUBLE CELL R.C.C BOX BRIDGE (2 X 5.0M X 5.0M)	ROAD NAME: Kailashahar to Teliamura Section of NH-208 Package:-V (Km 75+700 to Km 101+300)	CONSULTANT : CETEST Engineering Consultants ANISO 9001, 14001 & OHSAS 18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/RCC Revision Mkd. - R0 Drawn By. S. Dalui Design By. A. Mukherjee Checked By. A. Dey Approved By. B. Koner
					DATE: Nov,2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)					Sheet No. - 01 of 01
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.							
REVISIONS											



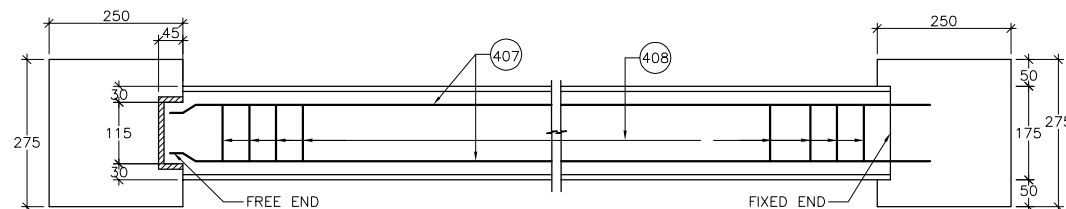
**GENERAL ARRANGEMENT OF R.C.C. RAILING
(5.0x5.0x2 CELL BOX BRIDGE)**
SCALE - 1:125



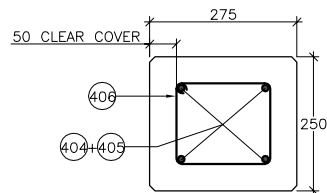
SECTIONAL ELEVATION
SCALE-1:10



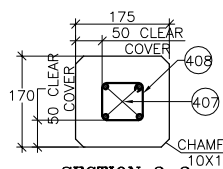
DETAILS OF FILLER JOINT
SCALE- 1:30



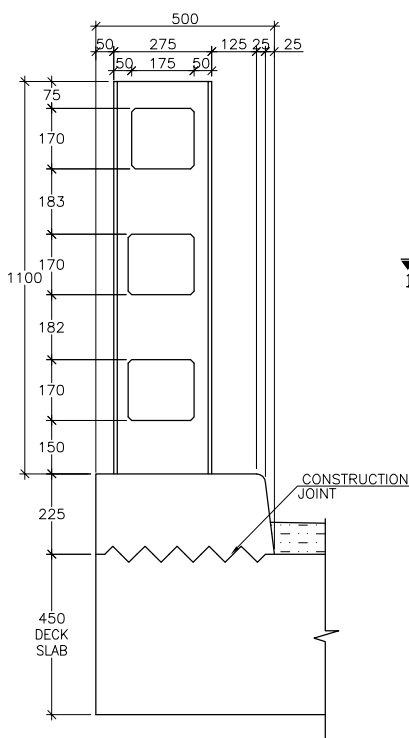
**PLAN
DETAIL OF PRECAST HANDRAIL**
SCALE-1:10



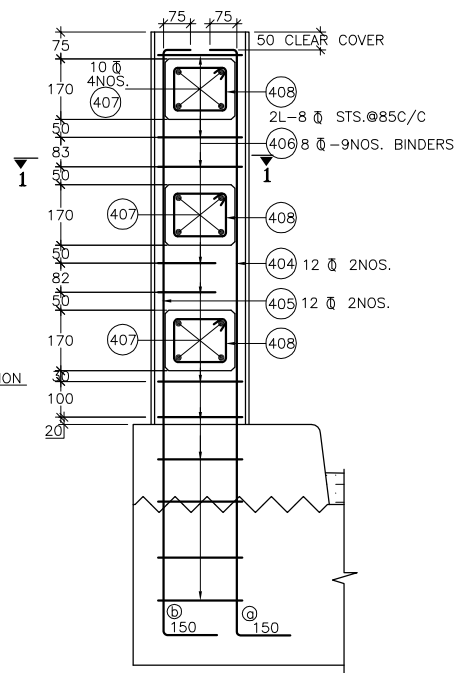
SECTION 1-1
SCALE- 1:10



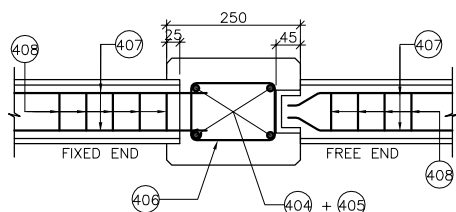
SECTION 2-2
SCALE- 1:10



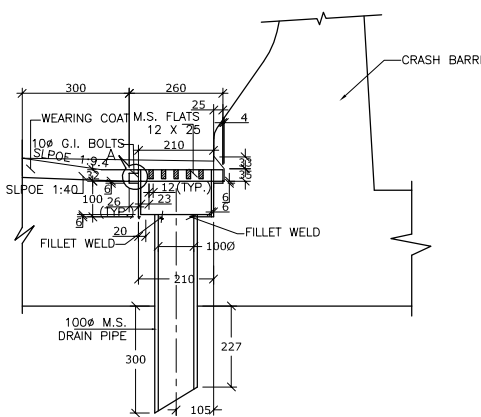
**SECTION THROUGH POST
(FOR GENERAL ARRANGEMENT)**
SCALE-1:15



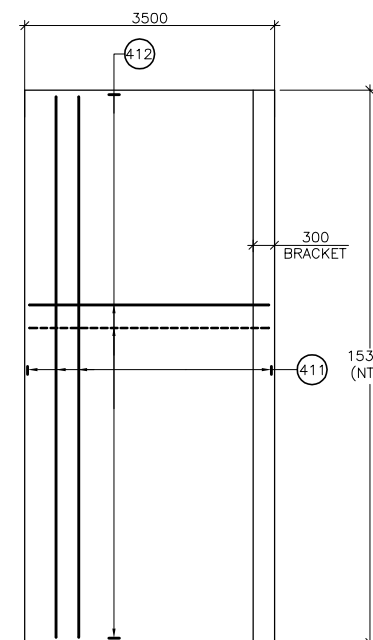
**SECTION THROUGH POST
(FOR REINFORCEMENT DETAIL)**
SCALE-1:15



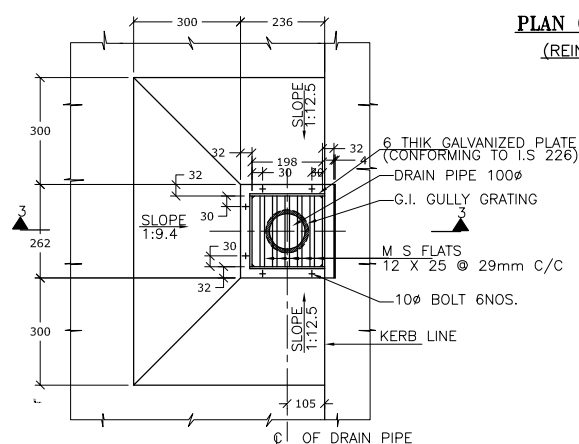
REINFORCEMENT ARRANGEMENT OF HAND RAIL & POST
SCALE-1:10



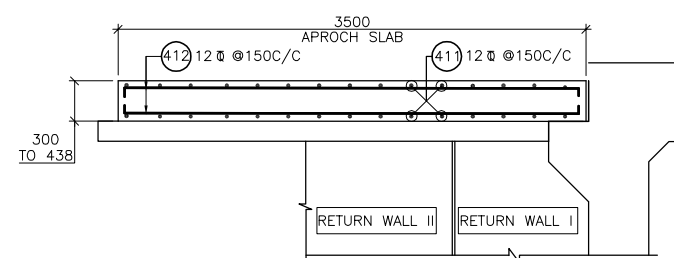
SECTION 3-3
SCALE- 1:15



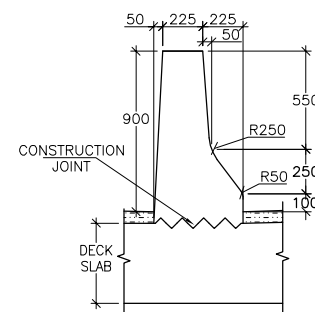
**PLAN OF APPROACH SLAB
(REINFORCEMENT DETAIL)**
SCALE 1:75



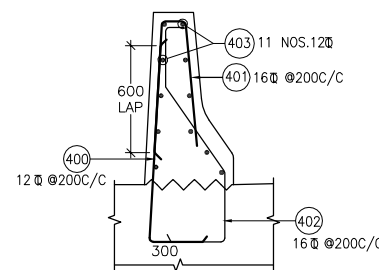
**PLAN
DETAIL OF DRAINAGE
SPOUT AND COLLECTION PIT**
SCALE- 1:15



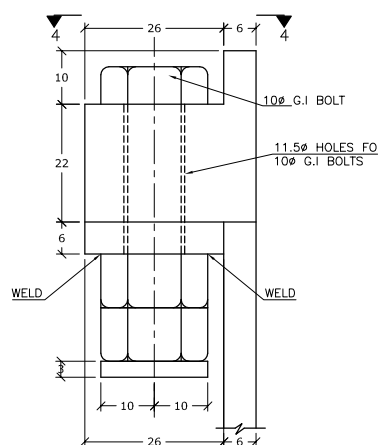
**DETAILS OF APPROACH SLAB
(REINFORCEMENT DETAIL)**
SCALE 1:40



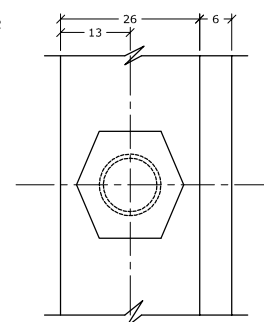
**DETAILS OF CRASH BARRIER
(FOR GENERAL ARRANGEMENT)**
SCALE-1:30



RCC OF CRASH BARRIER
SCALE-1:30



DETAIL - A
SCALE- 1:1



PLAN AT 4-4
SCALE- 1:1

NOTE :

1. ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE NOTED.

NOTES FOR RAILING :

1. REINFORCEMENT OF RAILING POST SHOULD BE SUITABLY ANCHORED IN DECK SLAB.
2. CASTING OF POST SHALL BE DONE IN SINGLE POUR AFTER ACCURATELY POSITIONING THE PRECAST HANDRAIL.
3. RAILING SHALL BE CONSTRUCTED ONLY AFTER THE STRUCTURAL CONCRETE OF SUPERSTRUCTURE HAS HARDENED AND SHUTTERING IS RELEASED.
4. EXPANSION GAPS IN RAILING SHALL BE PROVIDED AT THE SAME LOCATIONS AS IN THE DECK SLAB.

NOTES FOR DRAINAGE SPOUT

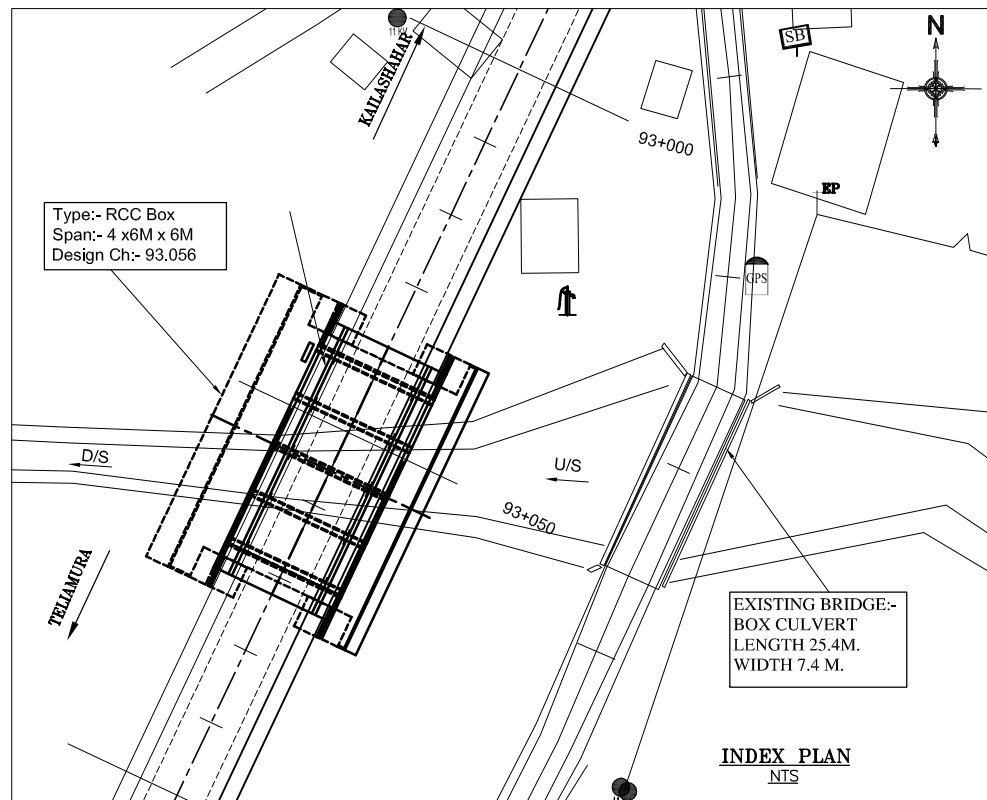
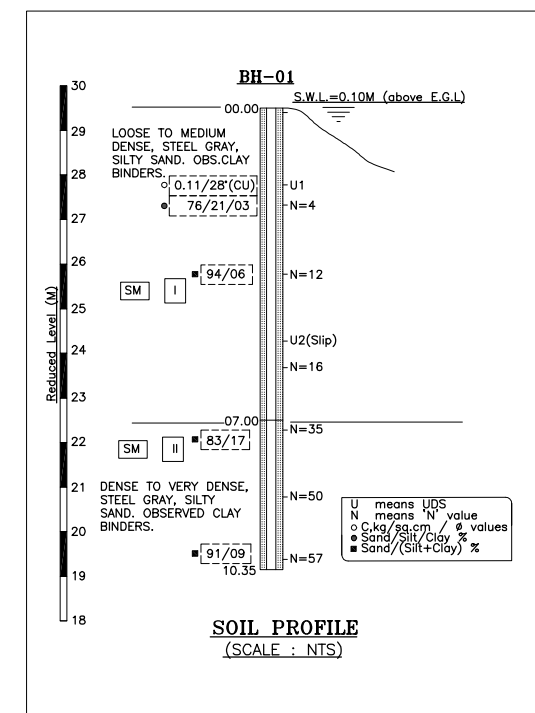
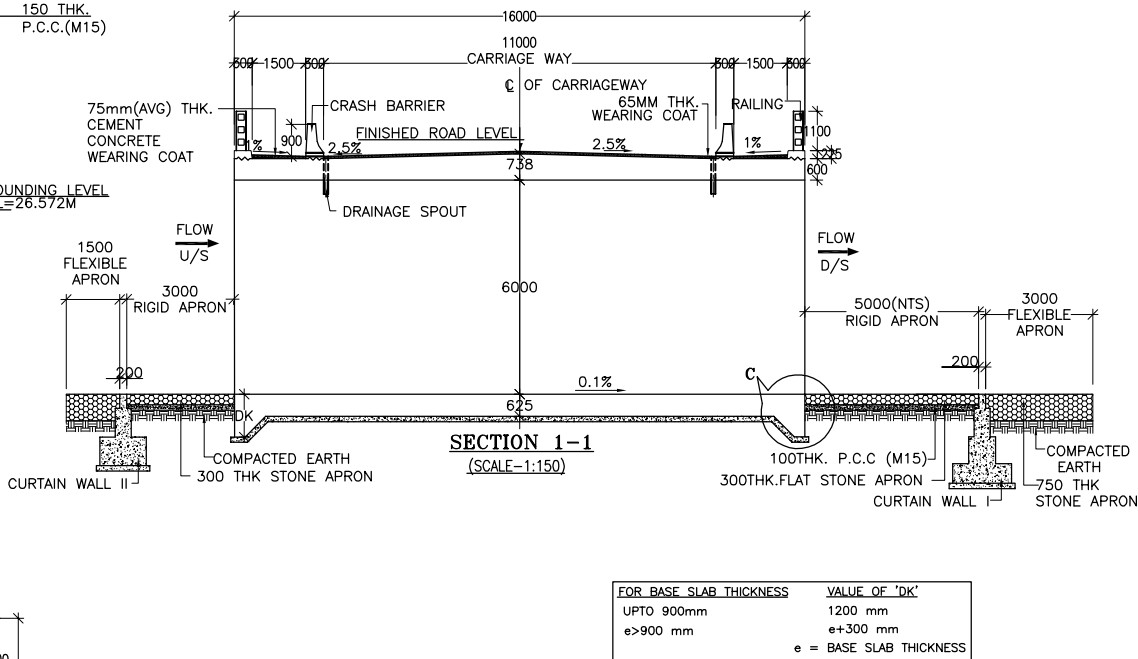
1. ONLY FIGURED DIMENSIONS ARE TO BE FOLLOWED.
2. ALL STEEL WORK SHALL BE AS PER IS - 2062.
3. DRAINAGE SPOUT & COLLECTION PIT ASSEMBLY SHALL BE FABRICATED FROM MILD STEEL & AFTER FABRICATION, THE COMPLETE ASSEMBLY EXCEPT GRATING SHALL BE GIVEN A HOT DIPPED GALVANISED COATING.
4. THE REINFORCEMENT OF TOP SLAB OF BOX SHALL BE SUITABLY MODIFIED TO ACCOMMODATE THE DRAINAGE SPOUT.
5. THE DRAINAGE SPOUT SHALL BE GALVANIZED AFTER WELDING THE PLATES & FLATS.

REFERENCE DRAWINGS :

- CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO. 01 TO 02)
- CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO. 01 OF 01)
- CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
(SHEET NO. 01 OF 01)

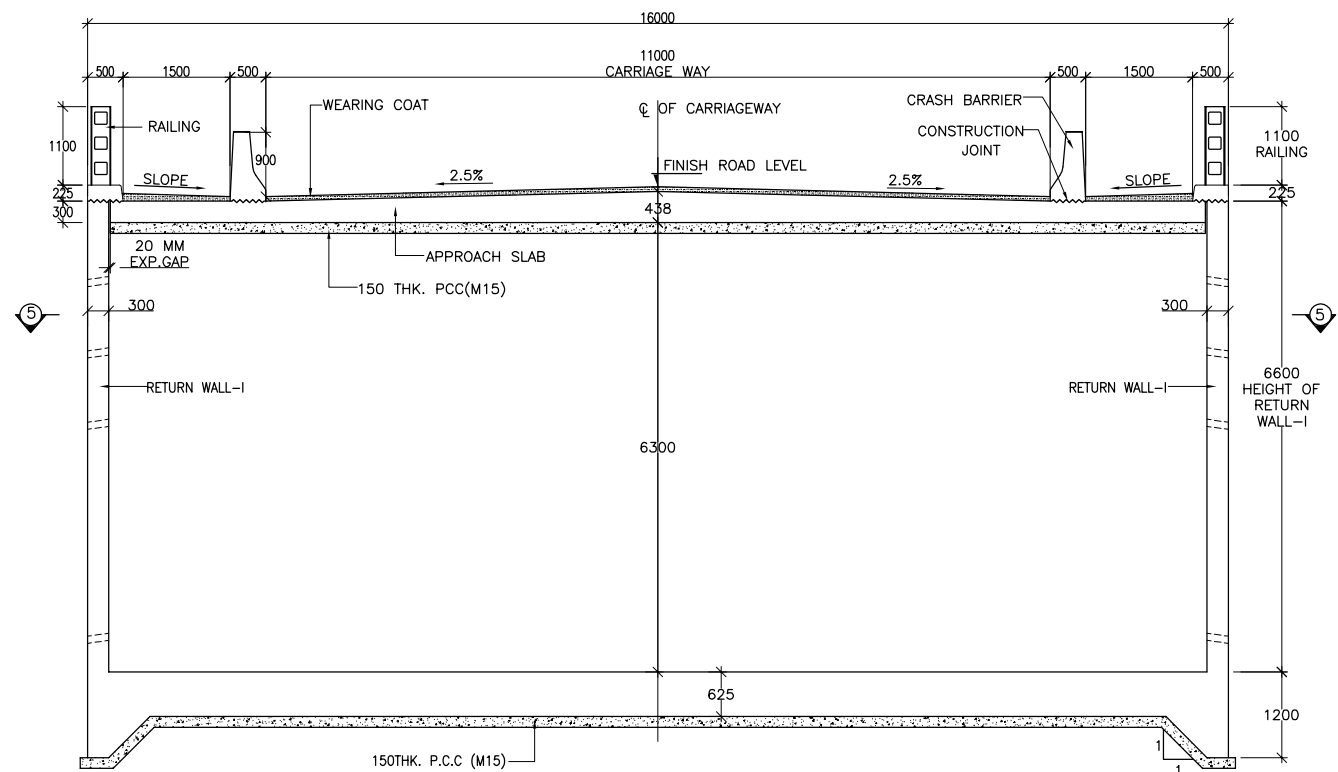
					SCALE: AS SHOWN	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	DETAILS OF DRAINAGE SPOUT, EXP. GAP RCC RAILING & CRASH BARRIER	CONSULTANT : CETEST Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company	CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
											Revision Mkd. - R0
											Sheet No. - 01 of 01
											Drawn By.
											Design By.
											Checked By.
											Approved By.
											S. Dalui
											A. Mukherjee
											A. Dey
											B.Koner

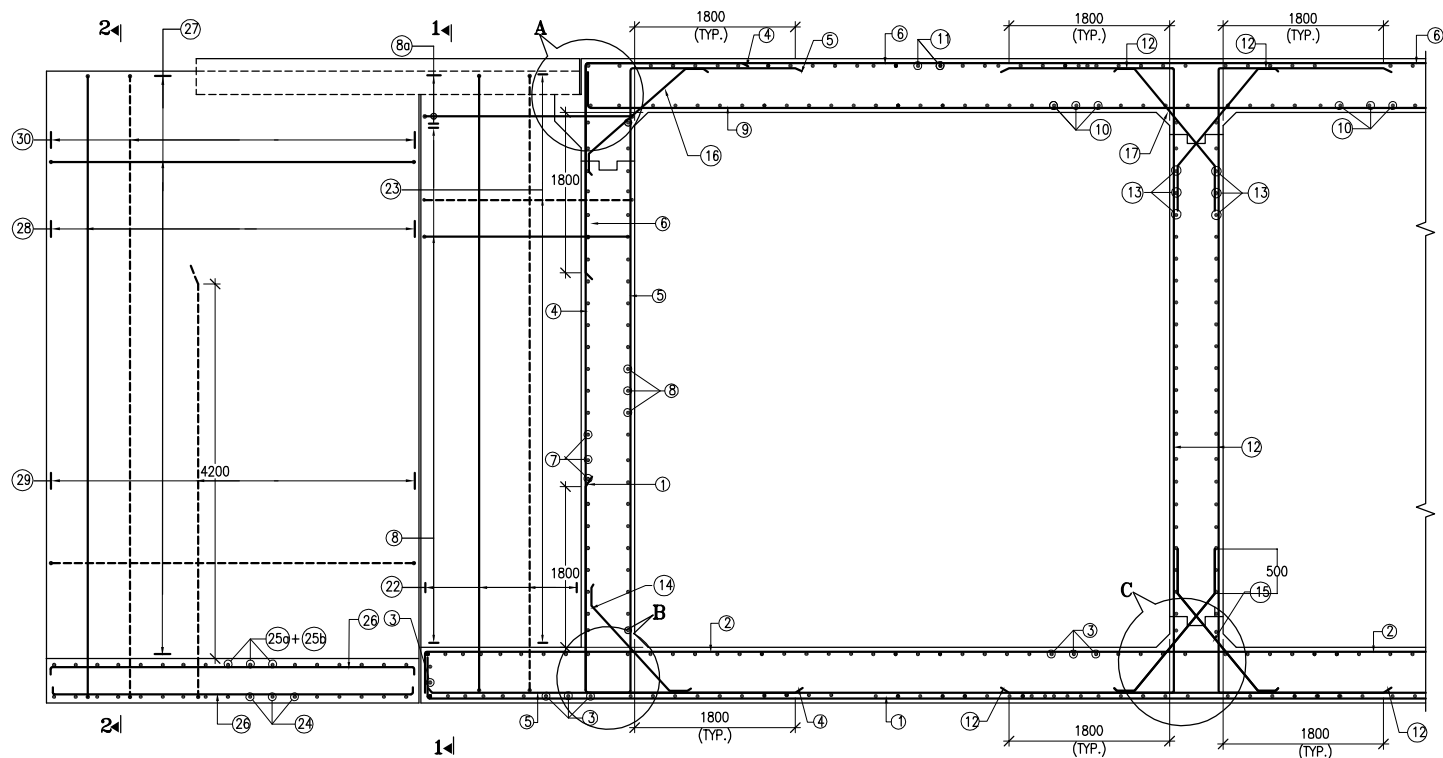
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.



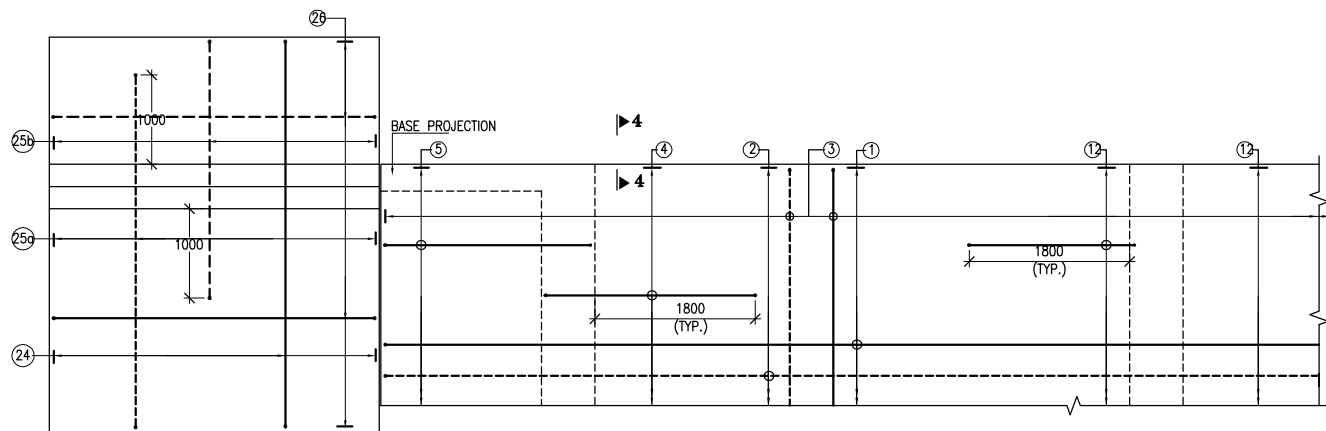
- ## NOTES :
1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
 2. GRADE OF CONCRETE :-
BOX STRUCTURE – M30
RETURN WALL – M30
APPROACH SLAB – M30
RCC RAILING – M30
CURTAIN WALL – M20
LEVELING COURSE(P.C.C) – M15
CRASH BARRIER – M40 & KERB –M30
 3. GRADE OF STEEL Fe-500 AS PER I.S.-1786.
 4. CLASS A 3 LANES OR CLASS A 1 LANE+ CLASS 70R PRODUCING WORST EFFECT WILL BE CONSIDERED.
 5. PROPERTIES OF BACKFILL SOIL $\gamma = 2.0 \text{ t/m}^3$, $\phi = 30^\circ$.
 6. FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE SOFT HEIGHT.
 7. SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 8. THE SOIL BELOW FOUNDATION LEVEL SHOULD BE WELL COMPACTED TO ACHIEVE MINIMUM BEARING CAPACITY OF 10t/SQM.
 9. MAXIMUM SCOUR LEVEL-25.975 M.
 10. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. :-
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO-02)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO-01)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
(SHEET NO-01)

					SCALE:	CLIENT:	Public Works Department	National Highways & Infrastructure	GENERAL ARRANGEMENT OF	CONSULTANT : CETEST Engineering Consultants AN ISO 9001, 14001 & OHSAS 18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/GA			
					AS SHOWN	Government of Tripura	Development Corporation Ltd.	R.C.C BOX BRIDGE (4X6.0M X 6.0M) (AT CHAINAGE- 93.056KM)	Revision Mkd. - R0		Sheet No. - 01 of 02			
					DATE:	PROJECT:	Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME:		124-A, N.S.C. Bose Road			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	Nov,2019			Kailashahar to Teliamura Section of NH-208	Package:-V (Km 75+700 to Km 101+300)		Kolkata - 700092.			
REVISIONS														

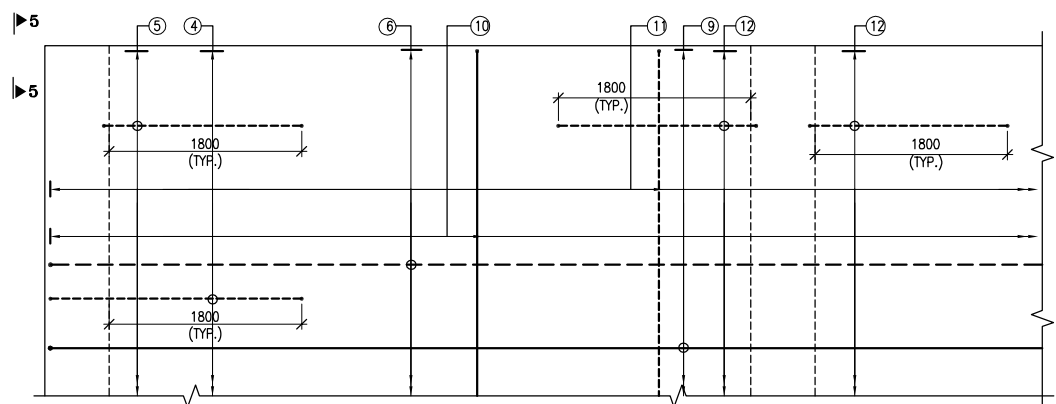




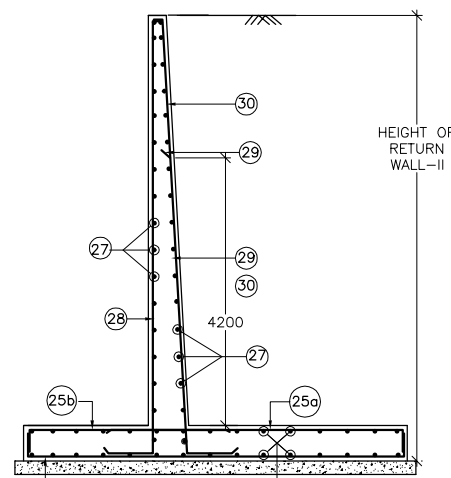
REINFORCEMENT DETAIL OF FOUR CELL BOX CULVERT
SCALE : 1:60



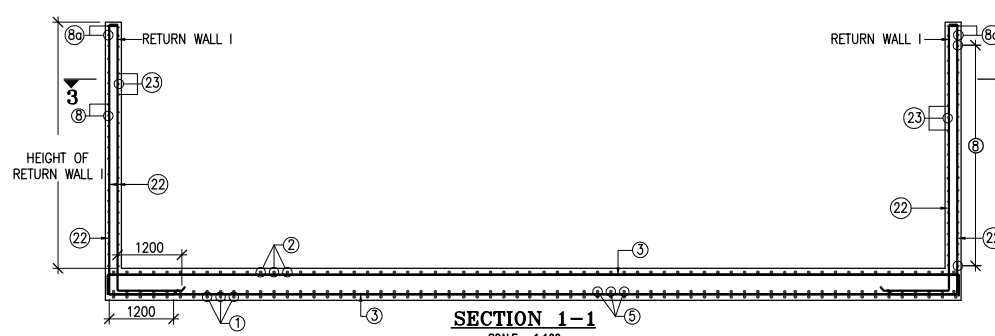
BOTTOM SLAB R/F PLAN
(HAUNCH LINES ARE NOT SHOWN IN PLAN)
SCALE : 1:60



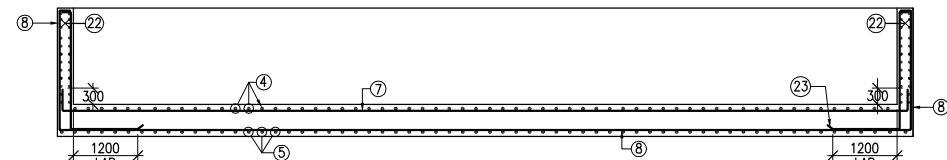
TOP SLAB R/F PLAN
(KERB. BRACKET & HAUNCH LINES ARE NOT SHOWN IN PLAN)
SCALE : 1:50



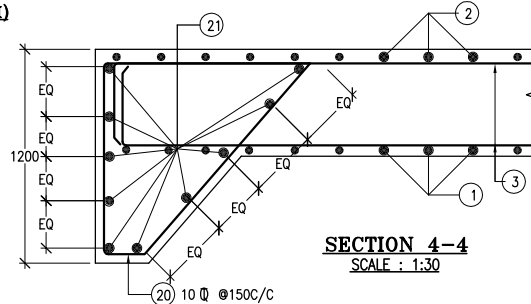
SECTION 2-2
(SHOWING RETURN WALL- II)
(SCALE-1:60)



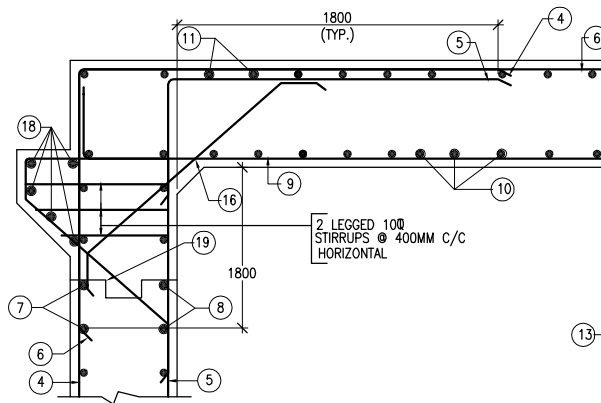
SECTION 1-1
SCALE : 1:100



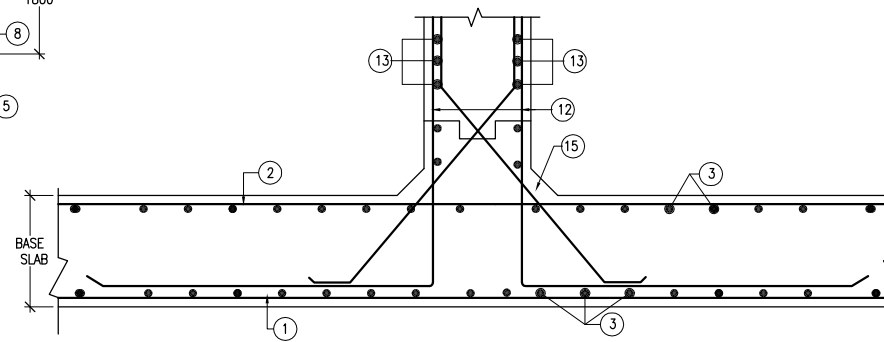
SECTIONAL PLAN 3-3
SCALE : 1:100



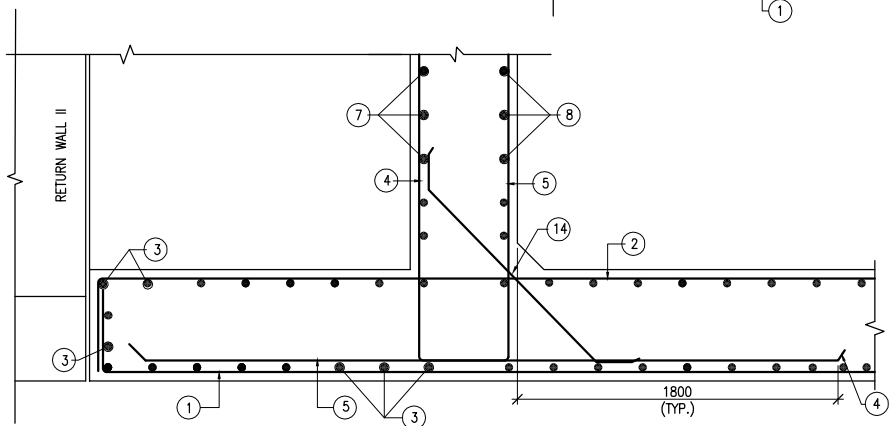
SECTION 4-4
SCALE : 1:30



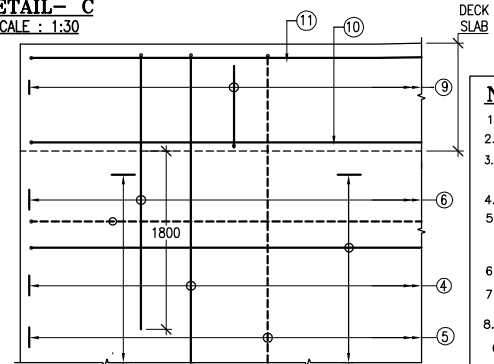
DETAIL- A
SCALE : 1:30



DETAIL- B
SCALE : 1:30



DETAIL- C
SCALE : 1:30



VIEW 5-5
(HAUNCH BARS ARE NOT SHOWN)
SCALE : 1:30

SCHEDULE OF REINFORCEMENT

SL. NO.	BAR MARK	DIA. OF BARS (mm)	SPACING (mm)	SL. NO.	BAR MARK	DIA. OF BARS (mm)	SPACING (mm)
1.	①	16	150	21.	②①	10	150
2.	②	16	150	22.	②①	10	10(Nos)
3.	③	12	200	23.	②②	12	200
4.	④	20	150	24.	②③	20	150
5.	⑤	20	150	25.	②④	20	150
6.	⑥	16	150	26.	②⑤	20	150
7.	⑦	12	200	27.	②⑥	16	150
8.	⑧	12	200	28.	②⑦	12	125
9.	⑧a	12	5(Nos)	29.	②⑧	12	225
10.	⑨	16	150	30.	②⑨	12	150
11.	⑩	12	200	31.	②⑩	25	100
12.	⑪	20	150	32.	③①	25	100
13.	⑫	16	150				
14.	⑬	12	200				
15.	⑭	12	200				
16.	⑮	12	200				
17.	⑯	12	200				
18.	⑰	12	200				
19.	⑱	12	5(Nos)				
20.	⑲	12	200				

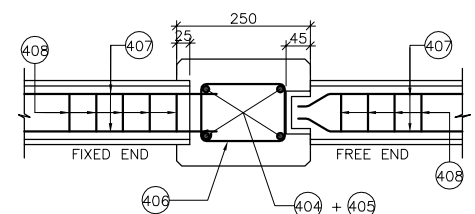
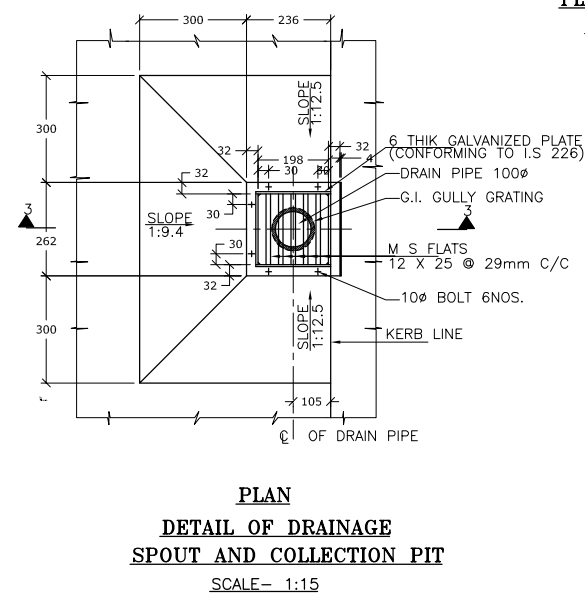
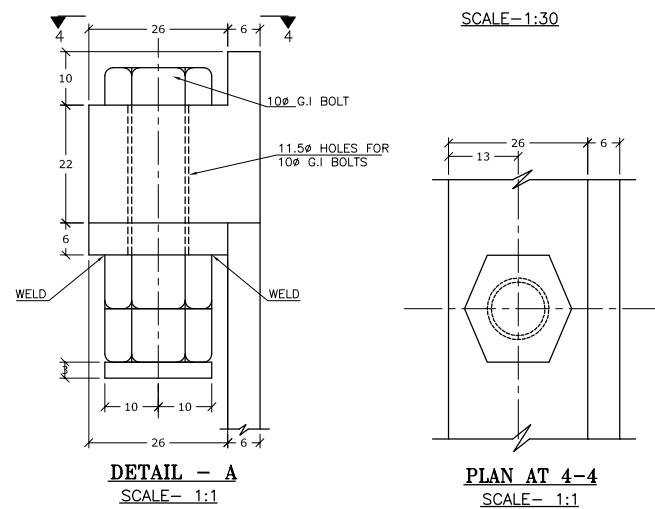
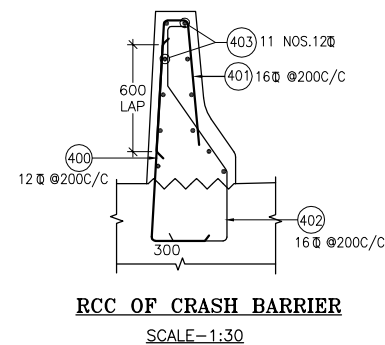
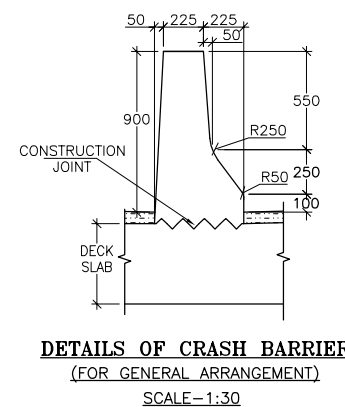
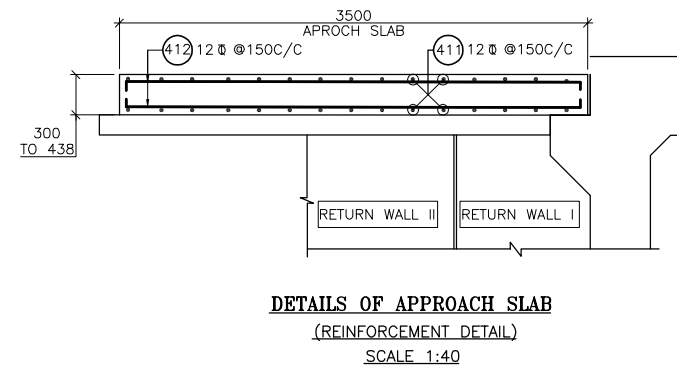
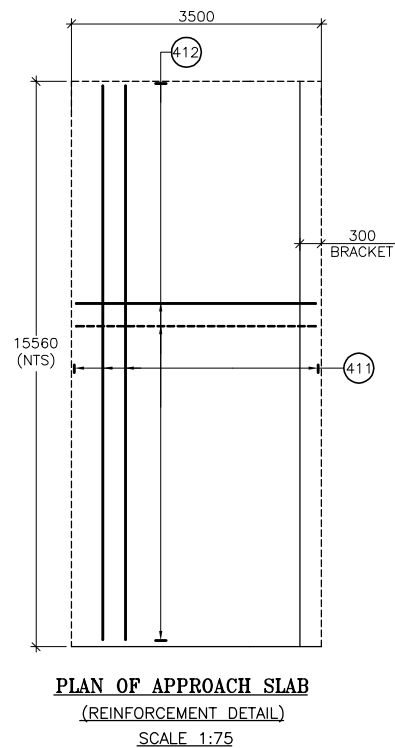
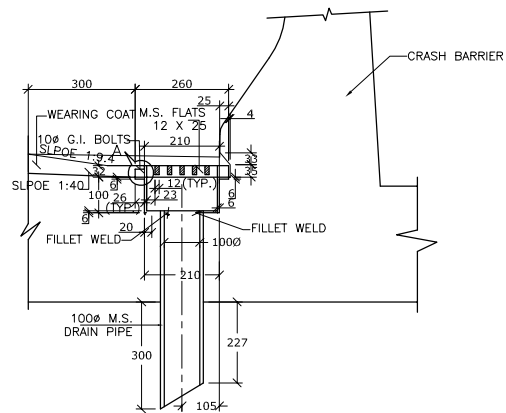
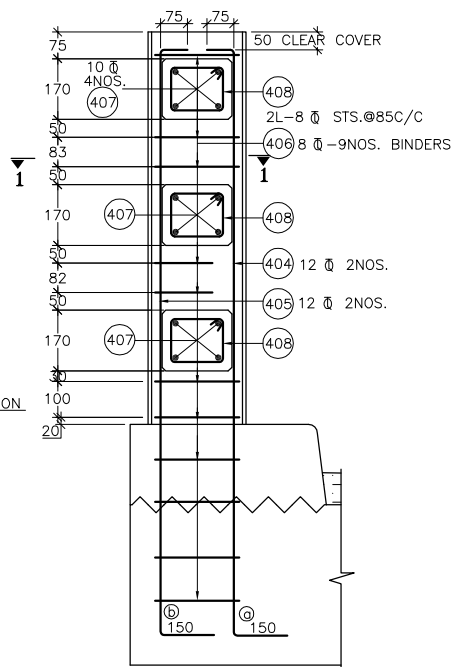
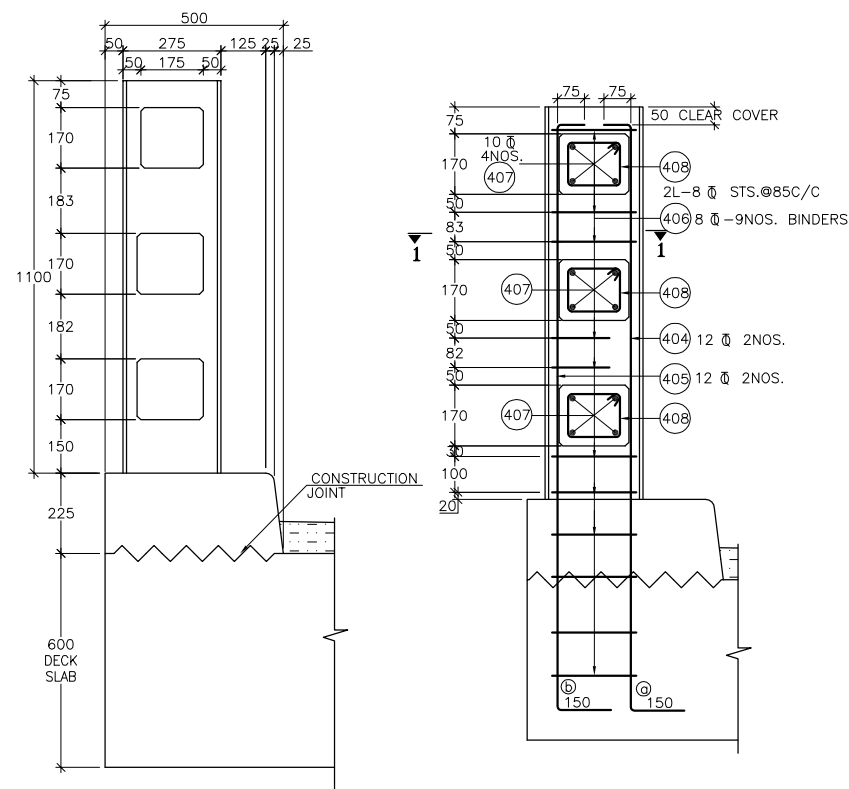
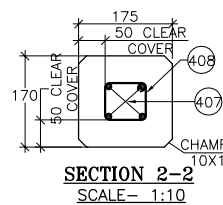
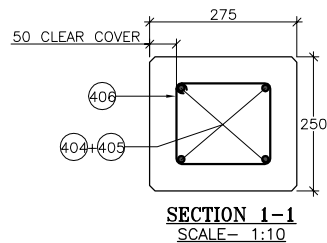
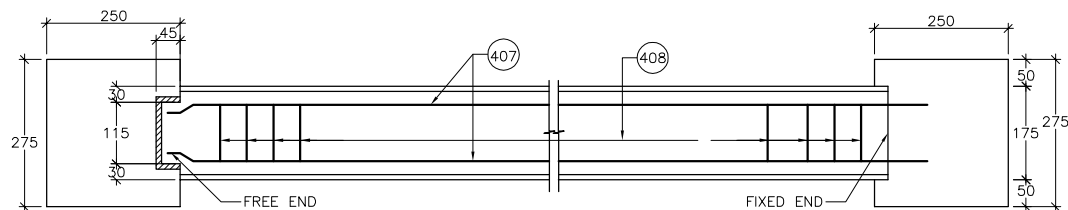
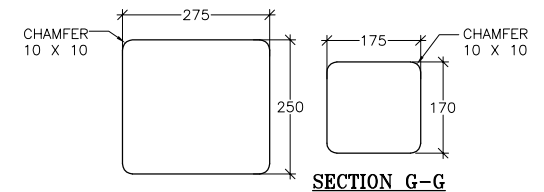
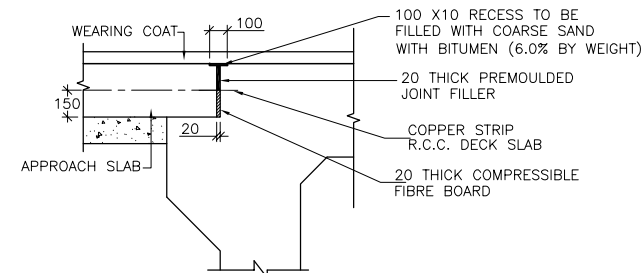
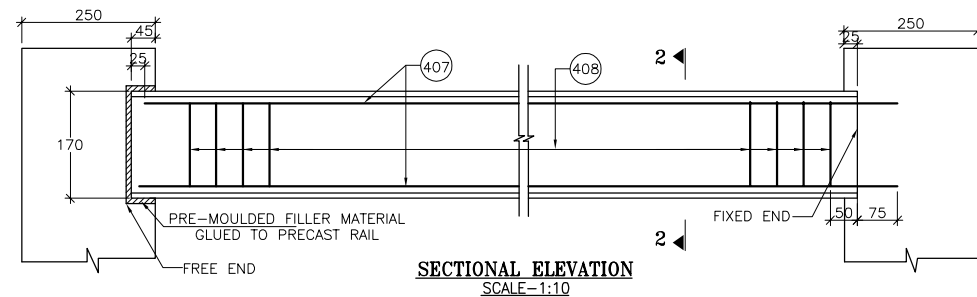
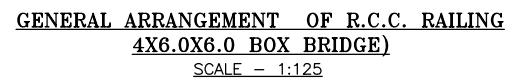
LEGEND:-

REAR FACE / TOP FACE / EARTH FACE BAR -----
FRONT FACE / BOTTOM FACE / OPPOSITE TO EARTH FACE BAR _____

NOTES :

- ALL DIMENSIONS ARE IN MM.
- CONC. GRADE SHALL BE M-30 & M-25 WHERE APPLICABLE.
- ALL REINFORCING STEEL SHALL BE OF HYSD BARS (GRADE DESIGNATION Fe-500) CONFORMING TO IS: 1786.
- CLEAR COVER =TOP SLAB 40MM, SIDE WALL 50MM, BOTTOM SLAB 75.
- LAP LENGTH & DEVELOPMENT LENGTH (Ld) OF REINFORCING BARS SHALL BE DONE IN ACCORDANCE WITH RELEVANT CLAUSE IRC : 112-2011.
- WELDING OF BARS SHALL NOT BE PERMITTED.
- SHARP EDGES OF CONCRETE WILL NOT BE PERMITTED.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO: CET/BDG/2015/3580/NH-208/FDPR/MN/GA (SHEET NO. 01 & 02)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISC (SHEET NO. 01 OF 01)

					SCALE:	CLIENT:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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NOTE :

1. ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE NOTED.

NOTES FOR RAILING :

1. REINFORCEMENT OF RAILING POST SHOULD BE SUITABLY ANCHORED IN DECK SLAB.
2. CASTING OF POST SHALL BE DONE IN SINGLE POUR AFTER ACCURATELY POSITIONING THE PRECAST HANDRAIL.
3. RAILING SHALL BE CONSTRUCTED ONLY AFTER THE STRUCTURAL CONCRETE OF SUPERSTRUCTURE HAS HARDENED AND SHUTTERING IS RELEASED.
4. EXPANSION GAPS IN RAILING SHALL BE PROVIDED AT THE SAME LOCATIONS AS IN THE DECK SLAB.

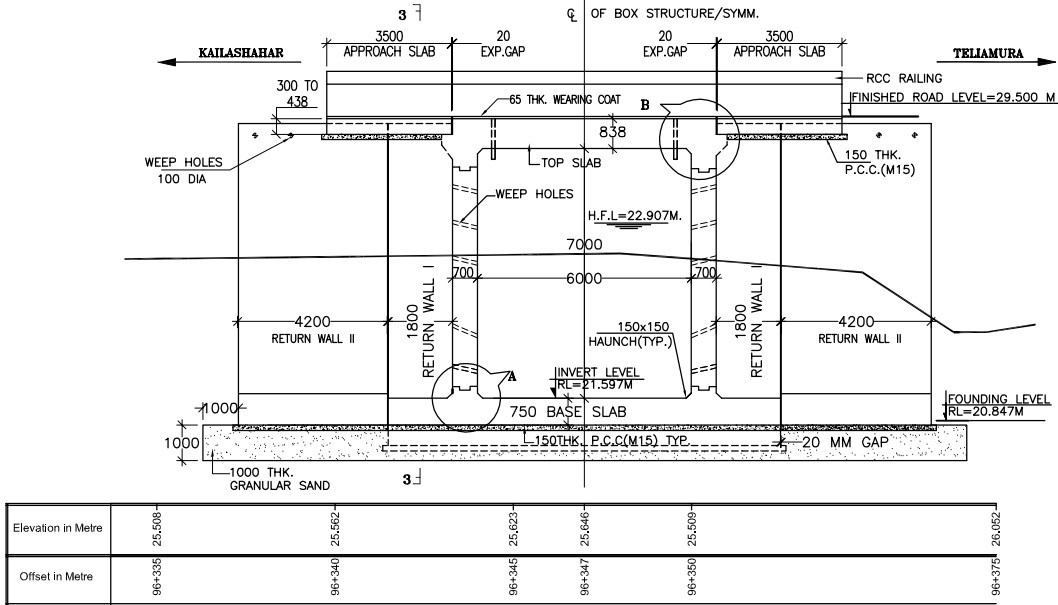
NOTES FOR DRAINAGE SPOUT

1. ONLY FIGURED DIMENSIONS ARE TO BE FOLLOWED.
2. ALL STEEL WORK SHALL BE AS PER IS - 2062.
3. DRAINAGE SPOUT & COLLECTION PIT ASSEMBLY SHALL BE FABRICATED FROM MILD STEEL & AFTER FABRICATION, THE COMPLETE ASSEMBLY EXCEPT GRATING SHALL BE GIVEN A HOT DIPPED GALVANIZED COATING.
4. THE REINFORCEMENT OF TOP SLAB OF BOX SHALL BE SUITABLY MODIFIED TO ACCOMMODATE THE DRAINAGE SPOUT.
5. THE DRAINAGE SPOUT SHALL BE GALVANIZED AFTER WELDING THE PLATES & FLATS.

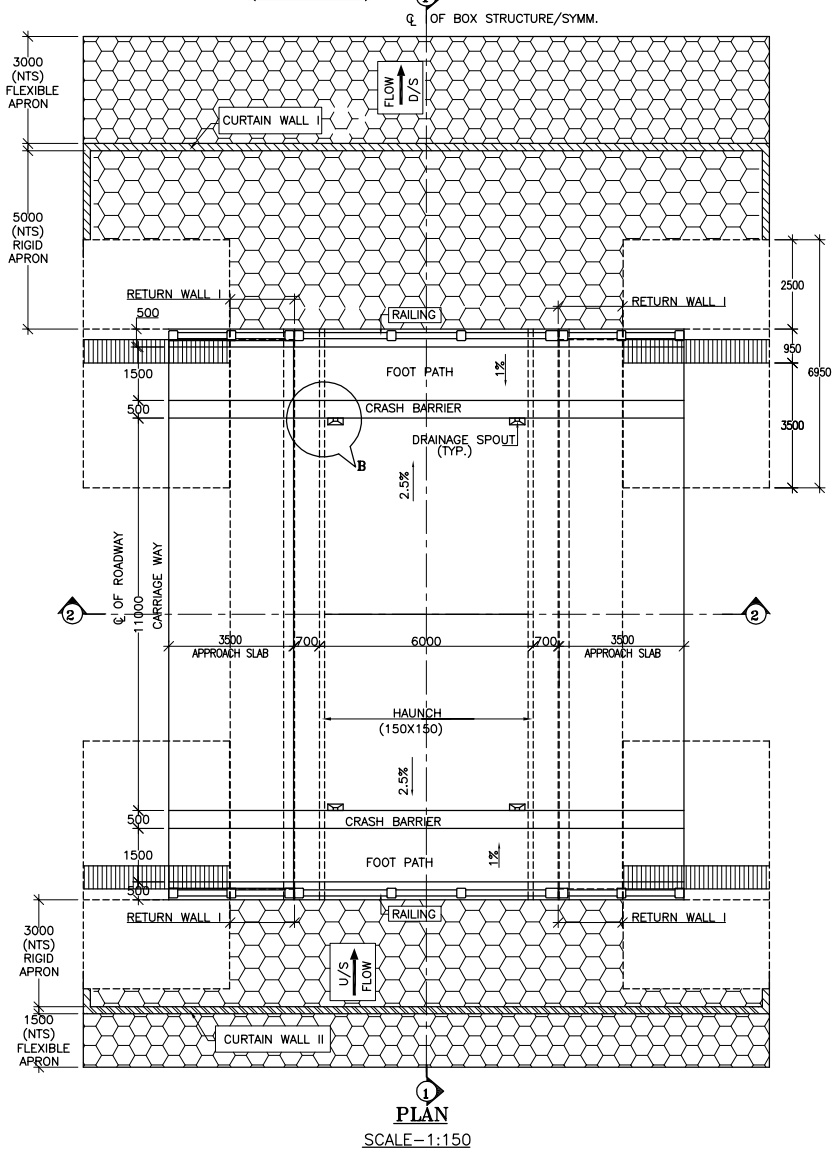
REFERENCE DRAWINGS :

CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO. 01 & 02)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO. 01 OF 01)

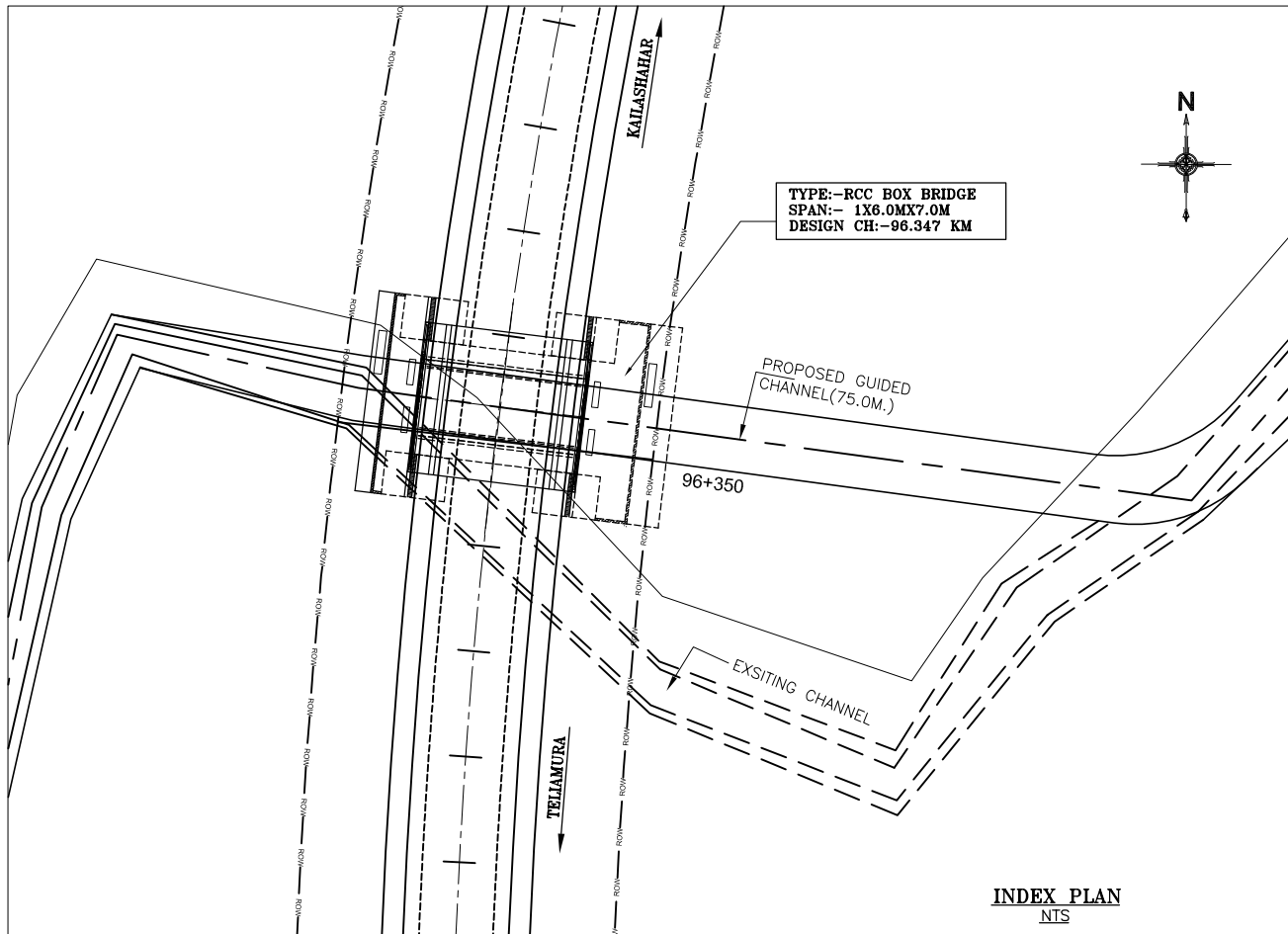
					SCALE:	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	DETAILS OF DRAINAGE SPOUT, EXP. GAP RCC RAILING & CRASH BARRIER	CETEST Engineering Consultants AutISO 9001, ISO-9001 & CE+SAS 18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092. CONSULTANT :	Dwg. No.	CET/BDG/2015/3580/NH-208/FDPR/MN/MISC		
					AS SHOWN					Revision Mkd. - R0	Sheet No. - 01 of 01		
										Drawn By.	Design By.	Checked By.	Approved By.
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	Nov, 2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)	ROAD NAME: Kailashahar to Teliamura Section of NH-208			S. Dalui	A. Mukherjee	A. Dey	B.Koner
REVISIONS								Packag:-V (Km 75+700 to Km 101+300)					



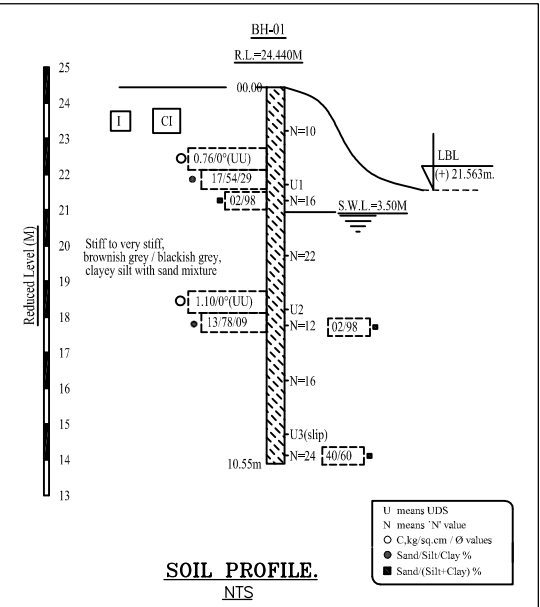
SECTION 2-2
(SCALE-1:150)



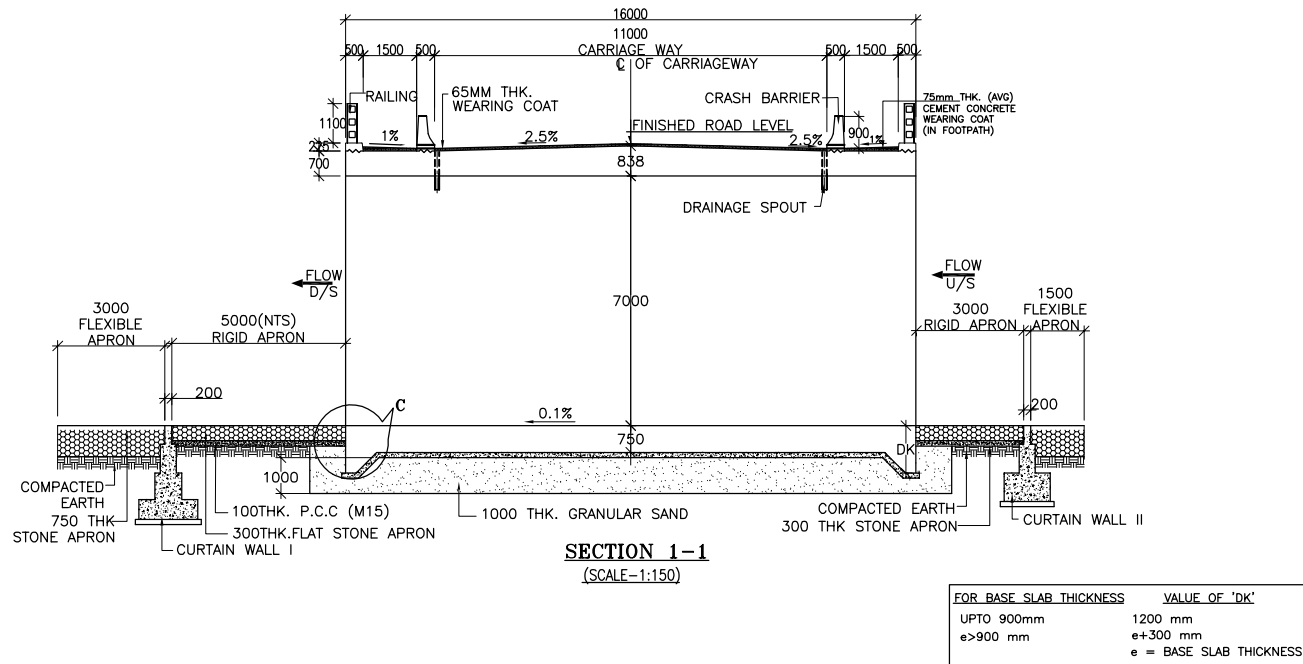
PLAN
SCALE-1:150



INDEX PLAN
NTS



SOIL PROFILE
NTS

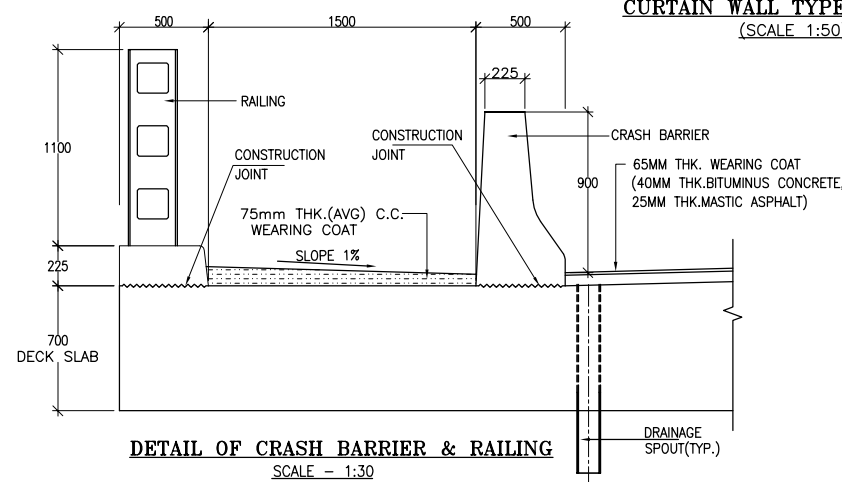
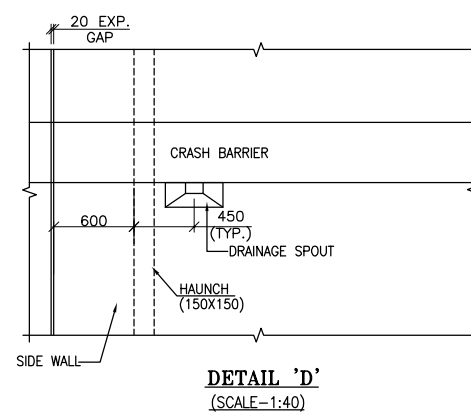
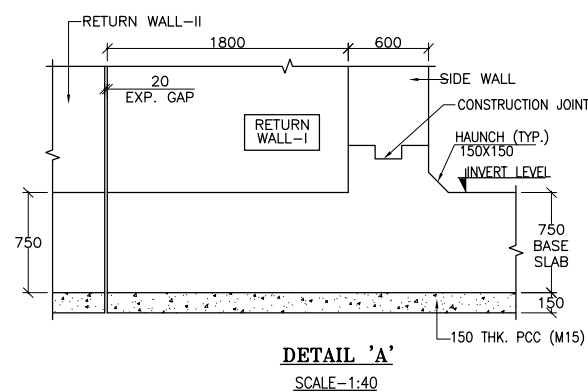
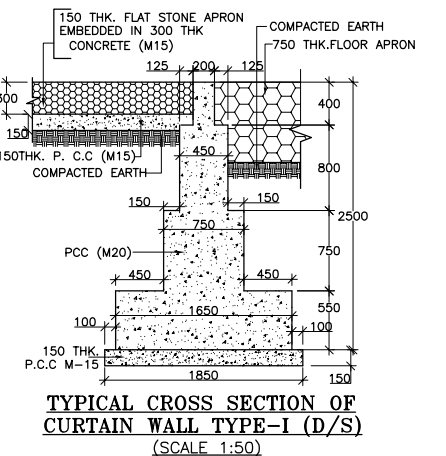
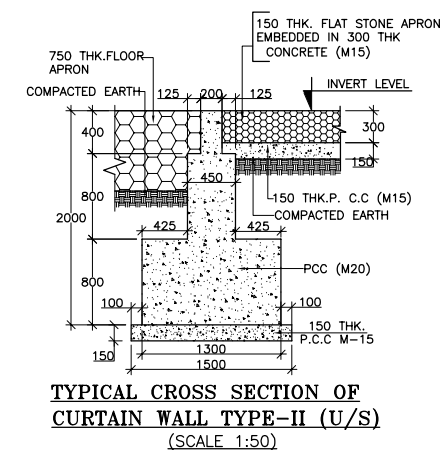
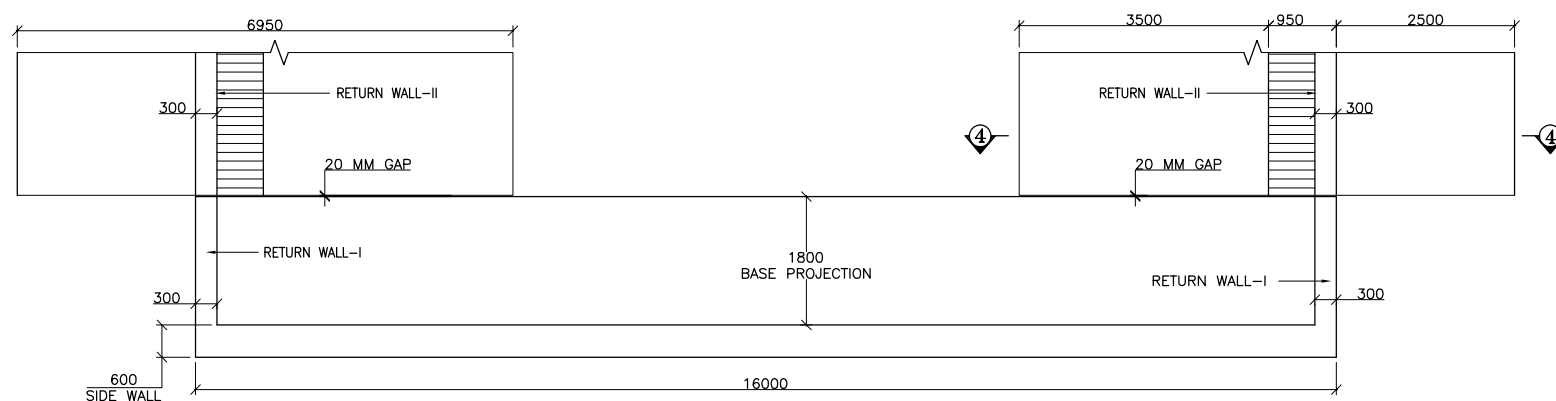
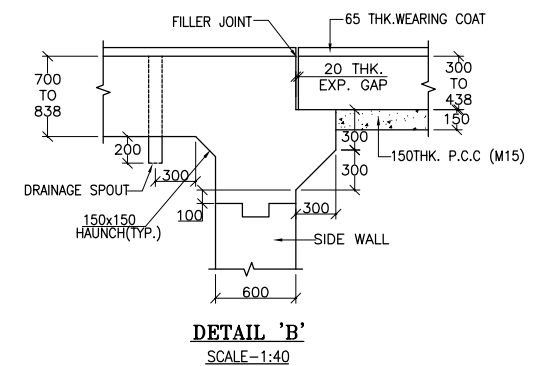
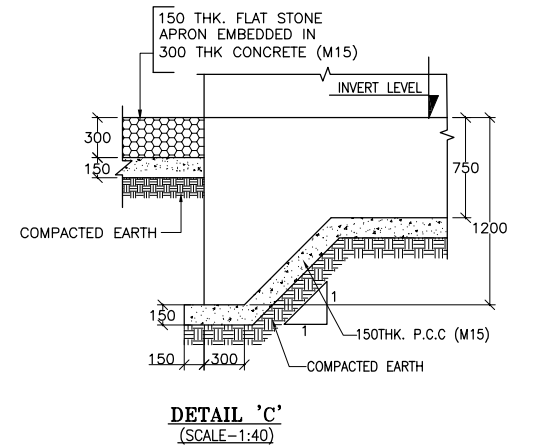
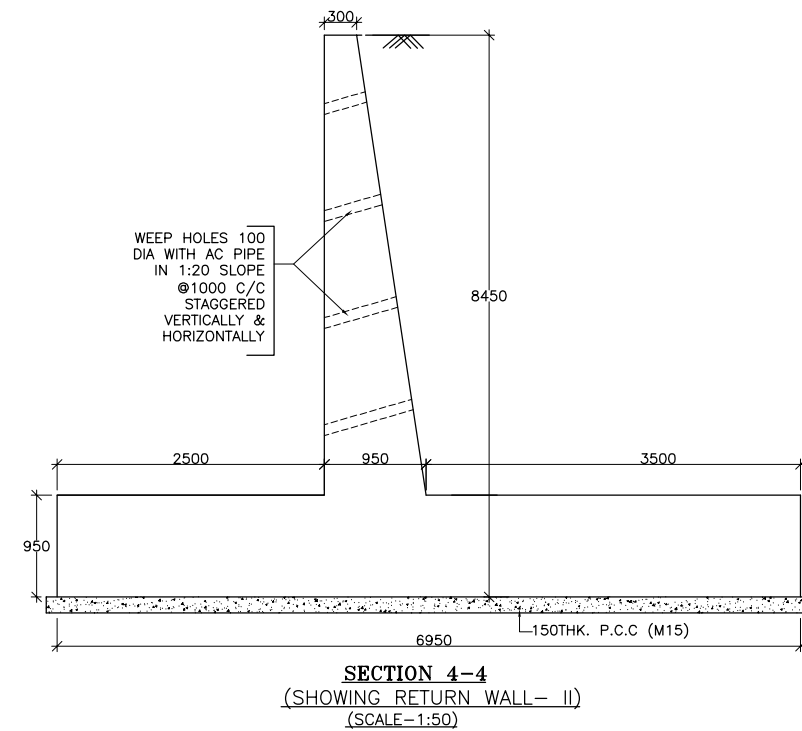
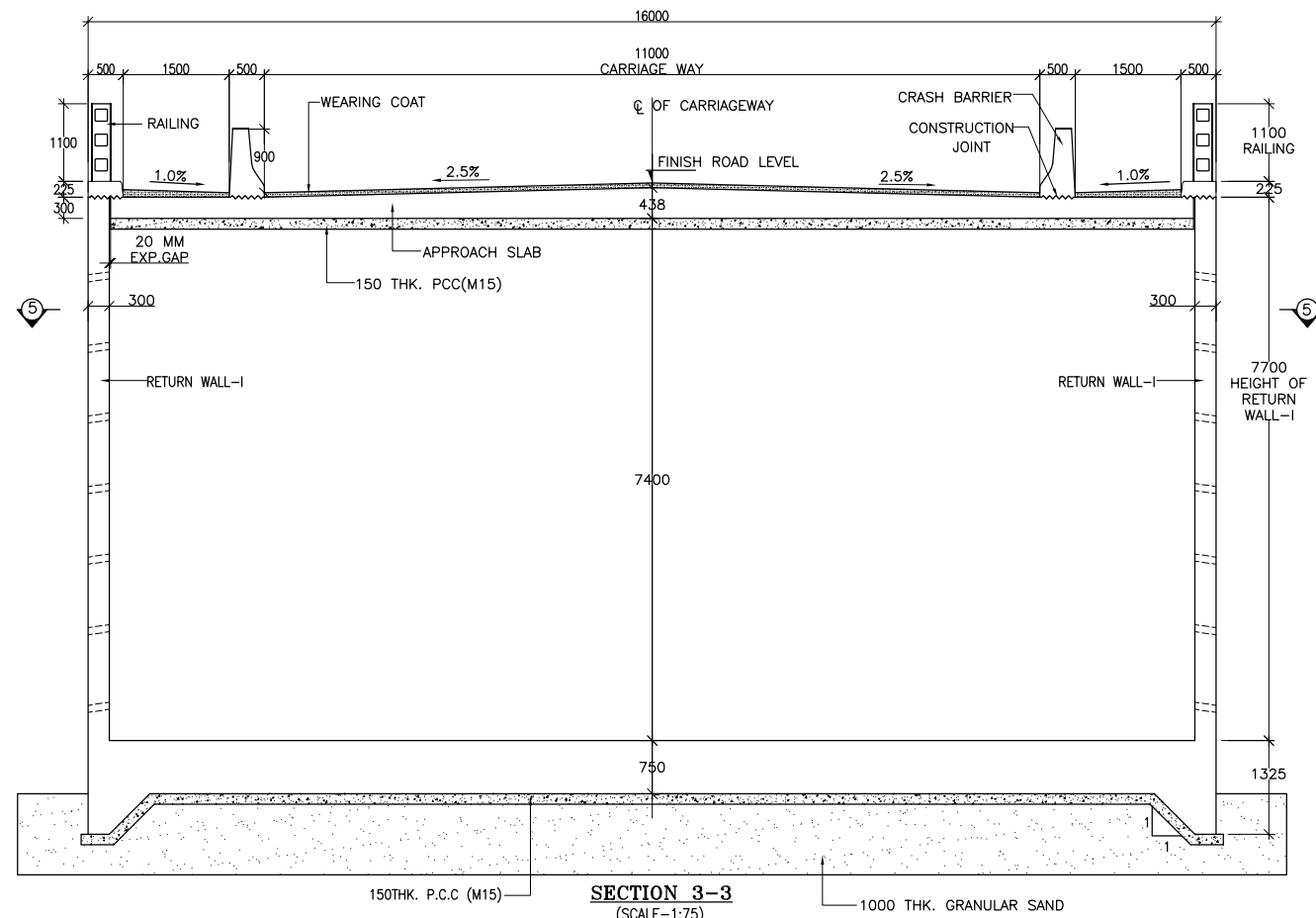


SECTION 1-1
(SCALE-1:150)

FOR BASE SLAB THICKNESS	VALUE OF 'DK'
UPTO 900mm	1200 mm
e>900 mm	e+300 mm
	e = BASE SLAB THICKNESS

- NOTES :**
- ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
 - GRADE OF CONCRETE :-
BOX STRUCTURE - M30
RETURN WALL - M30
APPROACH SLAB - M30
RCC RAILING - M30
CURTAIN WALL - M20
LEVELING COURSE(P.C.C) - M15
CRASH BARRIER- M40 & KERB-M30
 - GRADE OF STEEL Fe-500 AS PER I.S.-1786.
 - CLASS A 3 LANES OR CLASS A 1 LANE+ CLASS 70R PRODUCING WORST EFFECT WILL BE CONSIDERED.
 - PROPERTIES OF BACKFILL SOIL $\gamma=2.0t/m^3$, $\phi=30^\circ$.
 - FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
 - SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 - 1.0M SAND FILLING SHOULD BE PROVIDED BELOW THE RAFT FOUNDATION IN ORDER TO ATTAIN A BEARING CAPACITY 9.50T/SQM.
 - NORMAL SCOUR LEVEL-21.357 M.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. :-
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO-02)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO-01)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISE
(SHEET NO-01)

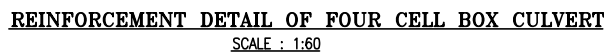
				SCALE: AS SHOWN	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	GENERAL ARRANGEMENT OF R.C.C BOX BRIDGE 1X6.0M X7.0M (AT CHAINAGE 96.347)	CONSULTANT : CETEST Engineering Consultants ANISO 9001, 14001 & OHSAS 18001 Certified Company	CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/GA
				DATE: Nov,2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME: Kailashahar to Teliamura Section of NH-208 Package:-V (Km 75+700 to Km 101+300)			Revision Mkd. - R0
										Sheet No. - 01 of 02
										Drawn By. Design By. Checked By. Approved By.
										S. Dalui A. Mukherjee A. Dey B.Koner
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	REVISIONS					



NOTES :

1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO.:—
 CET/BDG/2015/3580/NH-208/FDPR/MN/GA
 (SHEET NO-01)
 CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
 (SHEET NO-01)
 CET/BDG/2015/3580/NH-208/FDPR/MN/MISE
 (SHEET NO-01)

					SCALE:	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	GENERAL ARRANGEMENT OF R.C.C BOX CULVERT 1X6.0M X7.0M	CONSULTANT : CETEST Engineering Consultants ANISO 9001, 14001 & CH-SAS 18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/GA			
					AS SHOWN					Revision Mkd. - R0		Sheet No. - 02 of 02	
					DATE: Nov,2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)	ROAD NAME: Kailashahar to Teliamura Section of NH-208 Package:-V (Km 75+700 to Km 101+300)	Drawn By.		Design By.	Checked By.	Approved By.	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.				S. Dalui		A. Mukherjee	A. Dey	B.Koner	
REVISIONS													



SL. NO.	BAR MARK	DIA. OF BARS (mm)	SPACING (mm)
1.	①	16	150
2.	②	16	150
3.	③	12	200
4.	④	20	150
5.	⑤	20	150
6.	⑥	16	150
7.	⑦	12	200
8.	⑧	12	200
9.	⑧a	12	5(Nos)
10.	⑨	16	150
11.	⑩	12	200
12.	⑪	20	150
13.	⑫	16	150
14.	⑬	12	200
15.	⑭	12	200
16.	⑮	12	200
17.	⑯	12	200
18.	⑰	12	200
19.	⑱	12	5(Nos)
20.	⑲	12	200

SL. NO.	BAR MARK	DIA. OF BARS (mm)	SPACING (mm)
21.	⑳	10	150
22.	㉑	10	10(Nos)
23.	㉒	12	200
24.	㉓	20	150
25.	㉔	20	125
26.	㉕a	20	125
27.	㉕b	20	125
28.	㉖	12	200
29.	㉗	20	150
30.	㉘	20	150
31.	㉙	32	200
32.	㉚	32	200

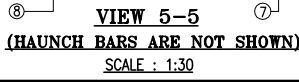
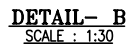
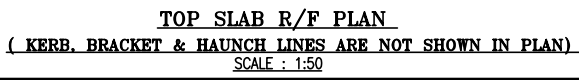
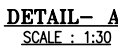
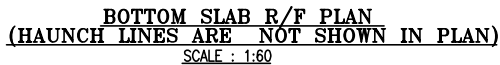
LEGEND:-

REAR FACE / TOP FACE / EARTH FACE BAR	-----
FRONT FACE / BOTTOM FACE / OPPOSITE TO EARTH FACE BAR	=====

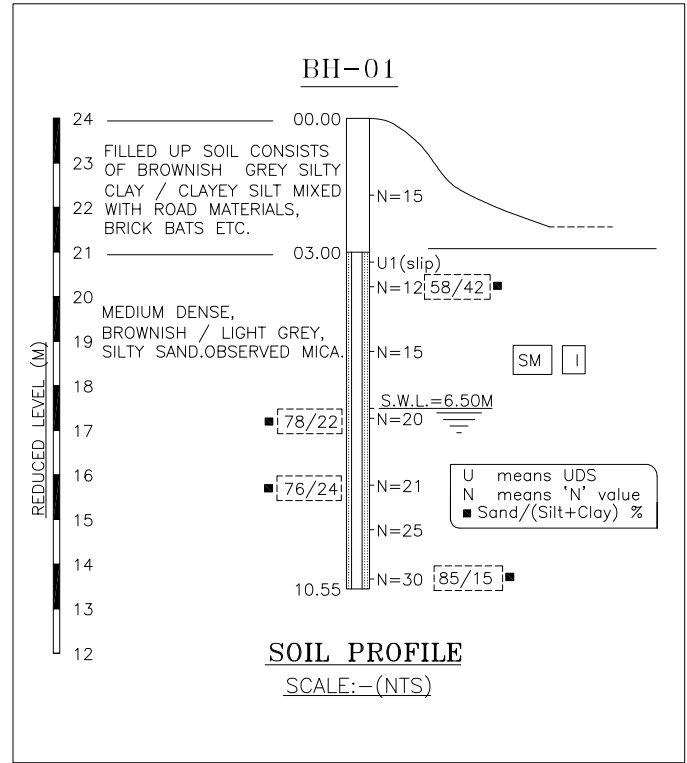
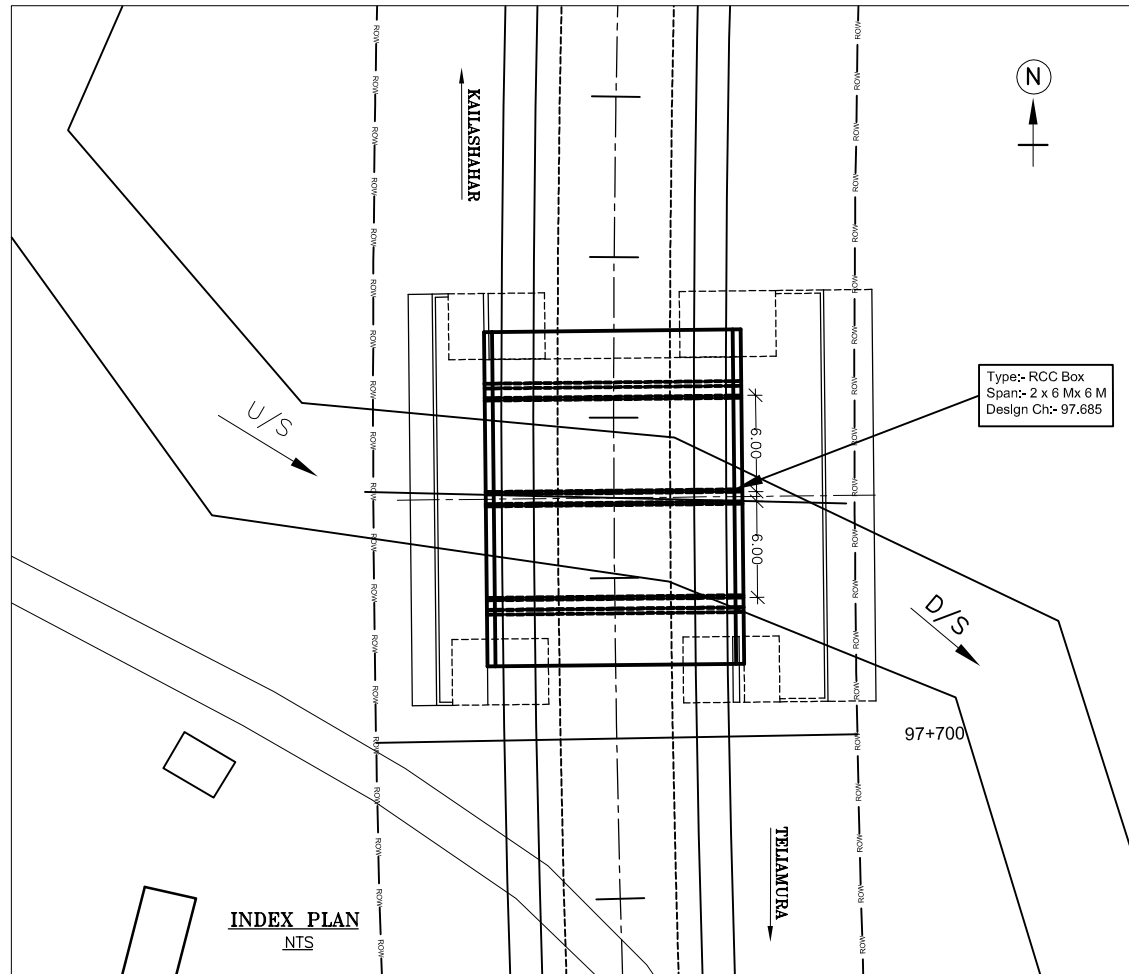
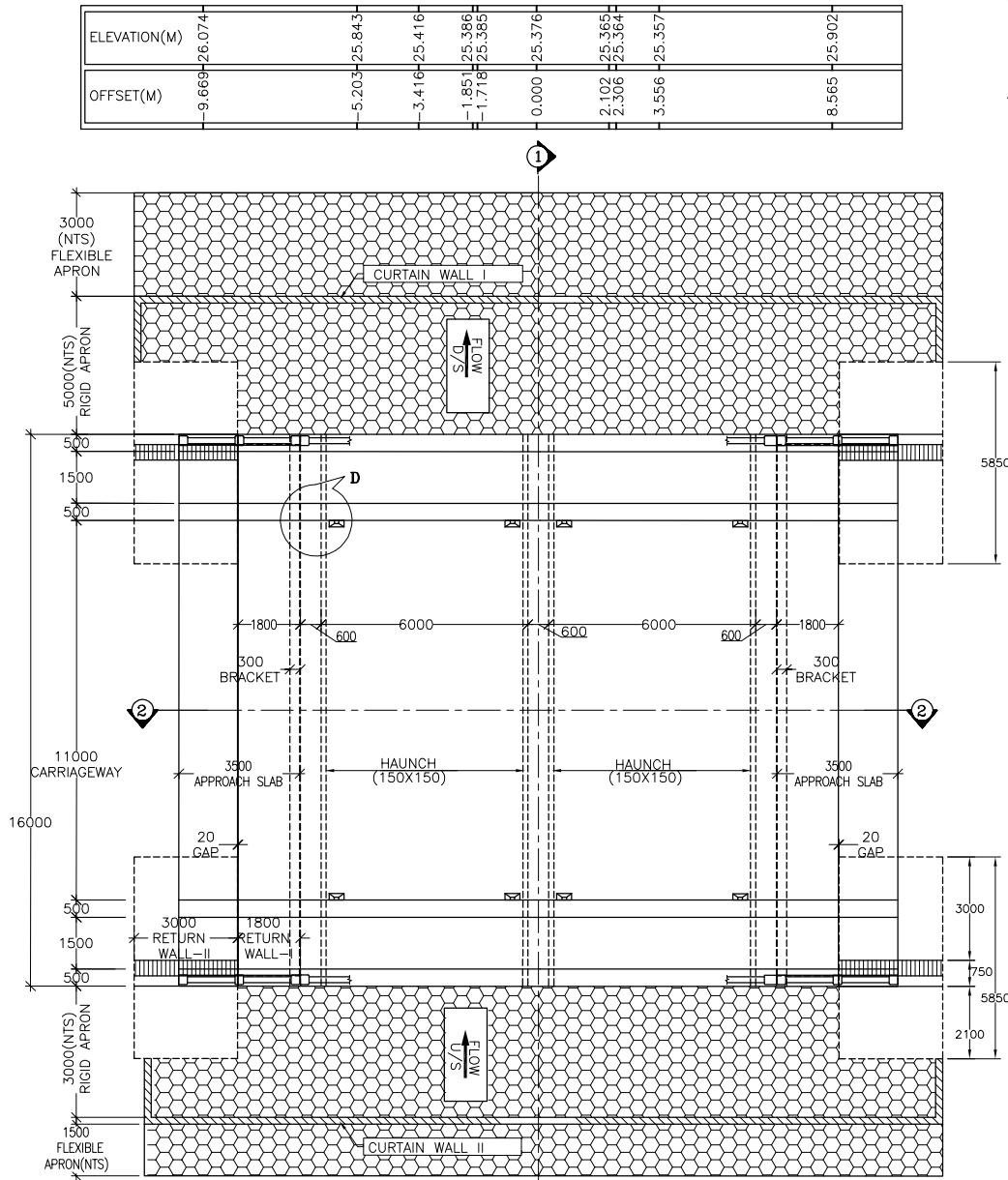
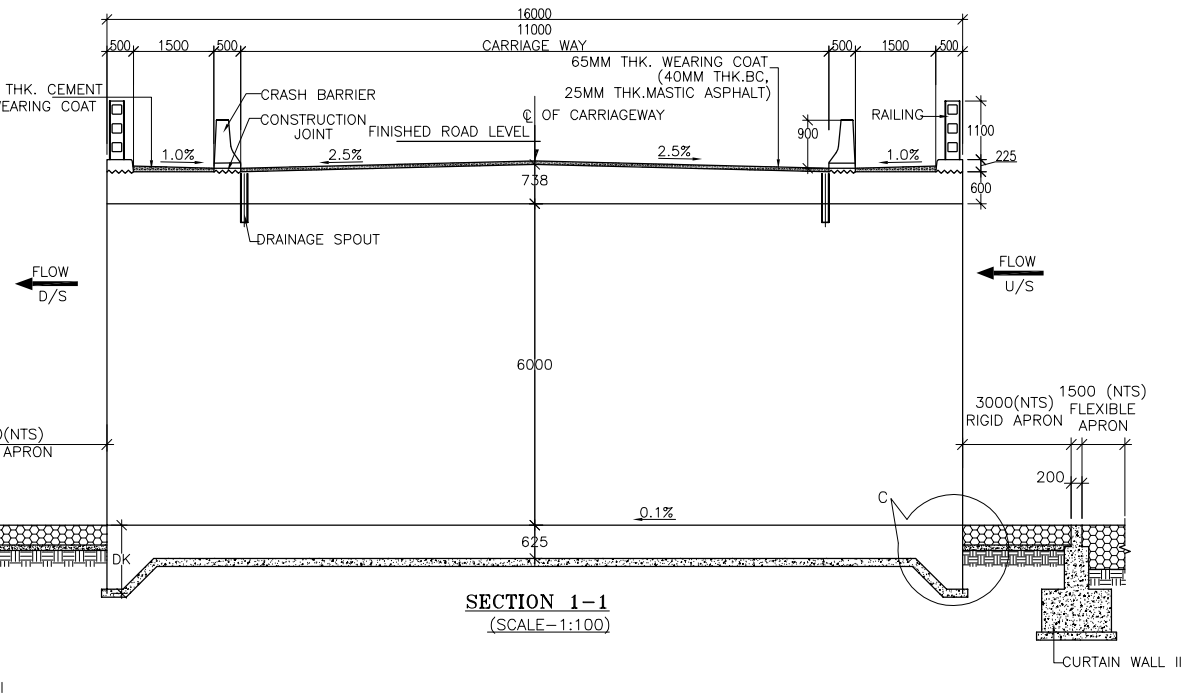
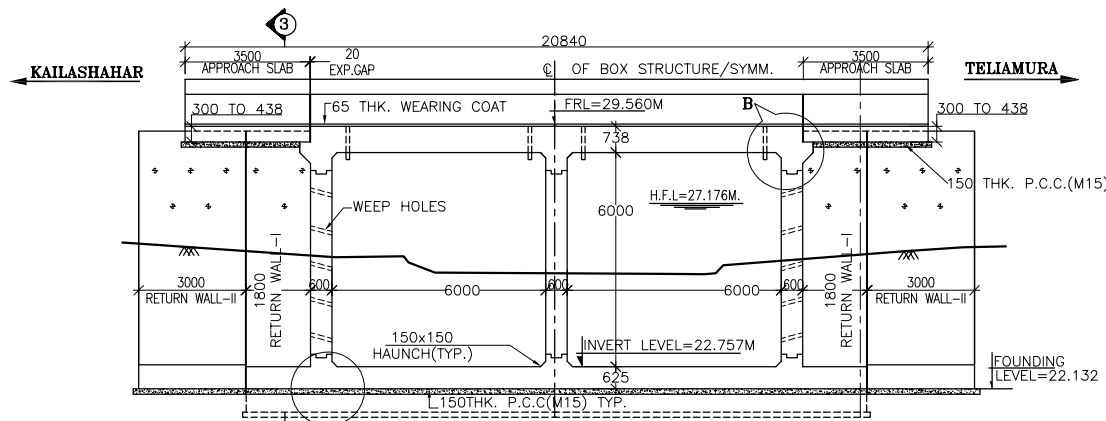
NOTES :

1. ALL DIMENSIONS ARE IN MM.
2. CONC. GRADE SHALL BE M-30 & M-25 WHERE APPLICABLE.
3. ALL REINFORCING STEEL SHALL BE OF HYSD BARS
(GRADE DESIGNATION Fe-500) CONFORMING TO IS: 1786.
4. CLEAR COVER = TOP SLAB 40MM, SIDE WALL 50MM, BOTTOM SLAB 75.
5. LAP LENGTH & DEVELOPMENT LENGTH (L_d) OF
REINFORCING BARS SHALL BE DONE IN ACCORDANCE WITH
RELEVANT CLAUSE IRC : 112-2011.
6. WELDING OF BARS SHALL NOT BE PERMITTED.
7. SHARP EDGES OF CONCRETE WILL NOT BE PERMITTED.
8. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO:
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO. 01 & 02)

CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
(SHEET NO. 01 OF 01)

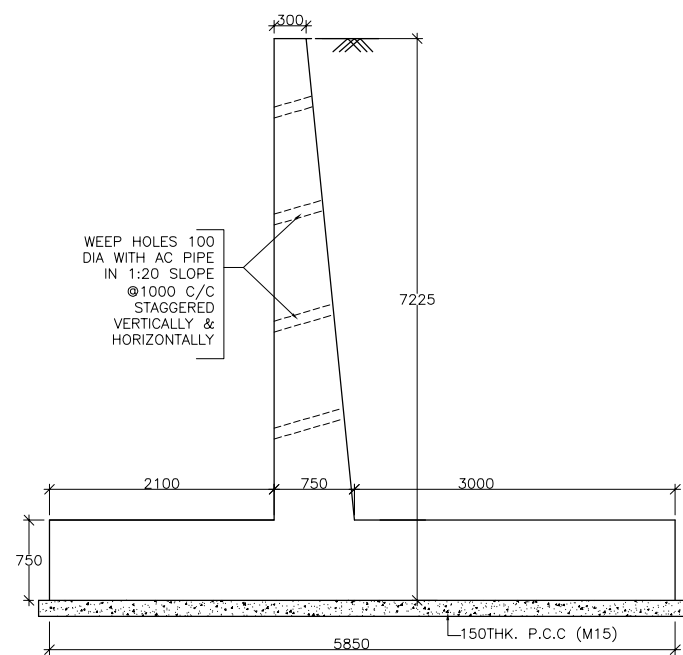


					SCALE:	CLIENT:	Public Works Department	National Highways & Infrastructure	REINFORCEMENT DETAILS OF	CONSULTANT : CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No.	CET/BDG/2015/3580/NH-208/FDPR/MN/RCC		
					AS SHOWN		Government of Tripura	Development Corporation Ltd.	SINGLE CELL RCC BOX BRIDGE(6.0M X7.0M)		Revision Mkd. - R0	Sheet No. - 01 of 01		
											Drawn By.	Design By.	Checked By.	Approved By.
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE:	PROJECT:	Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME:					
					Nov,2019				Kailashahar to Teliamura Section of NH-208					
REVISIONS									Package:-V (Km 75+700 to Km 101+300)					



- NOTES :**
- ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
 - GRADE OF CONCRETE :-
BOX STRUCTURE - M30
RETURN WALL - M30
APPROACH SLAB - M30
RAILING - M30
CURTAIN WALL - M20
LEVELING COURSE(P.C.C) - M15
CRASH BARRIER- M40 & KERB-M30
 - GRADE OF STEEL Fe-500 AS PER I.S.-1786.
 - CLASS A 3LANES OR CLASS A 1LANE+CLASS 70R PRODUCING WORST EFFECT WILL BE CONSIDERED.
 - PROPERTIES OF BACKFILL SOIL $\gamma=1.8t/m^3$, $\phi=30^\circ$.
 - FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATIONS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
 - SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 - THE SOIL BELOW FOUNDATION LEVEL SHOULD BE WELL COMPACTED TO ACHIEVE MINIMUM BEARING CAPACITY OF 10t/SQM.
 - NORMAL SCOUR LEVEL-25.376 M.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. :-
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO. 02 OF 02)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO. 01 OF 01)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
(SHEET NO. 01 OF 01)

					SCALE: AS SHOWN	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	GENERAL ARRANGEMENT DRAWING OF RCC BOX BRIDGE 2 X 6.0M X6.0M CHAINAGE :97.685KM	CONSULTANT : CETEST Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company	CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/GA			
					DATE: Nov,2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)	ROAD NAME: Kailashahar to Teliamura Section of NH-208 Package:-V (Km 75+700 to Km 101+300)	Revision Mkd. - R0				Sheet No. - 01 of 02		
									Drawn By.		Design By.		Checked By.	
									T. Ganguli		A. Mukherjee		A. Dey	
													B.Koner	



150 THK. FLAT STONE APRON
EMBEDDED IN 300 THK
CONCRETE (M15)

INVERT LEVEL

300

150

625

1200

COMPACTED EARTH

150

150

300

150THK. P.C.C (M15)

COMPACTED EARTH

The drawing shows a cross-section of a building with two rooms. The left room has a width of 5850 and a height of 300. It features a return wall labeled 'RETURN WALL-II' and a '20_MM_GAP' between the wall and the base. The right room has a width of 3000 and a height of 2100. It also features a return wall labeled 'RETURN WALL-II' and a '20_MM_GAP' between the wall and the base. A central section labeled '1800 BASE PROJECTION' is shown between the two rooms. The total width of the building is 16000. The left room is labeled 'RETURN WALL-I' and the right room is labeled 'RETURN WALL-I'. The drawing includes dimensions for the rooms, the base projection, and the total width. A note '600 SIDE WALL' is present at the bottom left.

20 EXP. GAP

600

CRASH BARRIER

450 (TYP.)

DRAINAGE SPOUT

HAUNCH (150X150)

SIDE WALL

[illegible]

150 THK. FLAT STONE APRON
EMBEDDED IN 300 THK
CONCRETE (M15)

125 200 125

300 400

150THK. P. C.C (M15)-
COMPACTED EARTH

150 450 150

750 150

2500

PCC (M20)

450 450

1650 550

100 100

1850 150

150 THK.
P.C.C M-15

The diagram illustrates the cross-section of a retaining wall with the following details:

- RETURN WALL-II**: The top horizontal section of the wall.
- 1800**: The main horizontal length of the wall.
- 600**: The horizontal distance from the main wall body to the side wall.
- 20 EXP. GAP**: The gap between the main wall and the return wall.
- RETURN WALL-I**: The vertical section of the wall on the left.
- SIDE WALL**: The vertical section of the wall on the right.
- CONSTRUCTION JOINT**: The vertical line separating the main wall from the side wall.
- HAUNCH (TYP.) T50X150**: The sloped transition at the base of the side wall.
- INVERT LEVEL**: The ground level at the base of the wall.
- 750**: The vertical height of the wall from the invert level to the top of the return wall.
- 625 BASE SLAB**: The thickness of the base slab.
- 150**: The thickness of the PCC (M15) layer at the base.
- 150 THK. PCC (M15)**: The concrete layer at the bottom of the wall.

Diagram illustrating the cross-section of a wall and floor assembly, showing various layers and dimensions:

- 65 THK. WEARING COAT**: The top layer of the floor.
- 20 THK. EXP. GAP**: An expansion gap between the wearing coat and the concrete slab.
- 150 THK. P.C.C (M15)**: A 150 mm thick Plain Cement Concrete (P.C.C) layer.
- 150x150 HAUNCH (TYP.)**: A haunch (reinforcement) detail at the base of the wall.
- SIDE WALL**: The vertical wall structure.
- DRAINAGE SPOUT**: A vertical pipe for drainage.
- FILLER JOINT**: A joint in the concrete slab.
- Dimensions**:
 - Overall height: 738 TO 600
 - Overall width: 600
 - Wearing coat thickness: 65
 - Expansion gap thickness: 20
 - P.C.C thickness: 150
 - Haunch dimensions: 150x150
 - Drainage spout diameter: 100
 - Other dimensions: 300, 150, 200, 300, 100, 600

CURTAIN

Diagram illustrating the cross-section of a bridge deck and railing assembly. Key components and dimensions are labeled:

- RAILING**: Height of 1100 mm.
- CONSTRUCTION JOINT**: Located between the railing and the main deck.
- 75mm(AVG) THK. C.C. WEARING COAT**: Concrete wearing coat with a **SLOPE 1%**.
- CRASH BARRIER**: Height of 900 mm.
- 65MM THK. WEARING COAT**: Wearing coat on the barrier.
- DECK SLAB**: Thickness of 600 mm.
- CONSTRUCTION JOINT**: Located between the main deck and the barrier.
- DRAINAGE SPOUT(TYP.)**: Located at the bottom right.

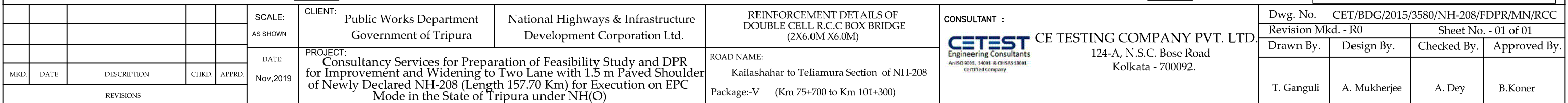
Dimensions (mm):

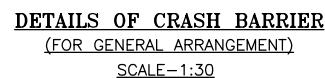
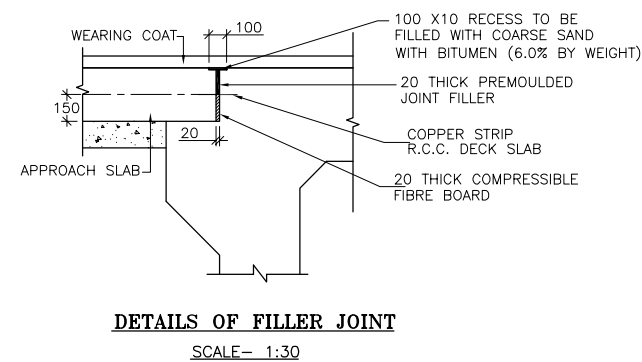
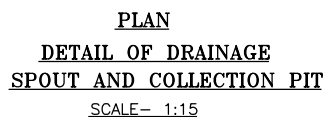
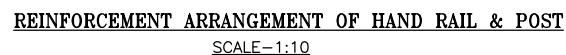
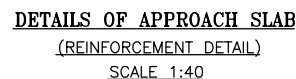
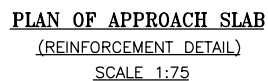
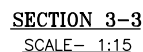
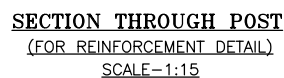
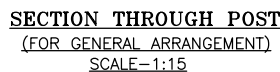
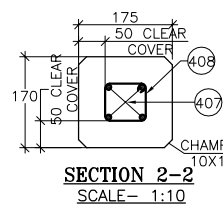
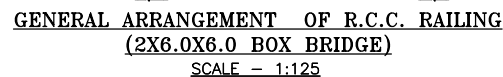
- 500 (Railing width)
- 1500 (Main deck width)
- 500 (Barrier width)
- 1100 (Railing height)
- 225 (Concrete thickness)
- 900 (Barrier height)
- 600 (Deck slab thickness)

NOTES :

1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. :-
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO. 01 OF 02)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO. 01 OF 01)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
(SHEET NO. 01 OF 01)

					SCALE:	CLIENT:	Public Works Department	National Highways & Infrastructure	GENERAL ARRANGEMENT DRAWING OF	CONSULTANT : CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/GA		
					AS SHOWN	Government of Tripura	Development Corporation Ltd.	RCC BOX BRIDGE 2X6.0M X6.0M	Revision Mkd. - R0		Sheet No. - 02 of 02		
					DATE:	PROJECT:	Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME:		T. Ganguli		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	Nov,2019			Road Name:	Kailashahar to Teliamura Section of NH-208		A. Mukherjee		
REVISIONS								Package:-V	(Km 75+700 to Km 101+300)		A. Dey		
										B.Koner			



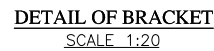
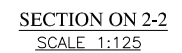
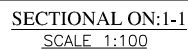
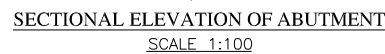


CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO. 01 TO 02)

CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO. 01 OF 01)

CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
(SHEET NO. 01 OF 01)

[illegible]



1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN M.
UNLESS OTHERWISE MENTIONED.
ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.

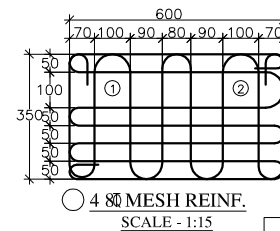
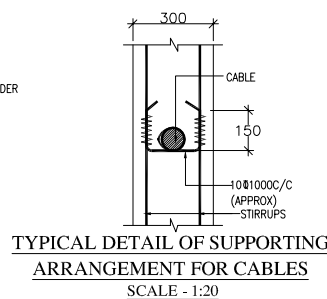
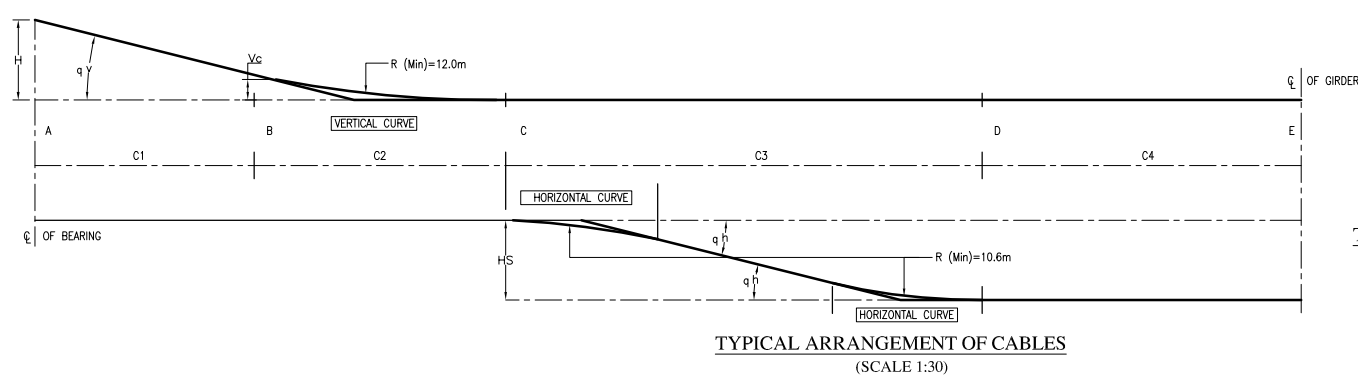
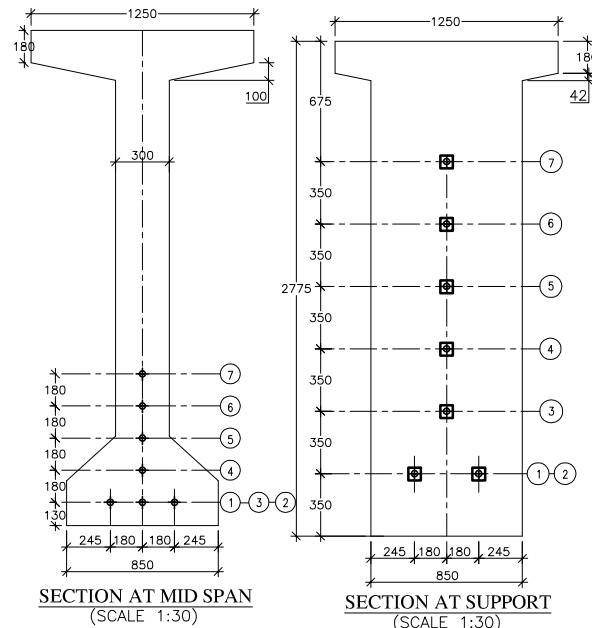
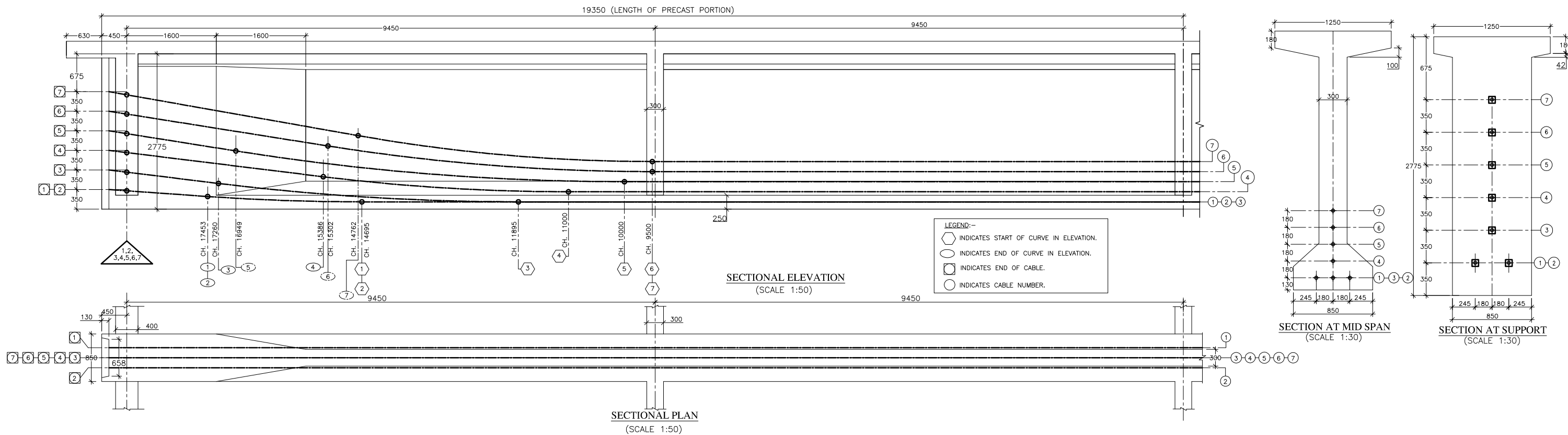
2. THIS DRAWING IS PREPARED IN CONNECTION WITH :

CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO. 01 & 02)

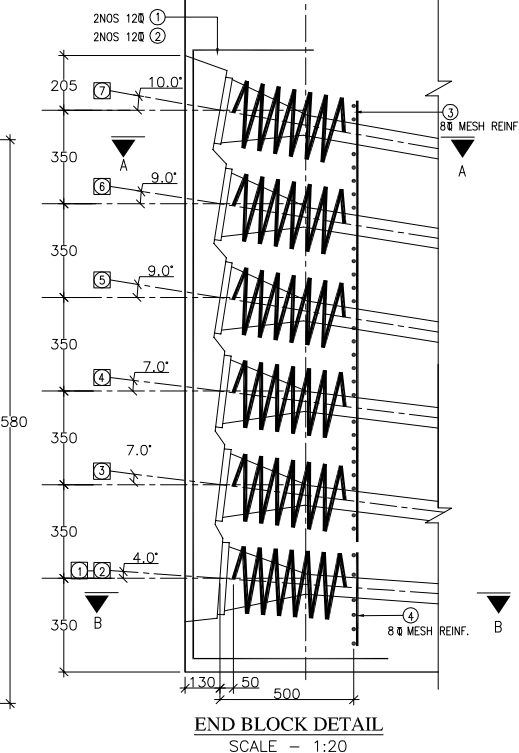
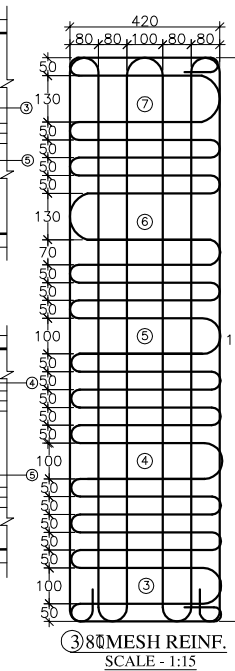
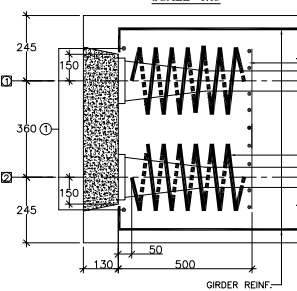
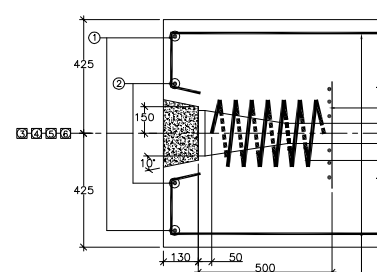
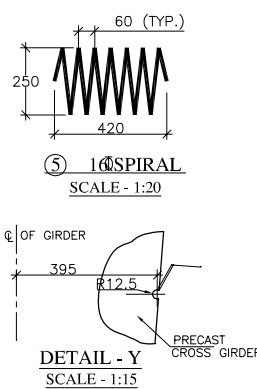
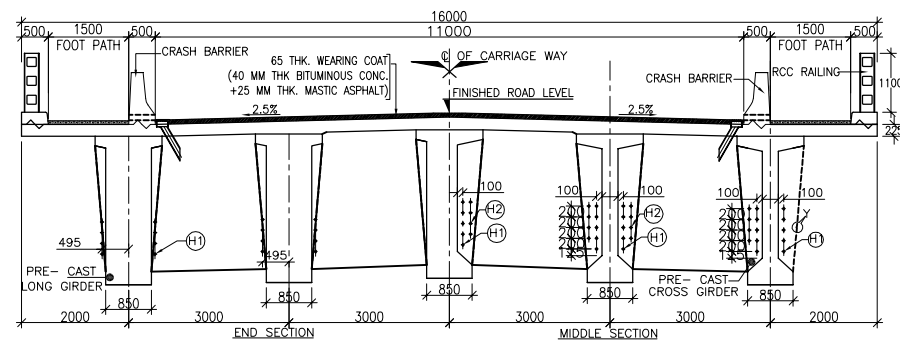
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO. 01 TO 05)

CET/BDG/2015/3580/NH-208/FDPR/MN/MISC
(SHEET NO. 01 OF 01)

					SCALE:	CLIENT:	Public Works Department	National Highways & Infrastructure	DETAILS OF ABUTMENT	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/GA					
					AS SHOWN		Government of Tripura	Development Corporation Ltd.			Revision Mkd. - R0		Sheet No. - 02 of 03			
					DATE:	PROJECT:	Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)				Drawn By.		Design By.	Checked By.	Approved By.	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	Nov,2019						ROAD NAME:	Kailashahar to Teliamura Section of NH-208				
											Package:-V	(Km 75+700 to Km 101+300)				
REVISIONS														T. Ganguli	A. Mukherjee	A. Dey



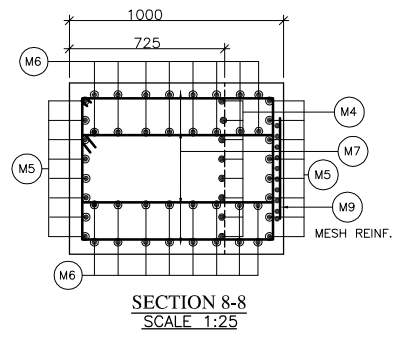
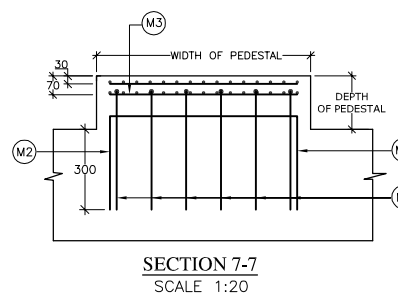
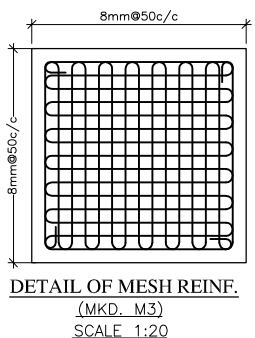
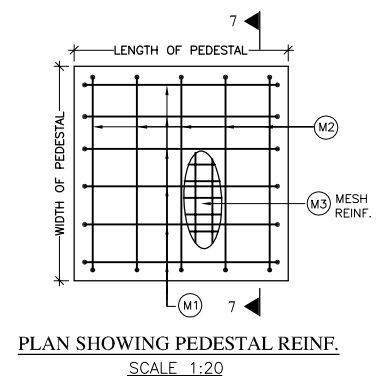
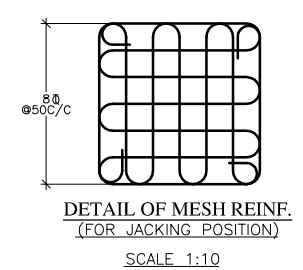
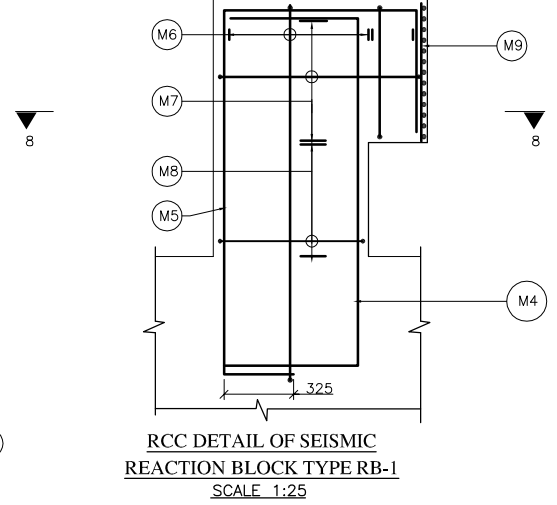
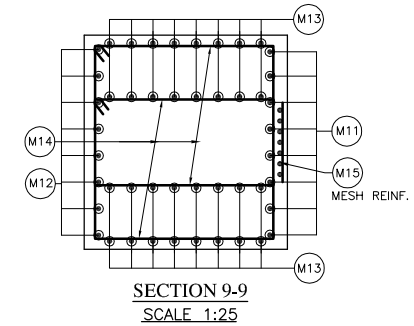
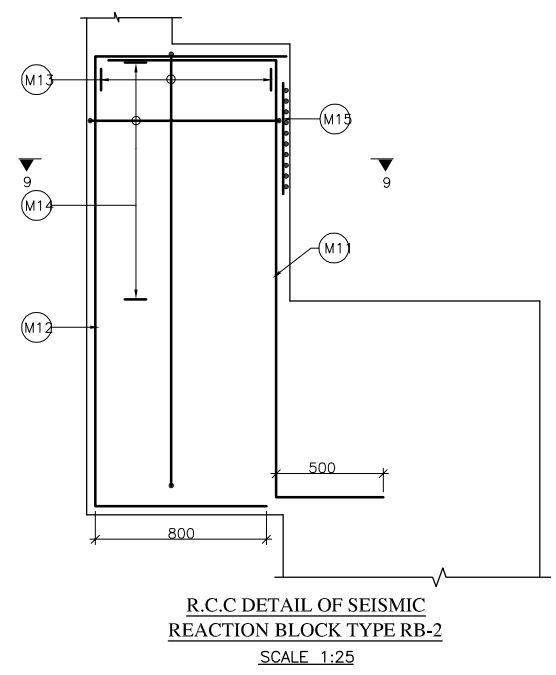
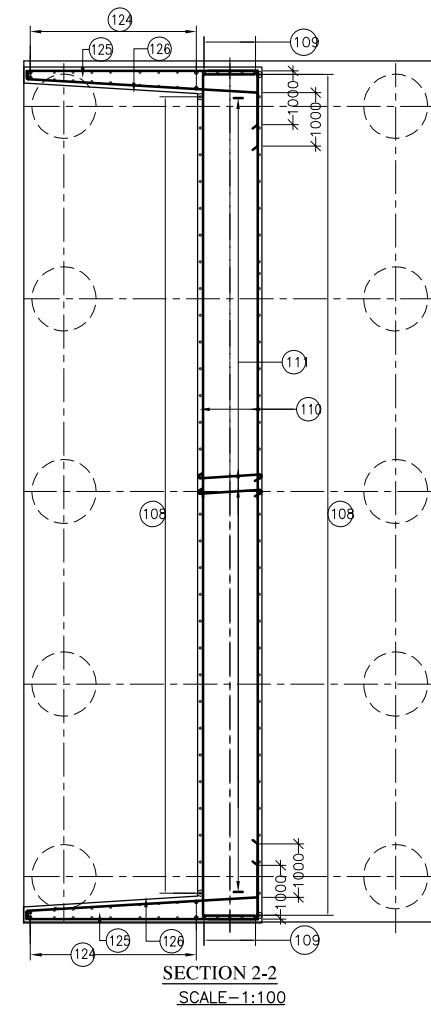
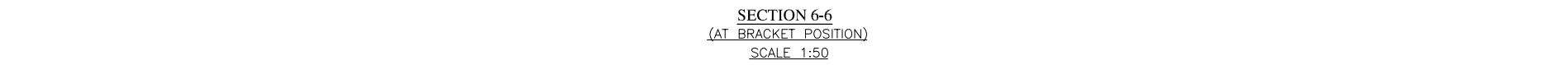
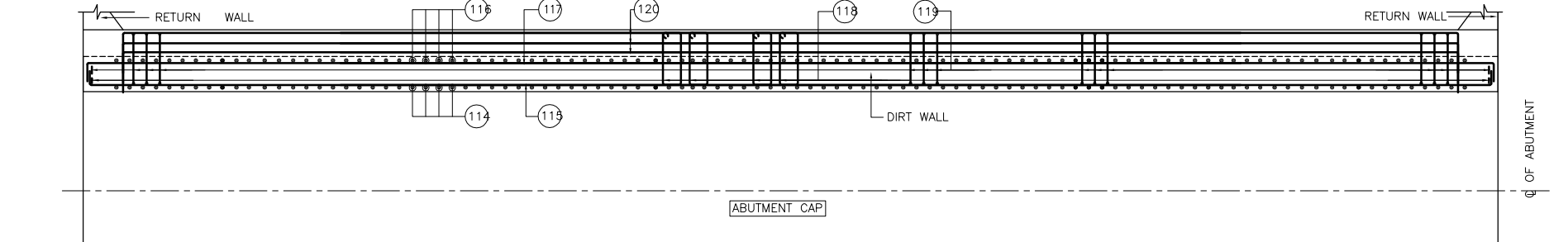
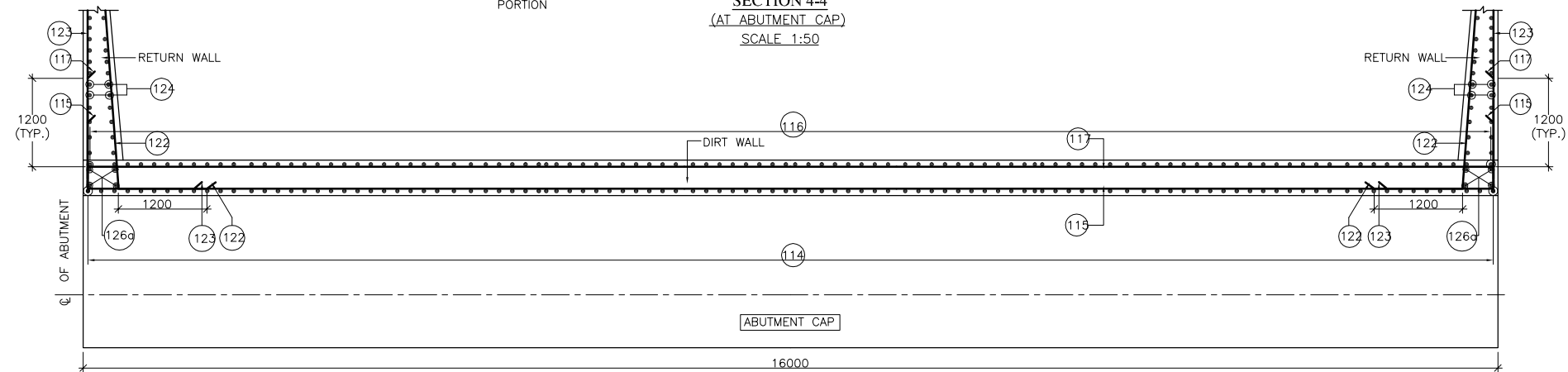
CABLE NO.	LENGTH (C1) IN (M)	LENGTH (C2) IN (M)	LENGTH (C3) IN (M)	LENGTH (C4) IN (M)	LIFT HEIGHT (H) IN (M)	HEIGHT OF VERTICAL CURVE (Vc) IN (M)	VERTICAL ANGLE (v) IN (DEG.)	LENGTH OF VERTICAL CURVE (LVc) IN (M)	HORIZONTAL SWAY (Hs) IN (M)	HORIZONTAL ANGLE (hv) IN (DEG.)	LENGTH OF HORIZONTAL CURVE (LHc) IN (M)	LENGTH 'AB' IN (M)
1	1.767	2.758	0.000	14.695	0.220	0.096	4.000	2.764	0.000	0.000	0.000	1.771
2	1.767	2.758	0.000	14.695	0.220	0.096	4.000	2.764	0.000	0.000	0.000	1.771
3	1.960	5.365	0.000	11.895	0.570	0.329	7.000	5.399	0.000	0.000	0.000	1.975
4	3.834	4.386	0.000	11.000	0.740	0.269	7.000	4.413	0.000	0.000	0.000	3.863
5	2.271	6.949	0.000	10.000	0.910	0.550	9.000	7.021	0.000	0.000	0.000	2.299
6	3.918	5.802	0.000	9.500	1.080	0.459	9.000	5.862	0.000	0.000	0.000	3.967
7	4.458	5.262	0.000	9.500	1.250	0.464	10.000	5.330	0.000	0.000	0.000	4.527



- NOTES :**
- ALL DIMENSIONS ARE IN MM & LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.
 - CONC. GRADE SHALL BE M40 FOR SUPER STRUCTURE.
 - ALL REINFORCING STEEL SHALL BE OF HYSD BARS (GRADE DESIGNATION FE-500) CONFORMING TO IS: 1786.
 - CLEAR COVER = 40 MM.
 - PRESTRESSING SYSTEM
 - ALL PRESTRESSING CABLES SHALL HAVE 19 NOS. 7 PLY UNCOATED STRESS RELIEVED LOW RELAXATION STRANDS OF 12.7 mm DIA. CONFORMING TO CLASS II OF IS 14268-1995.
 - JACKS USED FOR TENSIONING SHALL BE FREYSSINET TYPE OR EQUIVALENT & JACK LOAD = 159.288 TON.
 - BRIGHT METAL SHALL BE USED FOR CABLE SHEATHING.
 - THE PARAMETERS ADOPTED FOR DESIGN ARE AS FOLLOWS:-
 - ANCHORAGE TYPE ---- 19T13 (DYNAMIC OR EQUIVALENT).
 - SLIP AT EACH END ---- 6 mm.
 - MINIMUM SHEATHING DIAMETER ---- 90 mm FOR 19T13.
 - SHEATHING THICKNESS ---- AS PER IRC:112-2011.
 - CO-EFFICIENT OF FRICTION ---- $\mu = 0.25 / \text{Radian}$.
 - WOBBLE CO-EFFICIENT ---- $k = 0.0046 / \text{Metre}$.
 - NOMINAL AREA OF EACH STRAND ---- 98.8 sq. mm.
 - ULTIMATE BREAKING LOAD OF EACH STRAND ---- 183.71 K N.
 - MODULUS OF ELASTICITY OF HIGH TENSILE STEEL ---- $195 \times 10^9 \text{ Mpa}$.
 - THOUSAND HOURS RELAXATION LOSS AS PER TABLE 6.2 IRC-112, 2011.
 - ALL THE DESIGN PARAMETERS ADOPTED SHALL BE VERIFIED AT SITE BEFORE USE.
 - PRESTRESSING OPERATION
 - ALL CABLES SHALL BE PASSING THROUGH THE GIVEN ORDINATES AND SHALL BE SUPPORTED AT A SPACING NOT EXCEEDING 1000 mm BY A 16 mm DIA. CROSS BARS TACK WELDED/ SECURELY HELD IN POSITION WITH VERTICAL WEB REINFORCEMENT.
 - CABLE LENGTH MENTIONED IN THE DRAWING IS EXCLUSIVE OF 1000 mm EXTRA LENGTH AT EACH END. THE TOTAL LENGTH OF CABLE SHALL BE VERIFIED AT SITE.
 - SEQUENCE OF CONSTRUCTION AND PRESTRESSING SHALL BE AS FOLLOWS:
 - ORDERS ARE CASTED AT CASTING YARD.
 - 1st. STAGE OF PRESTRESSING IS DONE AFTER CONCRETE ATTAINS A STRENGTH OF 40.5 MPa (14 DAYS). AFTER 1st. STAGE PRESTRESSING PRECAST GIRDERS MAY BE LAUNCHED OVER PIER TOP.
 - SHUTTERING FOR DECK SLAB AND CROSS GIRDERS ARE ERECTED FROM 1-ORDERS AND CASTING IS DONE AFTER CONCRETE ATTAINS 38 MPa (21 DAYS).
 - 2nd. STAGE OF PRESTRESSING IS DONE AFTER ATTAINING OF FULL STRENGTH OF DECK CONCRETE i.e. 40 MPa (28 DAYS AFTER CASTING OF DECK SLAB i.e. 49 DAYS).
 - CRASH BARRIER & KERB IS TO BE CASTED & WEARING COARSE TO BE LAID AFTER REMOVAL OF SHUTTERING OF DECK SLAB.
 - STRESSING OF CABLES SHALL BE CARRIED OUT SIMULTANEOUSLY FROM BOTH ENDS, JACKING FORCES, SHALL BE INCREASED BY APPROPRIATE PERCENTAGE TO ACCOUNT FOR ANCHORAGE AND JACK FRICTION AND EFFICIENCY AS PER THE MANUFACTURER'S INSTRUCTIONS.
 - GROUTING OF CABLES SHALL BE DONE IN SAME SEQUENCE AS STRESSING AND SHALL CONFORM TO IRC 112-2011.
 - EXTENSION ARE GIVEN FOR CABLE LENGTHS (EXCLUDING 1.0M GRIP LENGTH) INCLUSIVE OF 6mm GRIP LENGTH AT EACH END. LOSS UP TO 6 mm DUE TO SLIP OF ANCHORAGES ARE NOT TO BE COMPENSATED DURING SITE OPERATION. JACK PRESSURE AND EXTENSION OF CABLES AT EACH END GIVEN IN THE DRAWING SHALL BE VERIFIED AT SITE.
 - INITIAL SLACKNESS IN PRESTRESSING TENDONS SHALL BE REMOVED BY APPLYING SMALL INITIAL TENSION. THE INITIAL TENSION REQUIRED TO REMOVE SLACKNESS SHALL BE TAKEN AS THE STARTING POINT FOR MEASURING ELONGATION AND CORRECTION SHALL BE APPLIED AS PER CLAUSE 12.2.1.3 OF IS : 1343-1980.
 - THE EXTENSION GIVEN IN TABLE NO. A SHALL BE MODIFIED AT SITE IN CASE ACTUAL VALUE OF AREA OF STRAND 'A' AND MODULES OF ELASTICITY 'E' VARIES FROM THE VALUES CONSIDERED IN DESIGN. REVISED EXTENSION = EXTENSION AS PER DESIGN $(98.7 \text{ mm} \times 195 \times 10 \text{ m pa}) / (\text{NEW AREA} \times \text{NEW MODULES})$.
 - EXTENSION OF CABLE SHALL BE VERIFIED FOR A FEW CABLES AT SITE. IN CASE THE VALUE OF μ AND k ARE FOUND TO BE MORE THAN HAVE BEEN CONSIDERED, EXTENSION SHALL BE SUITABLY MODIFIED AFTER APPROVAL OF THE ENGINEER.
 - THE GRIP LENGTH FROM ANCHORAGE FACE UP TO GRIPPING POINT IN JACK ASSUMED IN EXTENSION CALCULATION IS 600 mm AND THE ADDITIONAL LENGTH TAKEN FOR CUTTING IS 400 mm IF GRIP LENGTH VARIES FROM THE ABOVE VALUES THAN THE CORRESPONDING NEW EXTENSION = $EX + EX \times (GRIP-600) / (\text{LENGTH OF CABLE}-800)$ WHERE 'EX' IS EXTENSION SHOWN IN THIS DRAWING. 5. SEQUENCE OF STRESSING: -
 - 1st. STAGE: 1 → 2 → 3 → 6
 - 2nd. STAGE: 4 → 5
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. CET/BDG/2015/3580/NH-208/FDPR/MN/GA (SHEET NO. 01 TO 02) CET/BDG/2015/3580/NH-208/FDPR/MN/RCC (SHEET NO. 01 TO 05) CET/BDG/2015/3580/NH-208/FDPR/MN/MISC (SHEET NO. 01 OF 01)

				SCALE: AS SHOWN	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	DETAILS OF PRESTRESSING CABLES ARRANGEMENT AND ANCHORAGE DETAILS OF LONGITUDINAL GIRDER	CONSULTANT : CETEST Engineering Consultants ANISO 9001, 14001 & OHSAS 18001 Certified Company	CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/GA
				DATE: Nov,2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)	ROAD NAME: Kailashahar to Teliamura Section of NH-208 Package:-V (Km 75+700 to Km 101+300)				Revision Mkd. - R0
										Drawn By. Design By. Checked By. Approved By.
										T. Ganguli A. Mukherjee A. Dey B.Koner
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	REVISIONS					

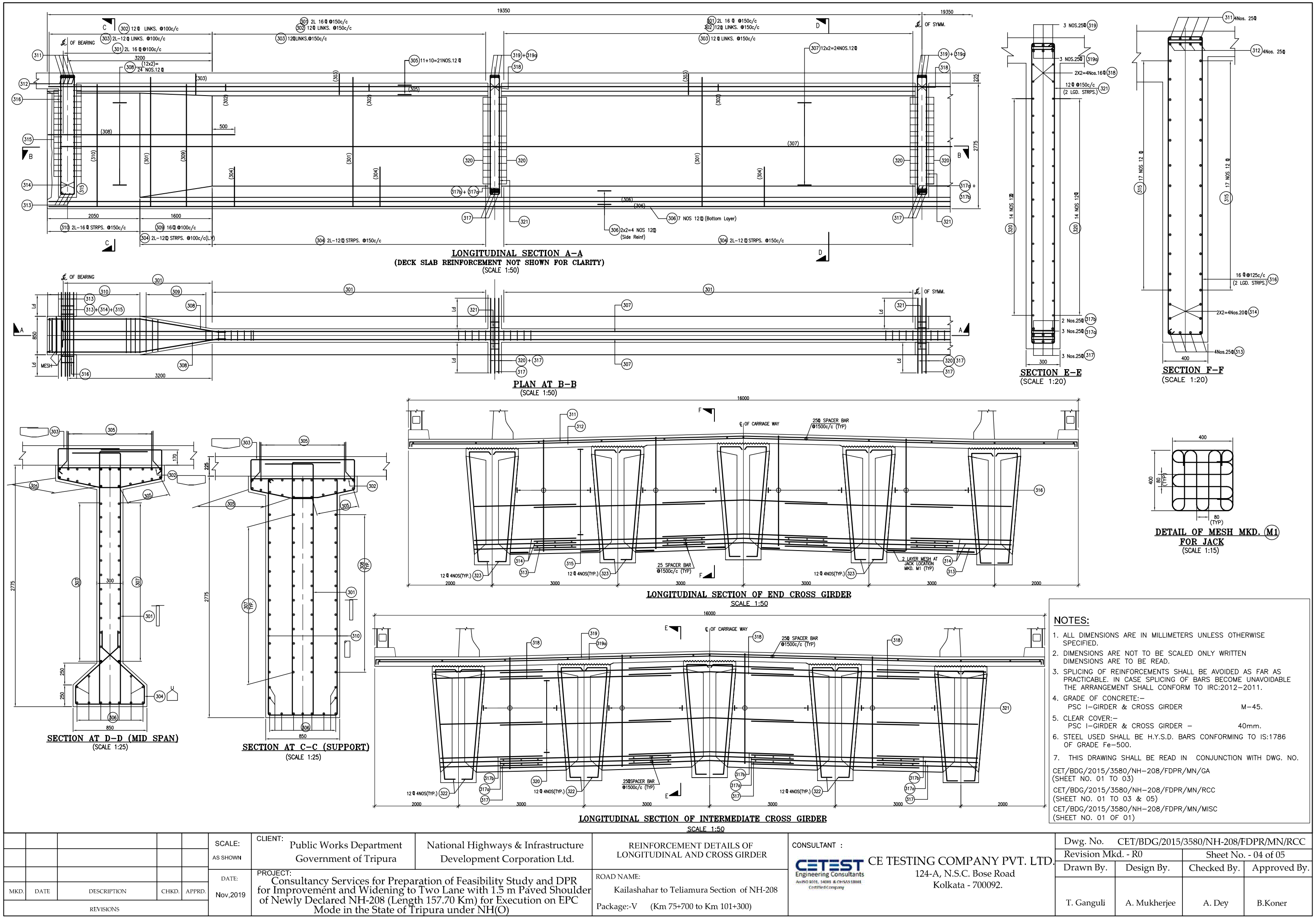
					SCALE:	CLIENT:	Public Works Department	National Highways & Infrastructure	REINFORCEMENT DETAILS OF	CONSULTANT :	Dwg. No.			
					AS SHOWN		Government of Tripura	Development Corporation Ltd.	PILE AND PILE CAP (ABUTMENT)	CETEST Engineering Consultants ANISO 9001, 14001 & OHSAS 18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	CET/BDG/2015/3580/NH-208/FDPR/MN/RCC			
											Revision Mkd. - R0	Sheet No. - 01 of 05		
					DATE:	PROJECT:	Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME:		Drawn By.	Design By.		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	Nov,2019				Kailashahar to Teliamura Section of NH-208		Checked By.	Approved By.		
REVISIONS									Package:-V (Km 75+700 to Km 101+300)		T. Ganguli	A. Mukherjee	A. Dey	B.Koner

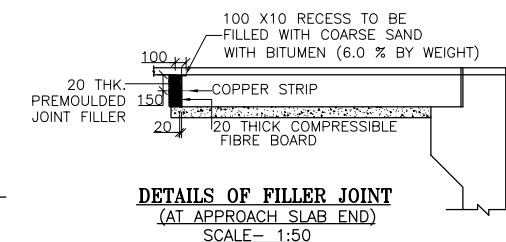
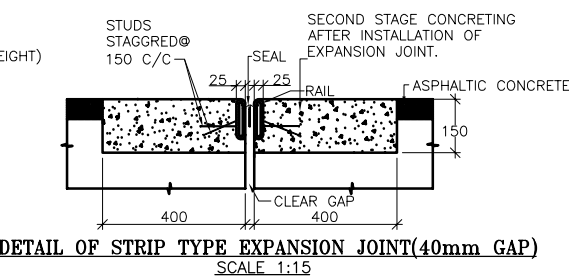
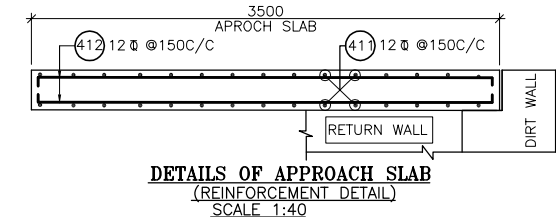
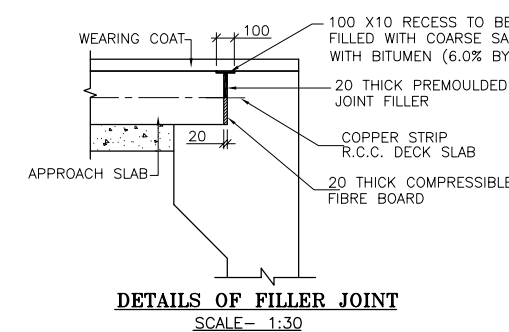
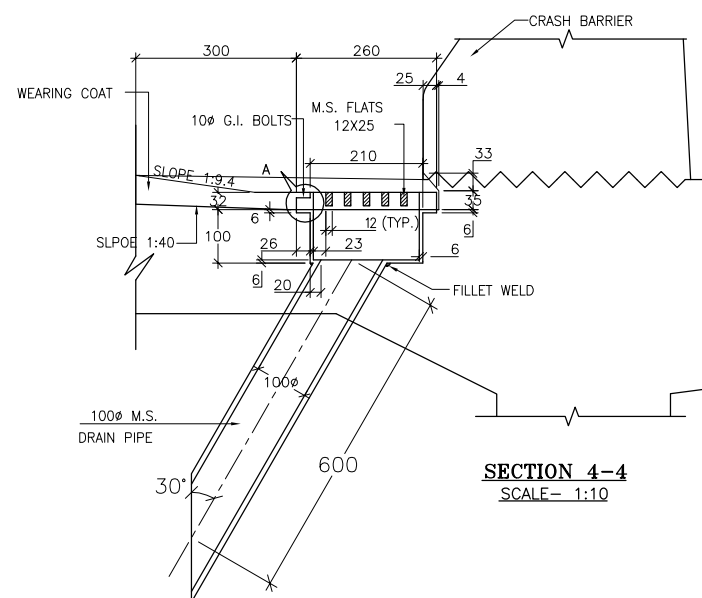
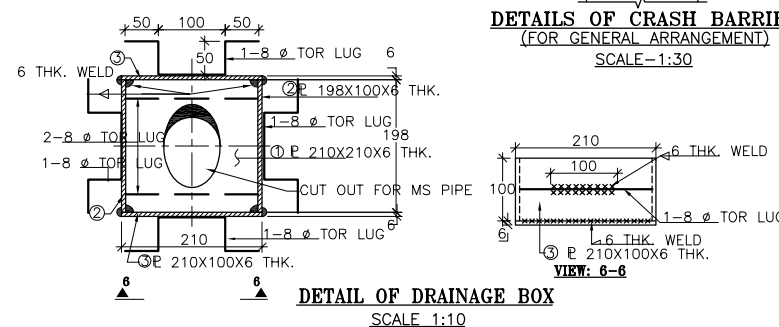
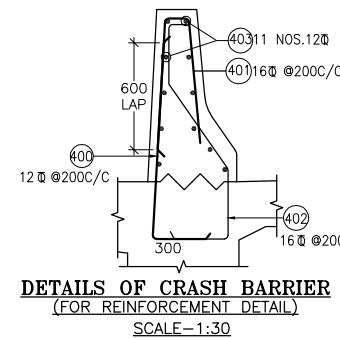
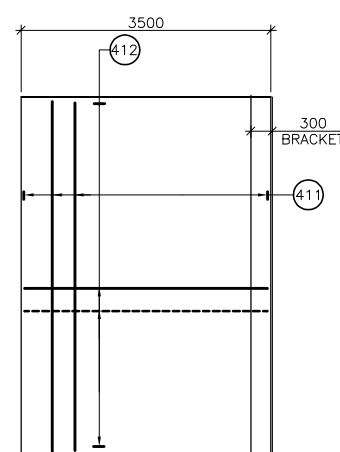
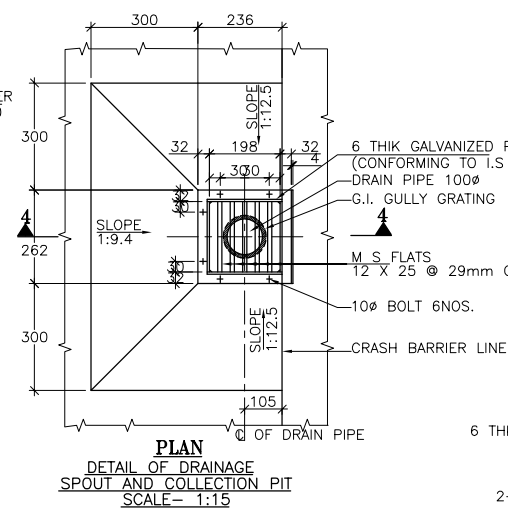
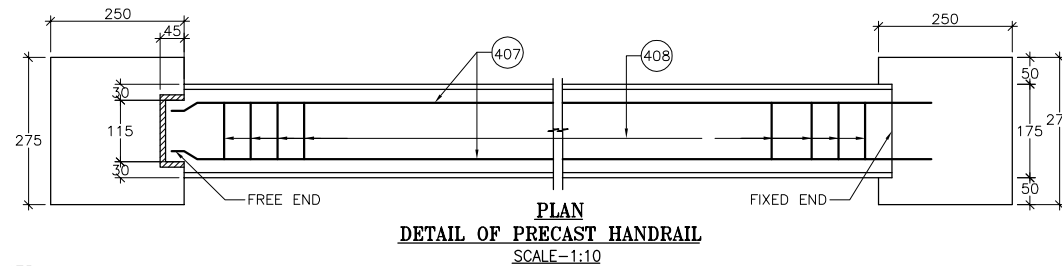
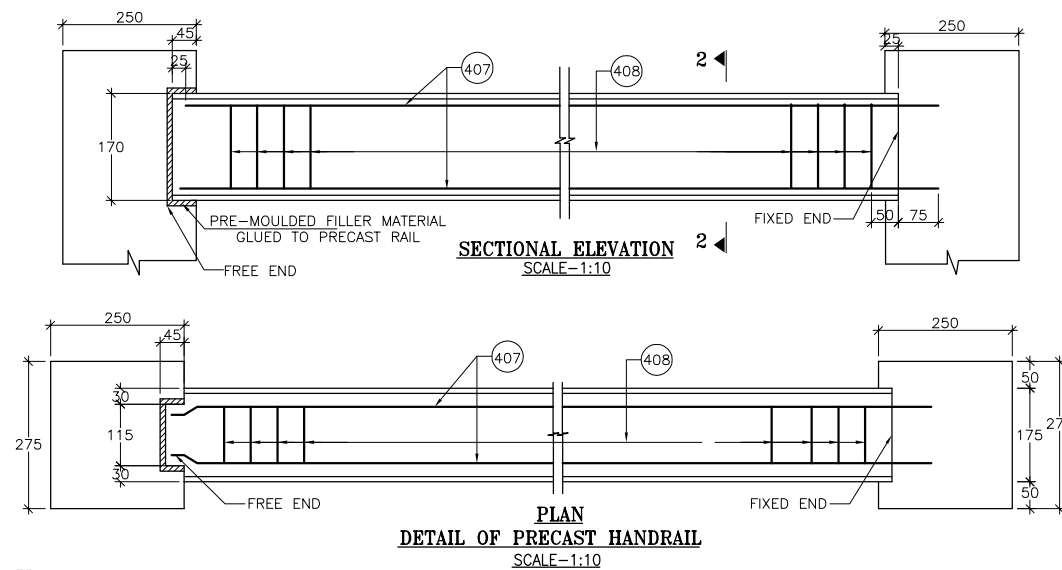
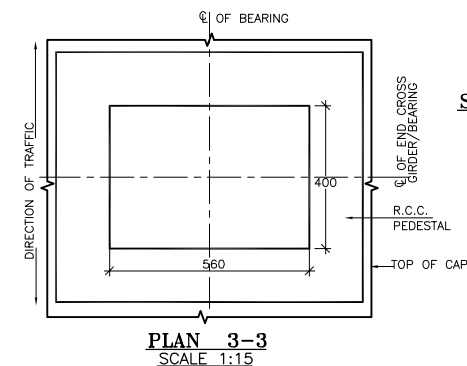
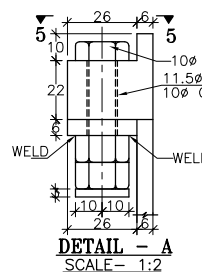
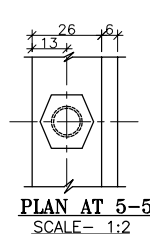
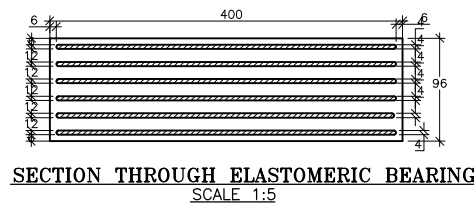
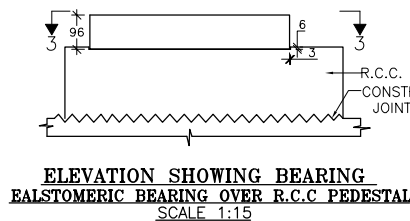
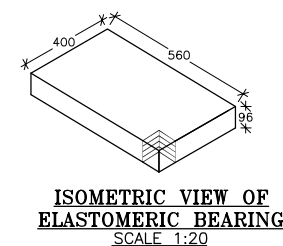
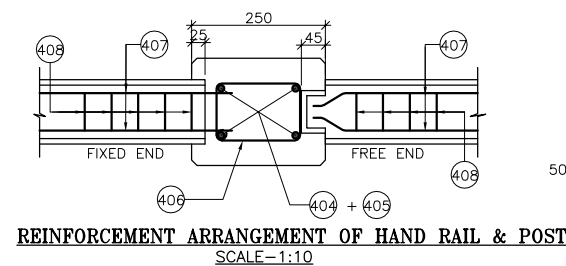
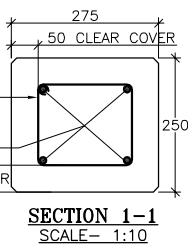
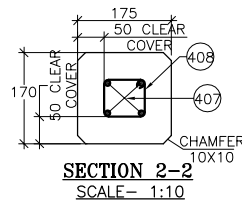
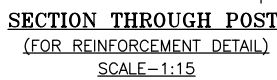
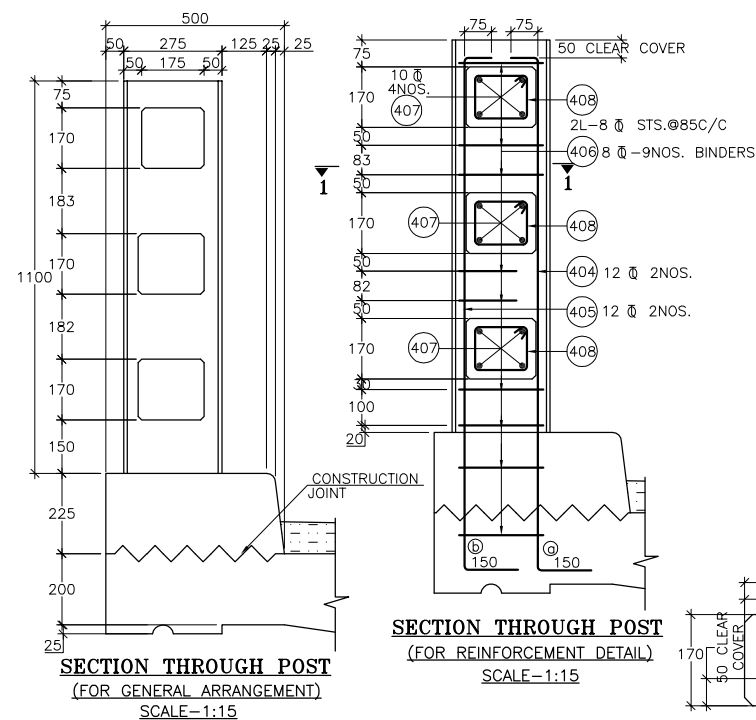


NOTES :

1. ALL DIMENSIONS ARE IN MM AND LEVELS ARE IN M. UNLESS OTHERWISE NOTED.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH :
CET/BDG/2015/3580/NH-208/FDPR/MN/GA
(SHEET NO. 01 TO 03)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC
(SHEET NO. 01, 02 & 04 TO 05)
CET/BDG/2015/3580/NH-208/FDPR/MN/MISC.
(SHEET NO. 01 OF 01)

					SCALE:	CLIENT:			REINFORCEMENT DETAILS OF ABUTMENT CAP, PEDESTAL & SEISMIC REACTION BLOCK	CETEST Engineering Consultants AN ISO 9001, 14001 & CE-ASAS 18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No.	CET/BDG/2015/3580/NH-208/FDPR/MN/RCC		
					AS SHOWN	Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.				Revision Mkd. - R0	Sheet No. - 03 of 05		
											Drawn By.	Design By.	Checked By.	Approved By.
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: Nov,2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)			ROAD NAME: Kailashahar to Teliamura Section of NH-208 Package:-V (Km 75+700 to Km 101+300)					
REVISIONS														





SPECIAL NOTES FOR ELASTOMERIC BEARINGS

INSTALLATION INSTRUCTIONS :

1. CARE SHALL BE TAKEN IN PACKING, TRANSPORTATION, STORAGE AND HANDLING TO AVOID ANY MECHANICAL DAMAGE, CONTAMINATION WITH OIL, GREASE, AND DIRT, UNDUE EXPOSURE TO SUNLIGHT AND WEATHER.
2. THE BEARINGS SHALL BE PLACED IN A RECESS
3. THE POSITION OF THE BEARINGS SHALL BE ACCURATELY MARKED ON THE AREA WHERE THE BEARINGS SHALL BE SEATED ACCURATELY LEVELED.
4. THE CONCRETE SURFACE SHALL BE FREE FROM ANY LOOSE MATERIAL AND CLEANED OF ANY GREASE, OIL, PAINT, ETC. THE SURFACE SHALL BE SMOOTH, BLASTED, CLEAN OF ALL LANTAGE AND LEVELED TRUE.
5. BEARINGS MUST BE PLACED BETWEEN TRUE HORIZONTAL SURFACES (MAXIMUM TOLERANCE 0.2 PER CENT PERPENDICULAR TO LOAD) AND AT TRUE PLAN POSITION OF THEIR CONTROL LINES MARKED ON RECEIVING SURFACES (MAXIMUM TOLERANCE + 3mm). CONCRETE SURFACES SHALL BE FREE LOCAL IRREGULARITIES (MAXIMUM TOLERANCE + 1mm IN HEIGHT).
6. THE FORMS AROUND THE BEARINGS SHALL BE SOFT ENOUGH FOR EASY REMOVAL. FORMS SHALL ALSO FIT THE BEARINGS SNUGLY AND PREVENT ANY LEAKAGE OF MORTAR GROUT. ANY MORTAR CONTAMINATING THE BEARING DURING CONCRETING SHALL BE COMPLETELY REMOVED BEFORE SETTING.
7. THE TEMPORARY FORMS SHALL BE REMOVED AFTER THE SUPERSTRUCTURE CONCRETE HAS SET. THE SIDES OF THE BEARINGS SHALL BE CLEANED OF ANY DEPOSIT OF CEMENT SLURRY/CONCRETE.
8. SURFACE OF REACTION BLOCK, USED FOR BEARING INSTALLATION SHOULD BE FAIR FACED.

MAINTENANCE :

1. THE BEARINGS SHALL BE SUBJECTED TO PLANNED MAINTENANCE CARE.
2. THE EXPOSED BEARING SURFACE SHALL BE MAINTAINED CLEAN AND FREE FROM CONTAMINATION WITH GREASE OR OIL, ETC.
3. ANNUAL ROUTINE MAINTENANCE INSPECTION OR SPECIAL MAINTENANCE INSPECTION OF ALL BEARINGS SHALL BE MADE TO CHECK FOR ANY SURFACE CRACKING OR SIGNS OF DAMAGE, DETERIORATION OR DISTRESS.
4. DAMAGED BEARINGS SHALL BE REPLACED IMMEDIATELY. TO AVOID DIFFERENCES IN STIFFNESS, ALL ADJACENT BEARINGS ON THE SAME LINE OF SUPPORT SHALL ALSO BE REPLACED AND UNIFORM SEATING OF THE MAIN GIRDERS OVER ALL THE NEW BEARINGS SHALL BE ENSURED.

RAILING :

1. REINFORCEMENT OF RAILING POST SHOULD BE SUITABLY ANCHORED IN DECK SLAB.
2. CASTING OF POST SHALL BE DONE IN SINGLE POUR AFTER ACCURATELY POSITIONING THE PRECAST HANDRAIL.
3. RAILING SHALL BE CONSTRUCTED ONLY AFTER THE STRUCTURAL CONCRETE OF SUPERSTRUCTURE HAS HARDENED AND SHUTTERING IS RELEASED.
4. EXPANSION GAPS IN RAILING SHALL BE PROVIDED AT THE SAME LOCATIONS AS IN THE DECK SLAB.

NOTES :

1. ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE NOTED.
2. BEARING TYPE B1,B2 & B3 SHOULD BE PLACED ON PIER AND ABUTMENT AS PER THEIR POSITIONS MARKED IN GENERAL ARRANGEMENT DRAWINGS.
3. SPECIFICATIONS INCLUDING PERMISSIBLE TOLERANCES FOR THE ELASTOMERIC BEARINGS SHALL BE IN ACCORDANCE WITH IRC:83(PART II)2015 STANDARD SPECIFICATIONS AND CODE OF PRACTICE FOR ROAD BRIDGES SECTION IX PART II--ELASTOMERIC BEARINGS.
4. RAW MATERIAL CHLOROPRENE (CR) SHALL ONLY BE USED IN MANUFACTURE OF BEARINGS.
5. GRADES OF RAW ELASTOMER OF PROVEN USE IN ELASTOMERIC BEARINGS, WITH LOW CRYSTALLISATION RATES AND ADEQUATE SHELF LIFE (E.G.NEOPRENE WRT. BAYPRENE 110 OR EQUIVALENT) SHALL BE USED. NO RECLAIMED RUBBER OR VULCANISED WASTES SHALL BE USED. THE RAW ELASTOMER CONTENT OF THE COMPOUND SHALL NOT BE LOWER THAN 60 PER CENT. THE ASH CONTENT SHALL NOT EXCEED 5 PER CENT.(AS PER TESTS CONDUCTED IN ACCORDANCE WITH ASTM D-297).EPDM AND OTHER SIMILAR CANDIDATE ELASTOMERS FOR BRIDGES BEARING USE SHALL NOT BE PERMITTED.
6. FABRICATION, TESTING AND ACCEPTANCE OF BEARINGS SHALL BE IN ACCORDANCE WITH IRC:83(PART II) 1987.
7. BEARINGS SHALL BE HANDLED CAREFULLY. THESE SHALL BE PROTECTED FROM BRIGHT SUN LIGHT AND EXTREME COLD. THESE SHALL BE STORED NEATLY UNDER COVER TILL INSTALLATION.
8. BEARINGS & EXPANSION JOINTS SHALL BE PROCURED ONLY FROM PREQUALIFIED MANUFACTURERS.

NOTES OF DRAINAGE SPOUT

1. ONLY FIGURED DIMENSIONS ARE TO BE FOLLOWED.
2. ALL STEEL WORK SHALL BE AS PER IS - 2062.
3. DRAINAGE SPOUT & COLLECTION PIT ASSEMBLY SHALL BE FABRICATED FROM MILD STEEL & AFTER FABRICATION, THE COMPLETE ASSEMBLY EXCEPT GRATING SHALL BE GIVEN A HOT DIPPED GALVANISED COATING.
4. THE REINFORCEMENT OF TOP SLAB OF BOX SHALL BE SUITABLY MODIFIED TO ACCOMMODATE THE DRAINAGE.
5. THE DRAINAGE SPOUT SHALL BE GALVANIZED AFTER WELDING THE PLATES & FLATS.

REFERENCE DRAWINGS :

CET/BDG/2015/3580/NH-208/FDPR/MN/GA (SHEET NO. 01 TO 03)
CET/BDG/2015/3580/NH-208/FDPR/MN/RCC (SHEET NO. 01 TO 05)

					SCALE:	CLIENT:				CONSULTANT : CETEST Engineering Consultants AUTISO 9001, 14001 & CE-MSA18001 Certified Company CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/MN/MISC			
					AS SHOWN	Public Works Department	National Highways & Infrastructure	MISCELLANEOUS DETAILS	Revision Mkd. - R0		Sheet No. - 01 of 01			
											Drawn By.	Design By.	Checked By.	Approved By.
					DATE:	PROJECT:		ROAD NAME:						
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	Nov,2019	Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		Kailashahar to Teliamura Section of NH-208						
REVISIONS								Package:-V (Km 75+700 to Km 101+300)						

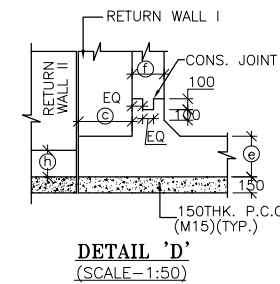
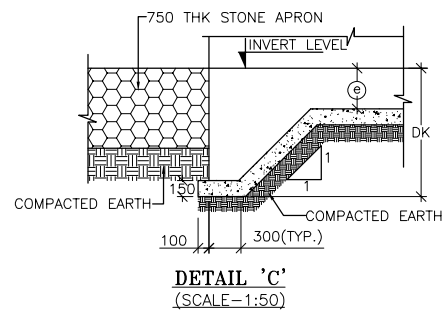
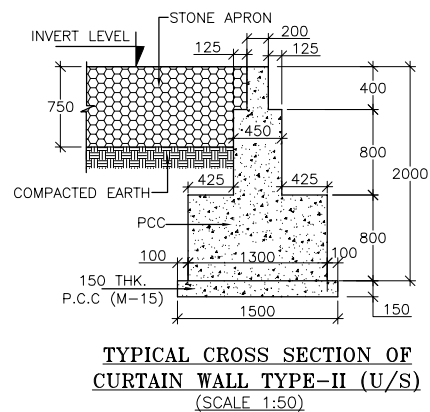
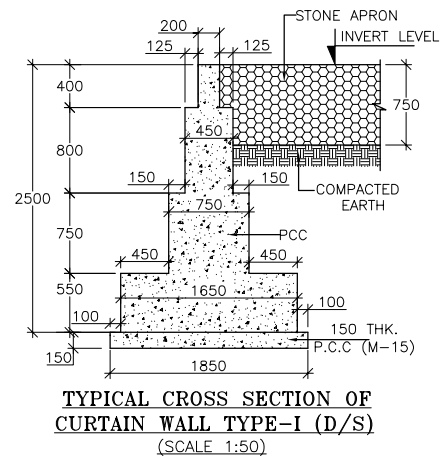
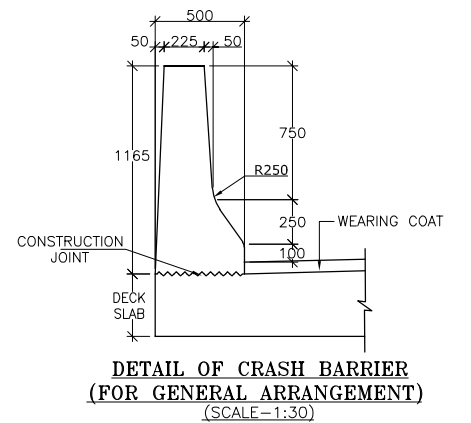
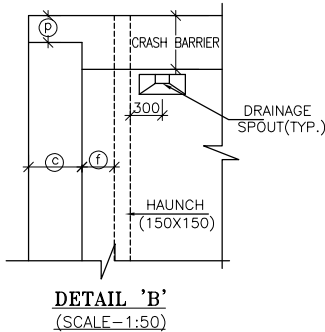
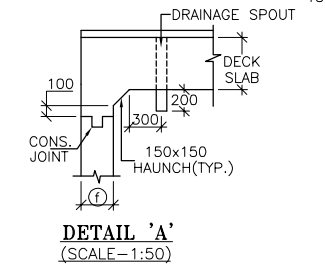
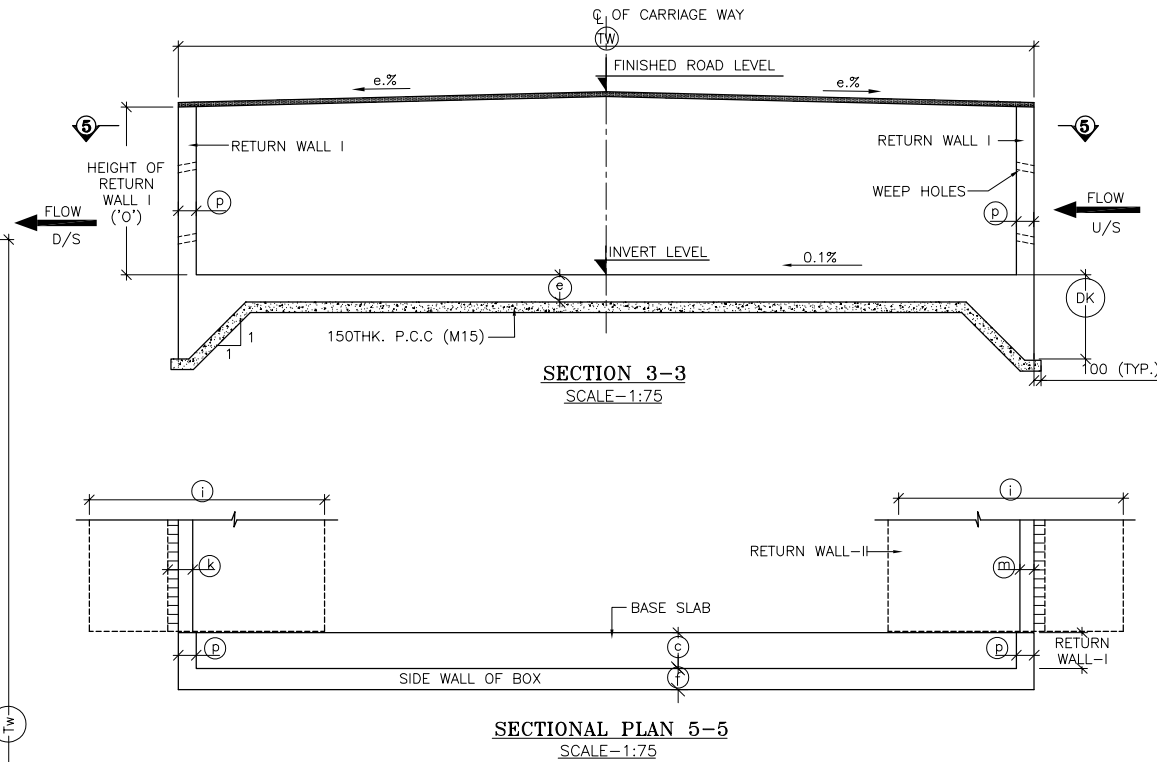
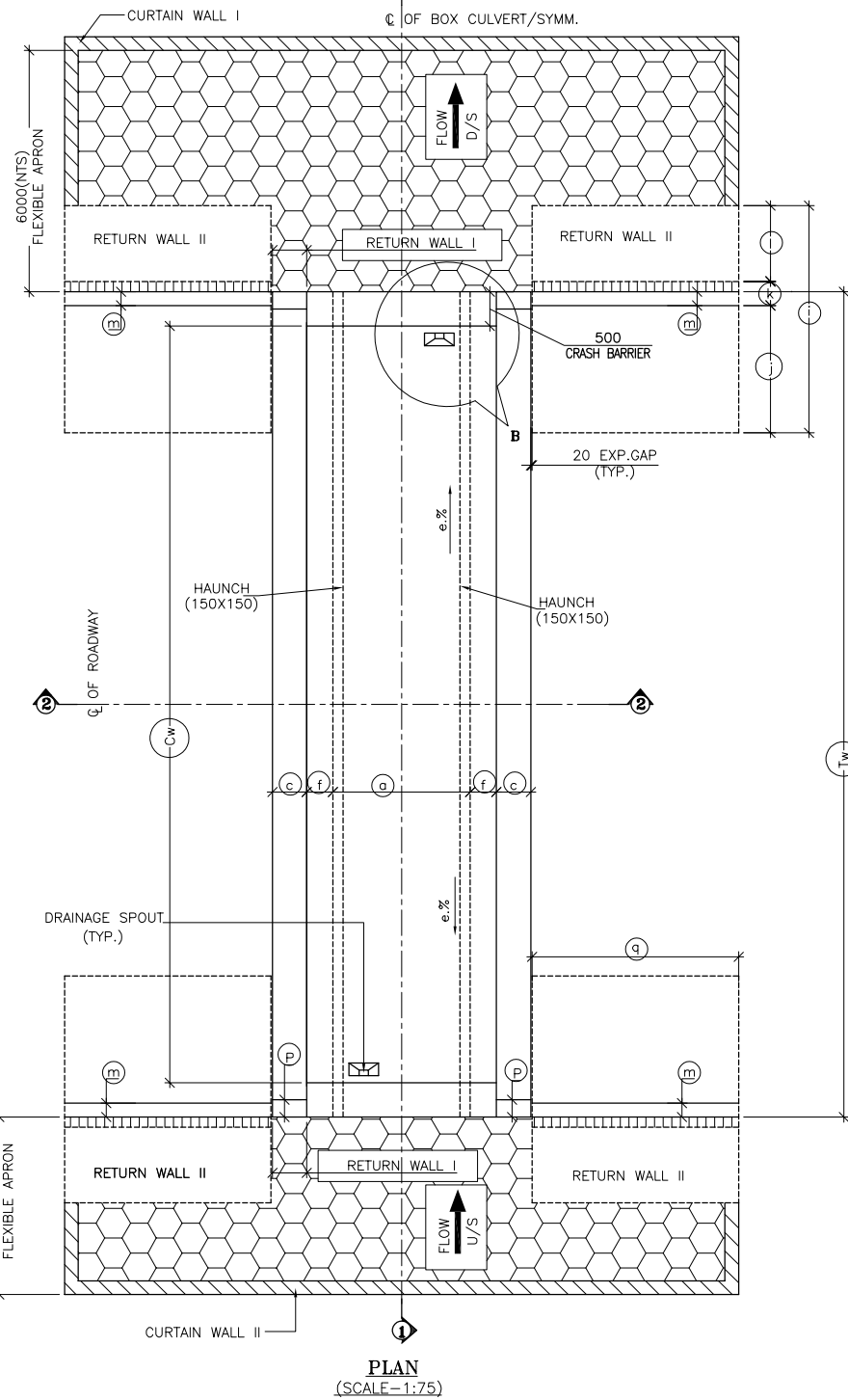
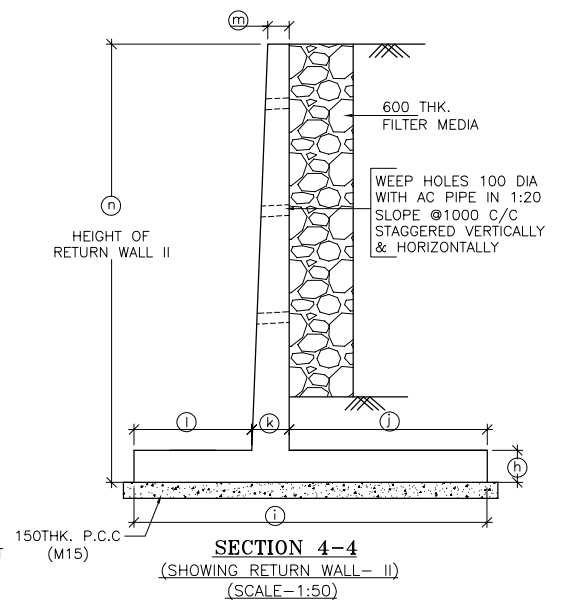
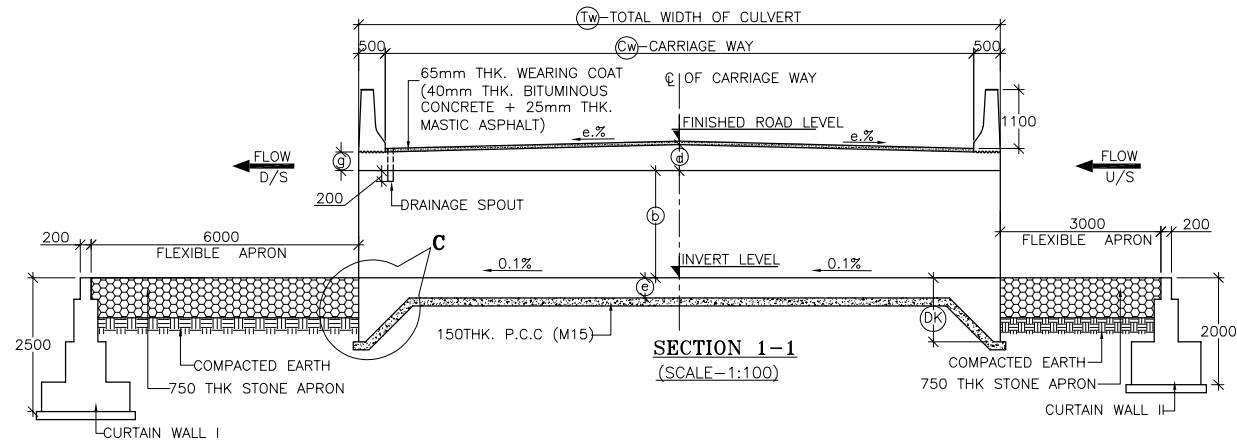
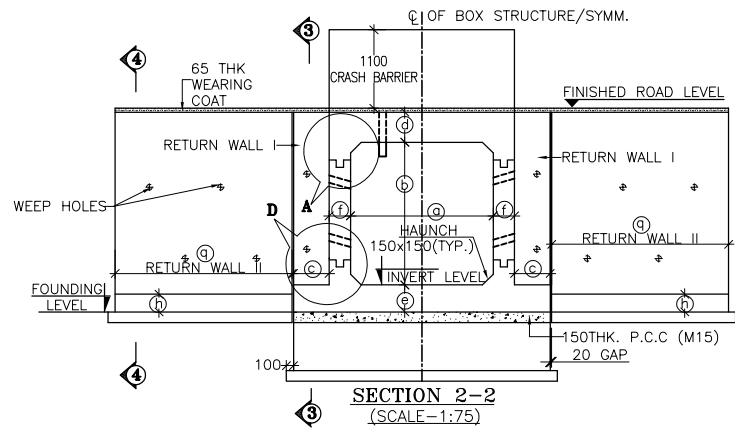
LIST OF PROPOSED CULVERTS - PKG V (75.700 KM - 101.300 KM)

SI No	Deslgn Chainage (KM)	Str. No	No of Cell (Clr. Span x Clr. Height) (M x M)	Total Width (Tw) (M)	Clear Span of Proposed Box (a)(M)	Vent Height of Proposed Box (b)(M)	Vent Height (b1) (M)	Vent Height (b2) (M)	Top Slab Thickness at Edge(g) (M)	Top Slab Thickness at Centre(d) (M)	Botom Slab Thickness(e) (M)	Side Wall Thickness (f) (M)	Projection of Slab(c) (M)	Total Length of Box Culvert (M)	Length of Return Wal-H (M)	Height of Return Wal-H(o) (M)	Height of Return Wal-H Inner Side of Curve (o1) (M)	Height of Return Wal-H Outer Side of Curve (o2) (M)	Thickness of Return Wal-H(p) (M)	Length of Return Wal-H(q) (M)	Total Height of Return Wal-H(n) (M)	Return Wall ht. at Inner Side of Curve(n1) (M)	Return Wall ht. at Outer Side of Curve(n2) (M)	h	i	j	k	l	m	Finished Road Level (M)	Proposed Invert Level (M)	Proposed Founding Level (M)	Cross Fall
1	78.910	79/1	1 X 2.0 X 2.0	11	2.0	2.0			0.350	0.475	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	170.028	167.488	167.108	NC
2	79.242	80/1	1 X 2.0 X 2.0	11	2.0	2.0			0.350	0.475	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	167.268	164.728	164.348	NC
3	79.396	80/2	1 X 2.0 X 2.0	11	2.0	2.0			0.350	0.475	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	163.739	161.199	160.819	NC
4	79.850	80/3	1 X 2.0 X 3.0	11	2.0	3.0	3.00	3.700	0.370	0.370	0.420	0.350	1.300	2.700	1.300		3.370	4.070	0.300	4.790		3.790	4.490	0.400	4.150	2.200	0.450	1.500	0.200	150.425	146.640	146.220	SE
5	82.207	83/1	1 X 2.0 X 2.0	11	2.0	2.0			0.350	0.475	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	118.200	115.660	115.280	NC
6	83.025	84/1	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	75.056	72.479	72.099	NC
7	83.117	84/2	1 X 2.0 X 3.0	11	2.0	3.0	3.00	3.700	0.370	0.370	0.420	0.350	1.300	2.700	1.300		3.370	4.070	0.300	4.790		3.790	4.490	0.400	4.150	2.200	0.450	1.500	0.200	71.069	67.284	66.864	SE
8	83.270	84/3	1 X 2.0 X 2.0	11	2.0	2.0			0.350	0.475	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	69.585	67.045	66.665	NC
9	83.379	84/4	1 X 2.0 X 3.0	12	2.0	3.0			0.370	0.508	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	68.892	65.319	64.899	NC
10	84.500	85/1	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	64.648	62.071	61.691	NC
11	85.344	86/1	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	55.264	52.687	52.307	NC
12	85.620	86/2	1 X 2.0 X 3.0	12	2.0	3.0			0.370	0.508	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	54.316	50.743	50.323	NC
13	85.812	86/3	1 X 2.0 X 3.0	11	2.0	3.0			0.370	0.495	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	54.068	50.508	50.088	NC
14	87.950	88/2	1 X 2.0 X 3.0	14	2.0	3.0			0.370	0.533	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	50.677	47.079	46.659	NC
15	88.096	89/1	1 X 2.0 X 2.0	13	2.0	2.0			0.350	0.500	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	51.303	48.738	48.358	NC
16	88.678	89/2	1 X 4.0 X 4.0	14	4.0	4.0	4.00	4.650	0.480	0.480	0.550	0.550	1.200	5.100	1.200		4.480	5.130	0.300	6.480		5.030	5.680	0.450	4.300	2.300	0.500	1.500	0.250	44.273	39.403	38.853	SE
17	89.712	90/2	1 X 3.0 X 4.0	14	3.0	4.0			0.450	0.613	0.480	0.460	1.700	3.920	1.700	4.450			0.300	4.960	4.930	-	-	0.400	4.150	2.200	0.450	1.500	0.200	43.378	38.701	38.221	NC
18	89.887	90/2	1 X 2.0 X 3.0	12	2.0	3.0	3.00	3.770	0.370	0.370	0.420	0.350	1.300	2.700	1.300		3.370	4.140	0.300	4.890		3.790	4.560	0.400	4.150	2.200	0.450	1.500	0.200	41.065	37.245	36.825	SE
19	90.040	91/1	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	40.546	37.969	37.589	NC
20	90.180	91/2	1 X 2.0 X 2.0	14	2.0	2.0	2.00	2.910	0.350	0.350	0.380	0.300	0.500	2.600	0.500		2.350	3.260	0.250	4.370		2.730	3.640	0.300	3.300	1.850	0.350	1.100	0.200	39.985	37.115	36.735	SE
21	90.330	91/3	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	38.520	35.943	35.563	NC
22	90.628	91/4	1 X 2.0 X 2.0	11	2.0	2.0			0.350	0.475	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	37.501	34.961	34.581	NC
23	90.968	91/5	1 X 2.0 X 3.0	14	2.0	3.0			0.370	0.533	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	38.041	34.443	34.023	NC
24	91.250	92/1	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	35.405	32.828	32.448	NC
25	91.380	92/2	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	35.221	32.644	32.264	NC
26	91.457	92/3	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	35.119	32.541	32.161	NC
27	91.669	92/4	1 X 2.0 X 2.0	14	2.0	2.0	2.00	2.910	0.350	0.350	0.380	0.300	0.500	2.600	0.500		2.350	3.260	0.250	4.370		2.730	3.640	0.300	3.300	1.850	0.350	1.100	0.200	34.898	32.028	31.648	SE
28	91.797	92/5	1 X 2.0 X 3.0	14	2.0	3.0			0.370	0.533	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	34.738	31.141	30.721	NC
29	91.934	92/6	1 X 2.0 X 3.0	14	2.0	3.0	3.00	3.910	0.370	0.370	0.420	0.350	1.300	2.700	1.300		3.370	4.280	0.300	5.100		3.790	4.700	0.400	4.150	2.200	0.450	1.500	0.200	34.579	30.689	30.269	SE
30	91.990	92/7	1 X 3.0 X 4.0	12	3.0	4.0			0.450	0.588	0.480	0.460	1.700	3.920	1.700	4.450			0.300	4.960	4.930	-	-	0.400	4.150	2.200	0.450	1.500	0.200	34.557	29.905	29.425	NC
31	92.277	93/1	1 X 3.0 X 4.0	14	3.0	4.0	4.00	4.910	0.450	0.450	0.480	0.460	1.700	3.920	1.700		4.450	5.360	0.300	6.320		4.930	5.840	0.450	4.300	2.300	0.500	1.500	0.250	34.920	29.950	29.470	SE
32	92.485	93/2	1 X 2.0 X 2.0	14	2.0	2.0	2.00	2.910	0.350	0.350	0.380	0.300	0.500	2.600	0.500		2.350	3.260	0.250	4.370		2.730	3.640	0.300	3.300	1.850	0.350	1.100	0.200	32.514	29.644	29.264	SE
33	92.683	93/3	1 X 2.0 X 3.0	14	2.0	3.0			0.370	0.533	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	33.138	29.541	29.121	NC
34	92.800	93/4	1 X 2.0 X 3.0	18	2.0	3.0			0.370	0.583	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	33.563	29.916	29.496	NC
35	92.913	93/5	1 X 3.0 X 3.0	13	3.0	3.0			0.420	0.570	0.420	0.420	0.900	3.840	0.900	3.420			0.250	4.210	3.840	-	-	0.300	3.300	1.850	0.350	1.100	0.200	33.932	30.297	29.877	NC
36	93.358	94/2	1 X 2.0 X 3.0	13	2.0	3.0	3.00	3.840	0.370	0.370	0.420	0.350	1.300	2.700	1.300		3.370	4.210	0.300	5.000		3.790	4.630	0.400	4.150	2.200	0.450	1.500	0.200	32.952	29.097	28.677	SE
37	93.418	94/3	1 X 2.0 X 2.0	13	2.0	2.0			0.350	0.500	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	32.622	30.057	29.677	NC
38	93.596	94/4	1 X 2.0 X 2.0	12	2.0	2.0			0.350	0.488	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	31.766	29.213	28.833	NC
39	93.657	94/5	1 X 2.0 X 2.0	12	2.0	2.0																											

LIST OF PROPOSED CULVERTS - PKG V (75.700 KM - 101.300 KM)

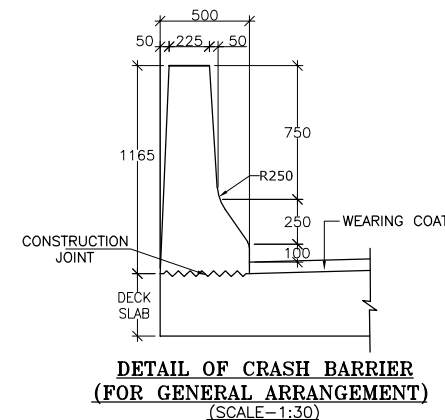
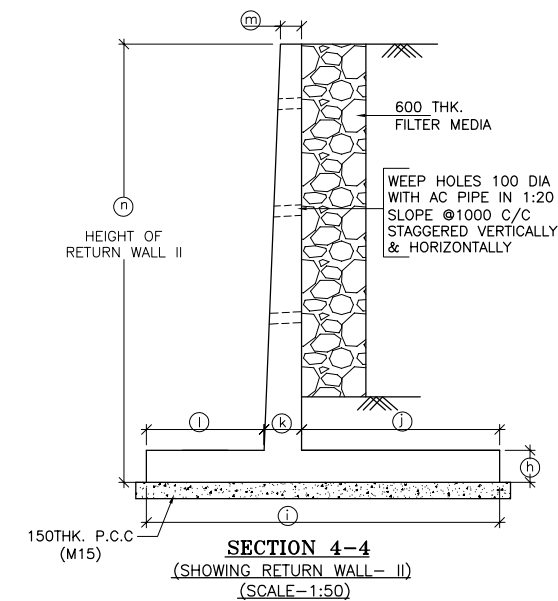
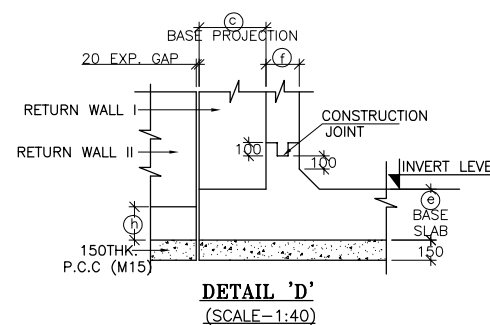
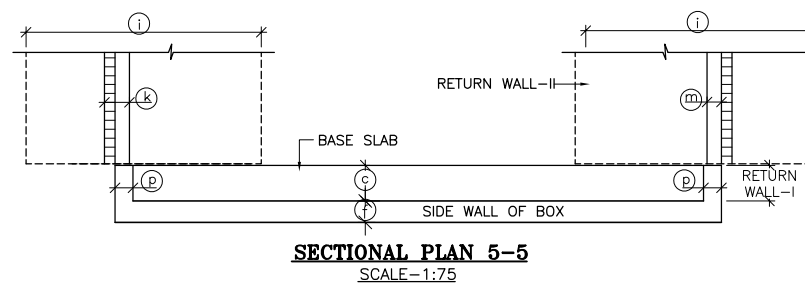
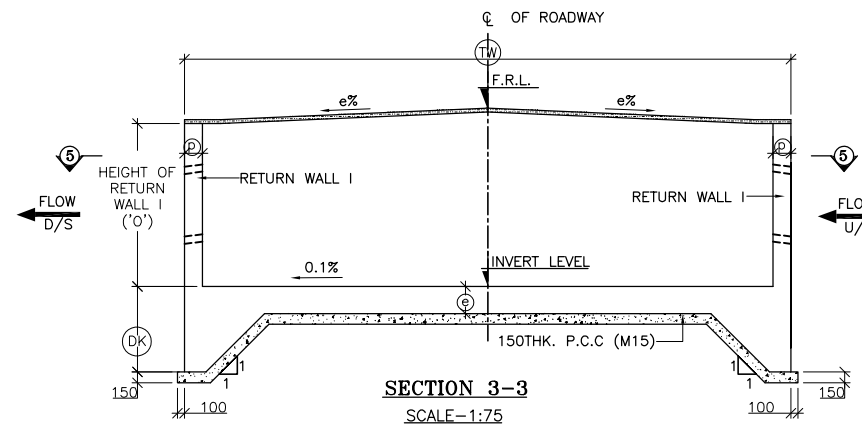
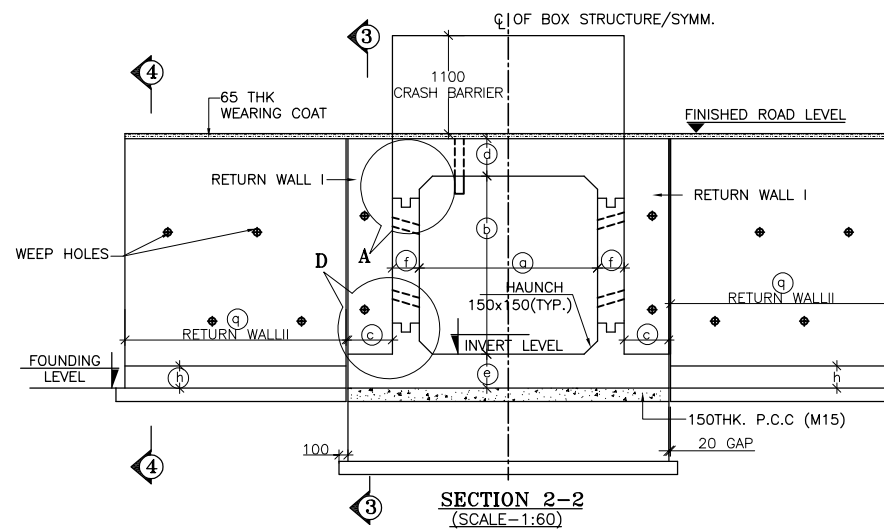
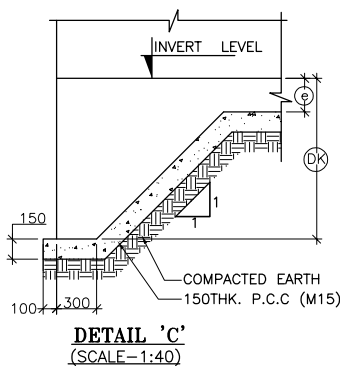
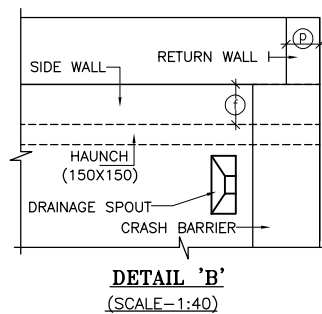
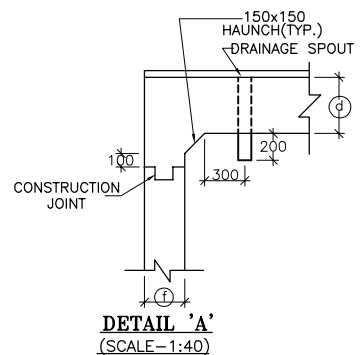
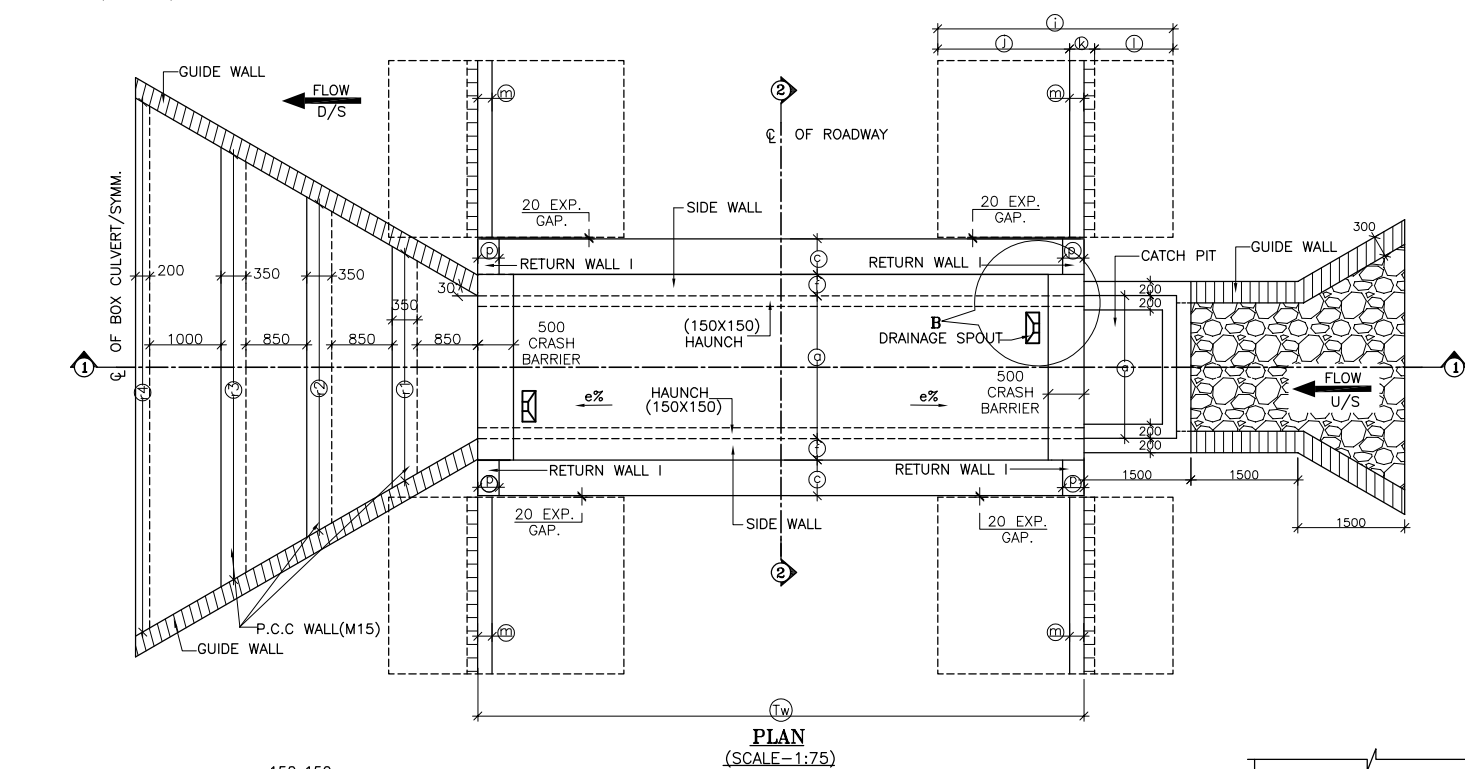
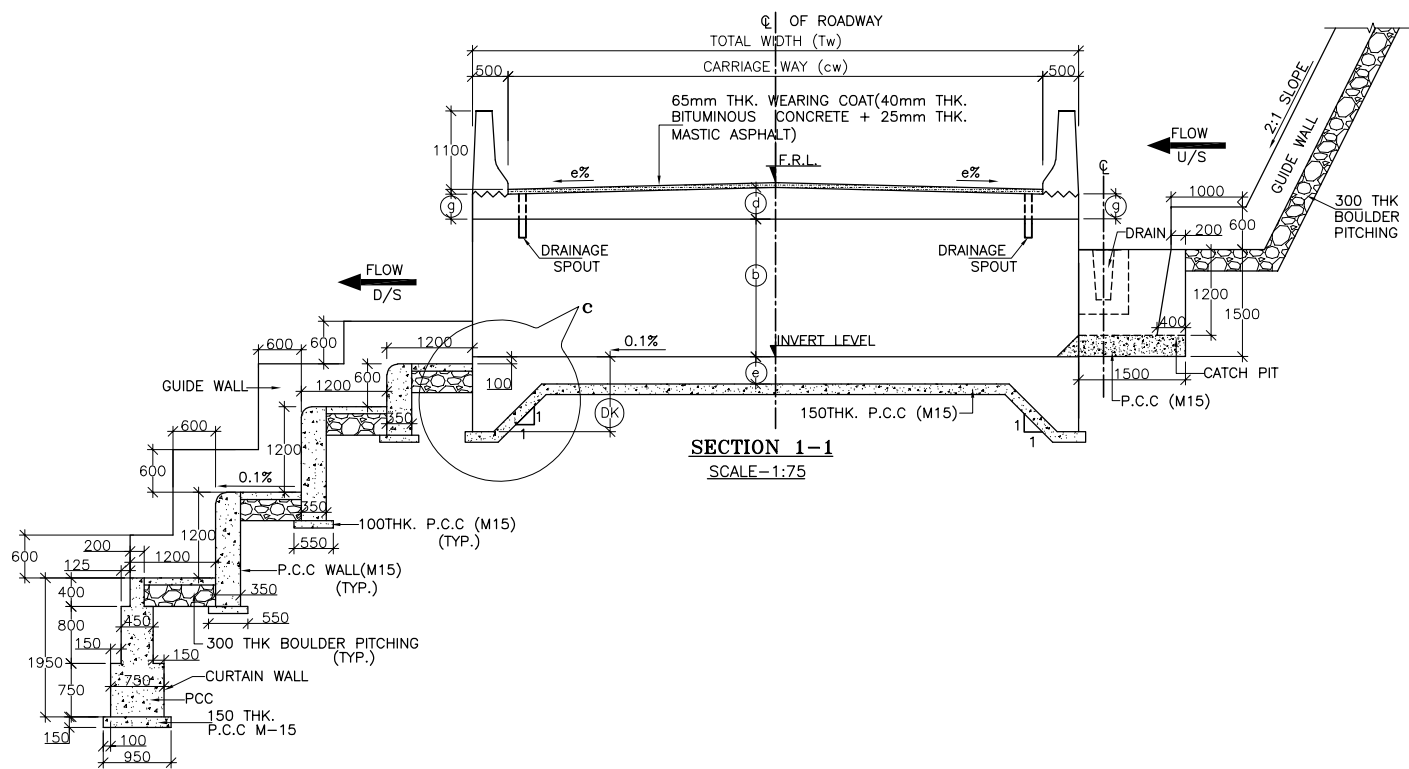
Sl No	Deslgn Chainage (KM)	Str. No	No of Cell (Clr. Span x Clr. Height) (M x M)	Total Width (Tw) (M)	Clear Span of Proposed Box (a)(M)	Vent Height of Proposed Box (b)(M)	Vent Height (b1) (M)	Vent Height (b2) (M)	Top Slab Thickness at Edge(g) (M)	Top Slab Thickness at Centre(d) (M)	Botom Slab Thickness(e) (M)	Side Wall Thickness (f) (M)	Projection of Slab(c) (M)	Total Length of Box Culvert (M)	Length of Return Wall-I (M)	Height of Return Wall-I(o) (M)	Height of Return Wall-II Inner Side of Curve (o1) (M)	Height of Return Wall-II Outer Side of Curve (o2) (M)	Thickness of Return Wall-I(p) (M)	Length of Return Wall-II(q) (M)	Total Height of Return Wall-II(n) (M)	Return Wall ht. at Inner Side of Curve(n1) (M)	Return Wall ht. at Outer Side of Curve(n2) (M)	h	i	j	k	l	m	Finished Road Level (M)	Proposed Invert Level (M)	Proposed Founding Level (M)	Cross Fall
41	94.120	95/1	1 X 2.0 X 3.0	13	2.0	3.0	3.00	3.840	0.370	0.370	0.420	0.350	1.300	2.700	1.300		3.370	4.210	0.300	5.000		3.790	4.630	0.400	4.150	2.200	0.450	1.500	0.200	31.874	28.019	27.599	SE
42	94.201	95/2	1 X 3.0 X 4.0	13	3.0	4.0	4.00	4.840	0.450	0.450	0.480	0.460	1.700	3.920	1.700		4.450	5.290	0.300	6.220		4.930	5.770	0.450	4.300	2.300	0.500	1.500	0.250	31.381	26.446	25.966	SE
43	94.325	95/3	1 X 2.0 X 2.0	13	2.0	2.0			0.350	0.500	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	30.598	28.033	27.653	NC
44	94.558	95/4	1 X 2.0 X 2.0	13	2.0	2.0			0.350	0.500	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	29.237	26.672	26.292	NC
45	94.660	95/5	1 X 2.0 X 2.0	13	2.0	2.0			0.350	0.500	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	29.635	27.070	26.690	NC
46	94.762	95/6	1 X 2.0 X 3.0	13	2.0	3.0			0.370	0.520	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	29.800	26.215	25.795	NC
47	94.890	95/7	1 X 2.0 X 2.0	13	2.0	2.0			0.350	0.500	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	29.180	26.615	26.235	NC
48	94.995	95/8	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	28.712	26.135	25.755	NC
49	95.294	96/1	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	28.978	26.401	26.021	NC
50	95.492	96/2	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	29.052	26.475	26.095	NC
51	95.690	96/3	1 X 2.0 X 2.0	25	2.0	2.0			0.350	0.350	0.380	0.300	0.500	2.600	0.500	2.350			0.250	2.560	2.430	-	-	0.250	2.500	1.650	0.250	0.600	0.200	28.615	26.200	25.820	NC
52	95.924	96/4	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	28.155	25.578	25.198	NC
53	96.500	97/2	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	29.343	26.766	26.386	NC
54	96.788	97/3	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	28.493	25.916	25.536	NC
55	97.050	98/1	1 X 2.0 X 3.0	14	2.0	3.0	3.00	3.481	0.370	0.370	0.420	0.350	1.300	2.700	1.300		3.370	3.851	0.300	4.460		3.790	4.271	0.400	4.150	2.200	0.450	1.500	0.200	29.144	25.469	25.049	SE
56	97.315	98/2	1 X 2.0 X 3.0	14	2.0	3.0			0.370	0.533	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	28.493	24.895	24.475	NC
57	98.168	99/1	1 X 2.0 X 3.0	14	2.0	3.0			0.370	0.533	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	28.445	24.848	24.428	NC
58	98.725	99/2	1 X 2.0 X 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	30.250	27.673	27.293	NC
59	99.400	100/2	1 X 2.0 X 3.0	14	2.0	3.0			0.370	0.533	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	31.260	27.662	27.242	NC
60	99.890	100/3	1 X 2.0 X 3.0	14	2.0	3.0			0.370	0.533	0.420	0.350	1.300	2.700	1.300	3.370			0.300	3.740	3.790	-	-	0.300	3.300	1.850	0.350	1.100	0.200	29.675	26.077	25.657	NC
61	100.668	101/1	1 X 3.0 X 4.0	15	3.0	4.0			0.450	0.625	0.480	0.460	1.700	3.920	1.700	4.450			0.300	4.960	4.930	-	-	0.400	4.150	2.200	0.450	1.500	0.200	27.482	22.792	22.312	NC
62	100.950	101/2	1 X 2.0 x 2.0	14	2.0	2.0			0.350	0.513	0.380	0.300	0.500	2.600	0.500	2.350			0.250	3.010	2.730	-	-	0.250	2.500	1.650	0.250	0.600	0.200	28.133	25.556	25.176	NC

					SCALE:	CLIENT:	Public Works Department	National Highways & Infrastructure	DETAILS OF PROPOSED CULVERT	CONSULTANT :	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/PKG -V/BC
					AS SHOWN		Government of Tripura	Development Corporation Ltd.			Revision Mkd. - R0
										CETEST Engineering Consultants ANISO 9001, 14001 & OHSAS 18001 Certified Company	CE TESTING COMPANY PVT. LTD.
					DATE:	PROJECT:	Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME:	124-A, N.S.C. Bose Road Kolkata - 700092.	Sheet No. - 02 of 02
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	Nov,2019				Kailashahar to Teliamura Section of NH-208		Drawn By.
REVISIONS									Package:-V (Km 75+700 to Km 101+300)		Design By.
											Checked By.
											Approved By.
											S.Chatterjee
											-
											A.Dey
											B.Koner



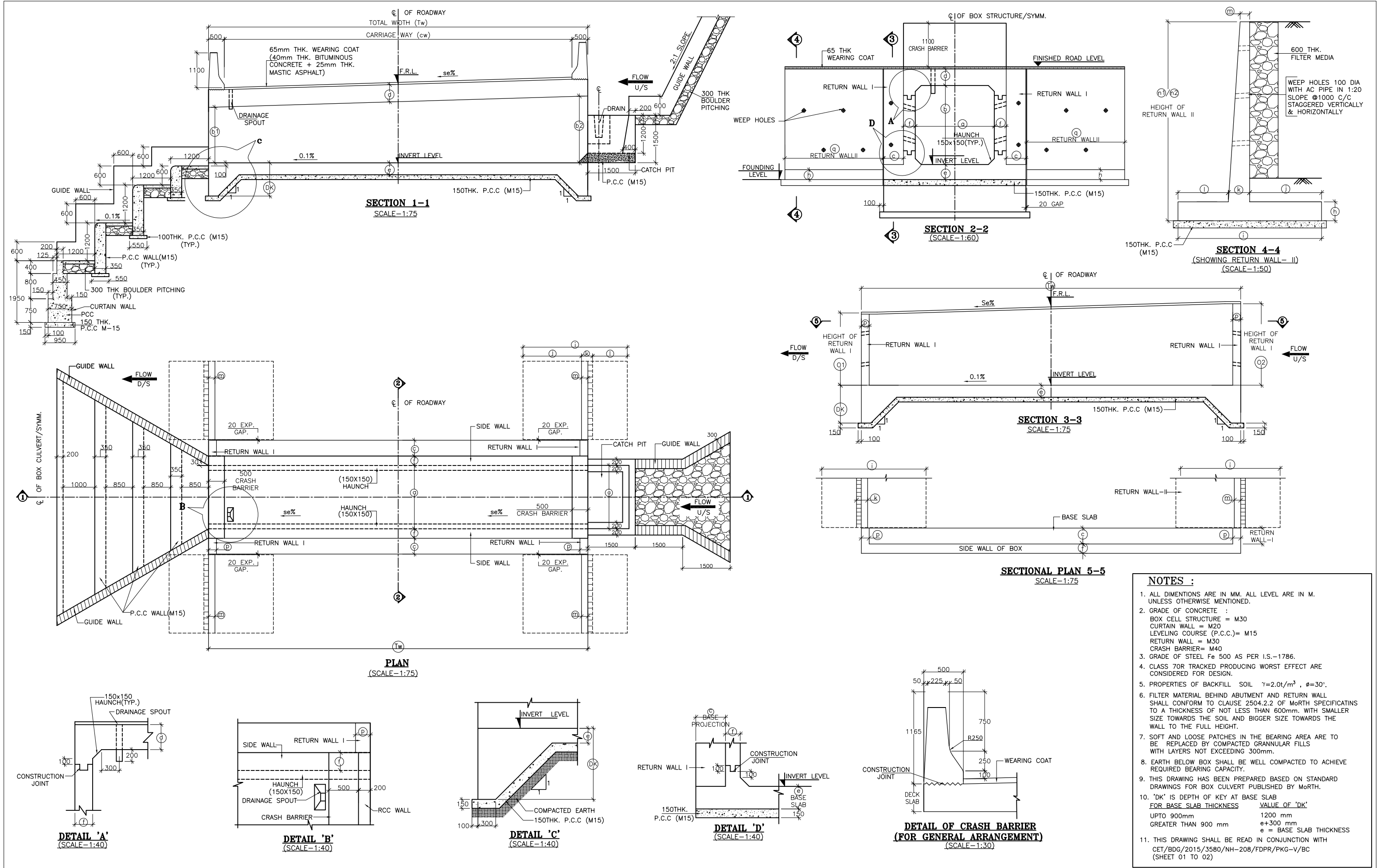
- NOTES :**
- ALL DIMENTIONS ARE IN MM. ALL LEVEL ARE IN M. UNLESS OTHERWISE MENTIONED.
 - GRADE OF CONCRETE :
BOX CELL STRUCTURE = M30
CURTAIN WALL = M20
LEVELING COURSE (P.C.C.)= M15
RETURN WALL = M30
CRASH BARRIER= M40
 - GRADE OF STEEL Fe 500 AS PER I.S.-1786.
 - CLASS 70R TRACKED PRODUCING WORST EFFECT ARE CONSIDERED FOR DESIGN.
 - PROPERTIES OF BACKFILL SOIL $\gamma=1.8t/m^3$, $\phi=30^\circ$.
 - FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATINS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
 - SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULLAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 - EARTH BELOW BOX SHALL BE WELL COMPACTED TO ACHIEVE REQUIRED BEARING CAPACITY.
 - THIS DRAWING HAS BEEN PREPARED BASED ON STANDARD DRAWINGS FOR BOX CULVERT PUBLISHED BY MoRTH.
 - 'DK' IS DEPTH OF KEY AT BASE SLAB
FOR BASE SLAB THICKNESS VALUE OF 'DK'
UPTO 900mm 1200 mm
GREATER THAN 900 mm e+300 mm
e = BASE SLAB THICKNESS
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CET/BDG/2015/3580/NH-208/FDPR/PKG-V/BC (SHEET 01 TO 02)

					SCALE: AS SHOWN	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	GENERAL ARRANGEMENT OF SINGLE CELL RCC BOX CULVERT WITH FLEXIBLE APRON (NORMAL CAMBER)	CONSULTANT : CETEST Engineering Consultants AN ISO 9001, 14001 & OHSAS 18001 Certified Company	CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/BC/F/GA
					DATE: Nov,2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME: Kailashahar to Teliamura Section of NH-208			Revision Mkd. - R0
								Package:-V (Km 75+700 to Km 101+300)			Sheet No. - 01 of 01
											Drawn By. Design By. Checked By. Approved By.
											S.Chatterjee - A.Dey B.Koner



- NOTES :**
- ALL DIMENSIONS ARE IN MM. ALL LEVEL ARE IN M. UNLESS OTHERWISE MENTIONED.
 - GRADE OF CONCRETE :
BOX CELL STRUCTURE = M30
CURTAIN WALL = M20
LEVELING COURSE (P.C.C.)= M15
RETURN WALL = M30
CRASH BARRIER= M40
 - GRADE OF STEEL Fe 500 AS PER I.S.-1786.
 - CLASS 70R TRACKED PRODUCING WORST EFFECT ARE CONSIDERED FOR DESIGN.
 - PROPERTIES OF BACKFILL SOIL $\gamma = 1.8t/m^3$, $\phi = 30^\circ$.
 - FILTER MATERIAL BEHIND ABUTMENT AND RETURN WALL SHALL CONFORM TO CLAUSE 2504.2.2 OF MoRTH SPECIFICATINS TO A THICKNESS OF NOT LESS THAN 600mm. WITH SMALLER SIZE TOWARDS THE SOIL AND BIGGER SIZE TOWARDS THE WALL TO THE FULL HEIGHT.
 - SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANNULAR FILLS WITH LAYERS NOT EXCEEDING 300mm.
 - EARTH BELOW BOX SHALL BE WELL COMPACTED TO ACHIEVE REQUIRED BEARING CAPACITY.
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 - 'DK' IS DEPTH OF KEY AT BASE SLAB
FOR BASE SLAB THICKNESS VALUE OF 'DK'
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e = BASE SLAB THICKNESS
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH
CET/BDG/2015/3580/NH-208/FDPR/PKG-V/BC
(SHEET 01 TO 02)

					SCALE: AS SHOWN	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	GENERAL ARRANGEMENT OF SINGLE CELL RCC BOX CULVERT WITH CATCH PIT & STEPPED PROTECTION (NORMAL CAMBER)	CONSULTANT : CETEST CE TESTING COMPANY PVT. LTD. Engineering Consultants AN ISO 9001, 14001 & OHSAS 18001 Certified Company	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/BC/STP/GA
					DATE: Nov,2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)	ROAD NAME: Kailashahar to Teliamura Section of NH-208 Package:-V (Km 75+700 to Km 101+300)		124-A, N.S.C. Bose Road Kolkata - 700092.	Revision Mkd. - R0
										Sheet No. - 01 of 01
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.						Drawn By. Design By. Checked By. Approved By.
		REVISIONS								S.Chatterjee - A.Dey B.Koner



				SCALE: AS SHOWN	CLIENT: Public Works Department Government of Tripura	National Highways & Infrastructure Development Corporation Ltd.	GENERAL ARRANGEMENT OF SINGLE CELL RCC BOX CULVERT WITH CATCH PIT & STEPPED PROTECTION (SUPER ELEVATION)	CONSULTANT : CETEST Engineering Consultants ANISO 9001, 14001 & OHSAS 18001 Certified Company	CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092.	Dwg. No. CET/BDG/2015/3580/NH-208/FDPR/BC/STP/GA
				DATE: Nov, 2019	PROJECT: Consultancy Services for Preparation of Feasibility Study and DPR for Improvement and Widening to Two Lane with 1.5 m Paved Shoulder of Newly Declared NH-208 (Length 157.70 Km) for Execution on EPC Mode in the State of Tripura under NH(O)		ROAD NAME: Kailashahar to Teliamura Section of NH-208 Package: V (Km 75+700 to Km 101+300)			Revision Mkd. - R0
										Sheet No. - 01 of 01
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