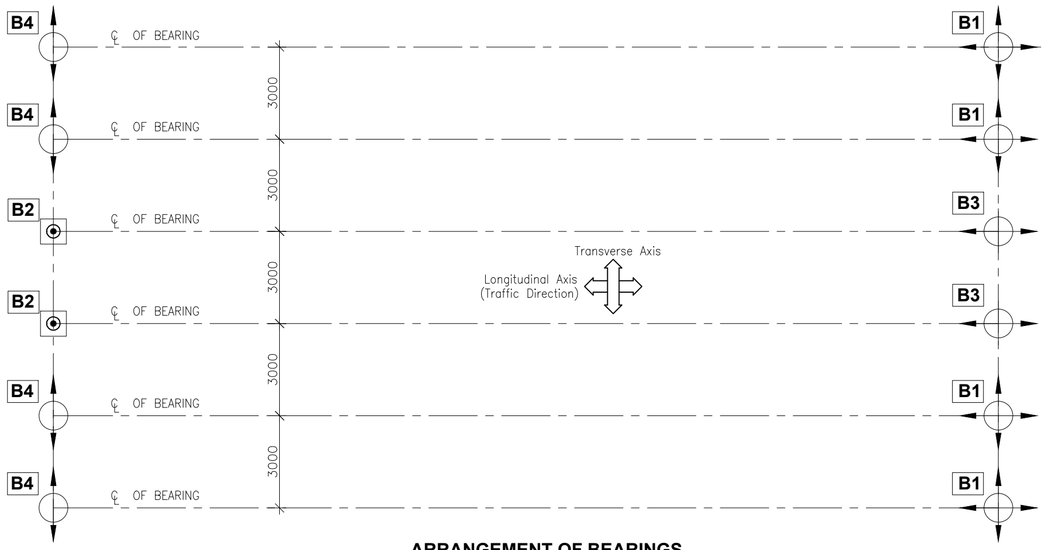
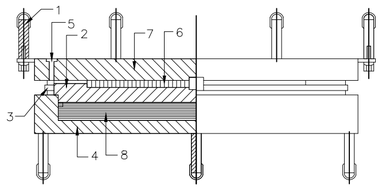
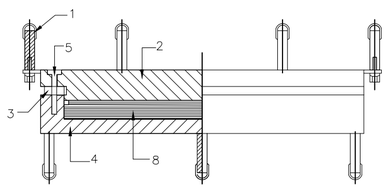


ARRANGEMENT OF BEARINGS

TRAFFIC DIRECTION
SCALE 1:75



POT SLIDING BEARING



POT FIXED BEARING

LEGEND:-

1. ANCHOR BOLT
2. POT COVER
3. METALLIC SEALS
4. POT CYLINDER
5. TEMPORARY BOLTS
6. PTFE
7. TOP SLIDING PLATE
8. CONFINED ELASTOMER

NOTES :-

1. THE CONTRACTOR SHALL SUBMIT DESIGN/DRAWING OF INDIVIDUAL BEARINGS BASED ON FORCES, TRANSLATIONS & ROTATIONS AS GIVEN IN THIS DRAWING FOR APPROVAL OF THE ENGINEER.
2. BEARINGS SHALL BE PROCURED FROM THE LIST OF APPROVED MANUFACTURER'S GIVEN BY MOST.
3. BEARINGS SHALL CONFORM TO LATEST MOST SPECIFICATIONS AND TENDER STIPULATION IF ANY.
4. THE TESTING OF RAW MATERIALS, METALLIC COMPONENTS, ELASTOMER & PTFE AND ACCEPTANCE TEST ON BEARING SHALL CONFORM TO MOST SPECIFICATIONS/ TENDER SPECIFICATIONS.
5. MANUFACTURER SHALL SUBMIT THE CERTIFICATES FOR LOAD TESTING AND DIMENSIONS OF BEARING.
6. SUITABLE ERECTION CLAMPS FOR SAFE TRANSPORTATION AND HANDLING ALONG WITH TEMPLATE FOR ALIGNMENT SHALL BE PROVIDED BY THE MANUFACTURER.
7. PEDESTAL PLAN SIZE GIVEN HERE IN ARE TENTATIVE ONLY. THE PLAN SIZE AND HEIGHT OF PEDESTALS SHALL BE ADJUSTED TO SUIT THE FINALISED SIZE OF BEARING AT THE TIME OF EXECUTION.
8. BEARING DETAILS ARE SCHEMATIC ONLY. DETAILED DESIGN AND DRAWINGS, SPECIFICATION FOR CONSTRUCTION, FABRICATION AND CORROSION PROTECTION, SEALING AGAINST DUST AND WATER, PROVISION FOR REPLACEMENT SHALL BE FURNISHED BY CONTRACTOR / SUPPLIER CONFORMING TO THE RELEVANT SPECIAL SPECFICATION INCLUDED IN CONTRACT. THESE SHALL ALSO INCLUDE THE ANCHORAGE ASSEMBLY AND THE SPECIAL CONCRETE IN ANCHORAGE CUT OUT.
9. MARGINAL MODIFICATION IN THE STRUCTURE DETAILS FOR COMPATIBILITY WITH THE BEARING AND EXPANSION JOINT DETAIL SHALL BE PERMITTED SUBJECT TO APPROVAL OF ENGINEER.
10. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH OTHER RELEVENT DRAWINGS

LEGEND:-

FREE BEARING

FIXED BEARING

GUIDED BEARING ALONG TRANV. AXIS

GUIDED BEARING ALONG LONG. AXIS

Summary of Forces on Bearing

				Vertical Force (kN)	Horizontal Force (kN)		Rotation (rad)	Movement (mm)	
					Long	Trans		Long	Trans
FREE BEARING (B1)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1368	91	0	0.124	-20/6	8.00
			Min Rn	614	55	0	0.124	-20/6	8.00
			No LL	616		0	0.124	-20/6	8.00
		Seismic Long Case	Max Rn	892	62	0	0.124	-20/6	8.00
			Min Rn	585	55	0	0.124	-20/6	8.00
			No LL	585	55	0	0.124	-20/6	8.00
		Seismic Trans Case	Max Rn	892	41	0	0.124	-20/6	8.00
			Min Rn	585	37	0	0.124	-20/6	8.00
			No LL	585	55	0	0.124	-20/6	8.00
	SLS	Normal Case	Max Rn	951	60	0	0.083	-13/4	5.00
			Min Rn	448	37	0	0.083	-13/4	5.00
			No LL	450	37	0	0.083	-13/4	5.00
Fix BEARING (B2)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1368	89	0	0.124		
			Min Rn	614	65	0	0.124		
			No LL	616	65	0	0.124		
		Seismic Long Case	Max Rn	892	363	182	0.124		
			Min Rn	585	363	158	0.124		
			No LL	585	363	158	0.124		
		Seismic Trans Case	Max Rn	892	117	608	0.124		
			Min Rn	585	117	527	0.124		
			No LL	585	117	351	0.124		
	SLS	Normal Case	Max Rn	951	59	0	0.083		
			Min Rn	448	43	0	0.083		
			No LL	450	43	0	0.083		
Longitudinal Guided BEARING (B3)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1368	0	137	0.124	-20/6	
			Min Rn	614	0	61	0.124	-20/6	
			No LL	616	0	62	0.124	-20/6	
		Seismic Long Case	Max Rn	892	0	182	0.124	-20/6	
			Min Rn	585	0	158	0.124	-20/6	
			No LL	585	0	158	0.124	-20/6	
		Seismic Trans Case	Max Rn	892	0	608	0.124	-20/6	
			Min Rn	585	0	527	0.124	-20/6	
			No LL	585	0	351	0.124	-20/6	
	SLS	Normal Case	Max Rn	951	0	95	0.083	-13/4	
			Min Rn	448	0	45	0.083	-13/4	
			No LL	450	0	45	0.083	-13/4	
Transverse Guided BEARING (B4)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1368	89	0	0.124	0	8.00
			Min Rn	614	65	0	0.124	0	8.00
			No LL	616	65	0	0.124	0	8.00
		Seismic Long Case	Max Rn	892	363	0	0.124	0	8.00
			Min Rn	585	363	0	0.124	0	8.00
			No LL	585	363	0	0.124	0	8.00
		Seismic Trans Case	Max Rn	892	117	0	0.124	0	8.00
			Min Rn	585	117	0	0.124	0	8.00
			No LL	585	117	0	0.124	0	8.00
	SLS	Normal Case	Max Rn	951	59	0	0.083	0	5.00
			Min Rn	448	43	0	0.083	0	5.00
			No LL	450	43	0	0.083	0	5.00

Project Title:-

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- TYPICAL BEARING LAYOUT FOR 20m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 01

CONSULTANT:-

Technocrats Advisory Services Private Limited
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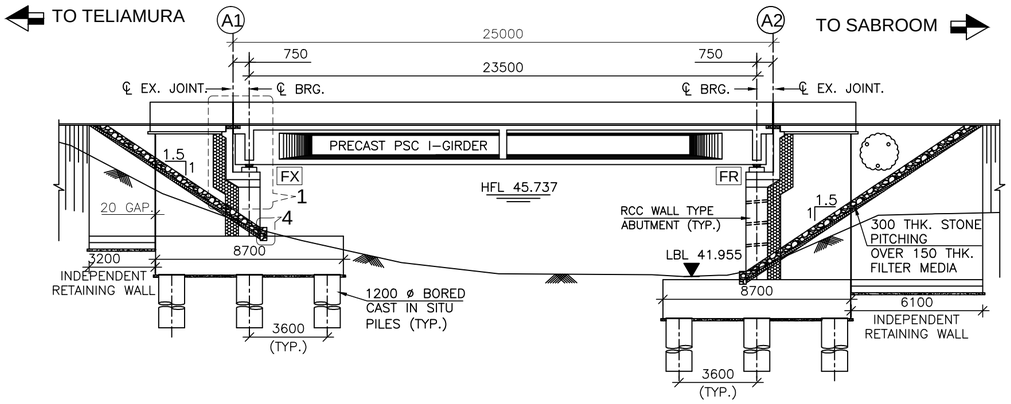
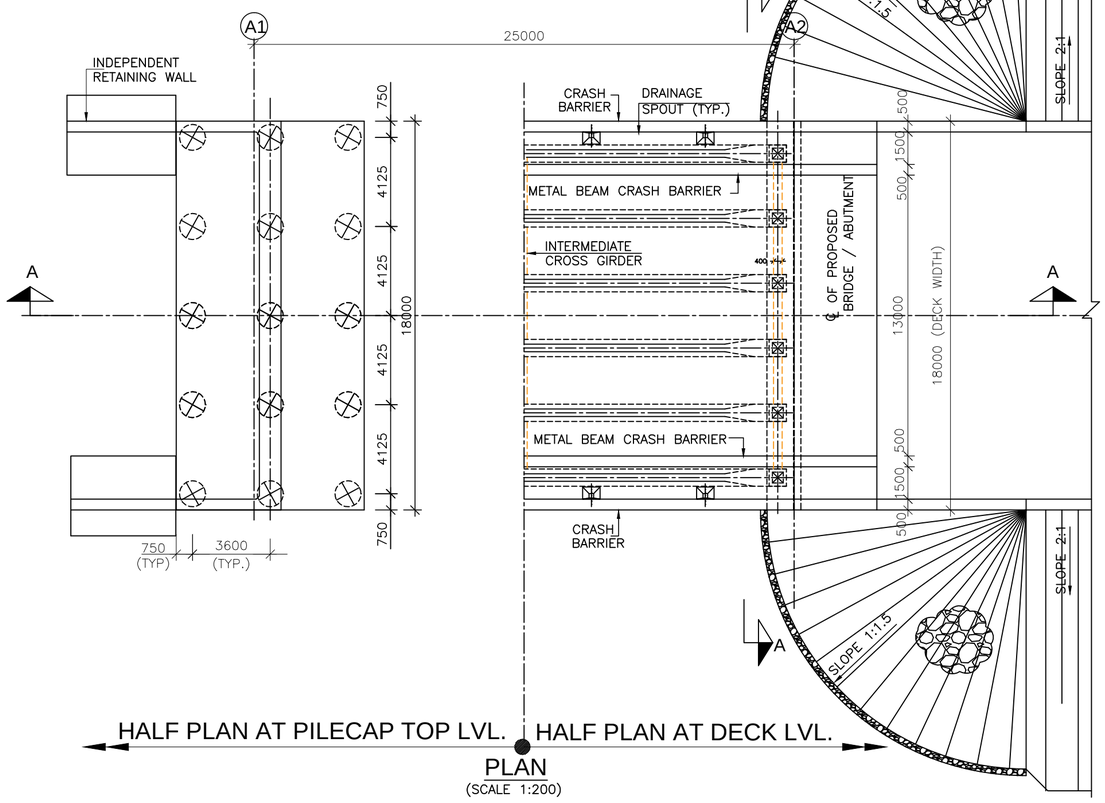
MINOR BRIDGE AT CH. 43+900 (1X25m SPAN)

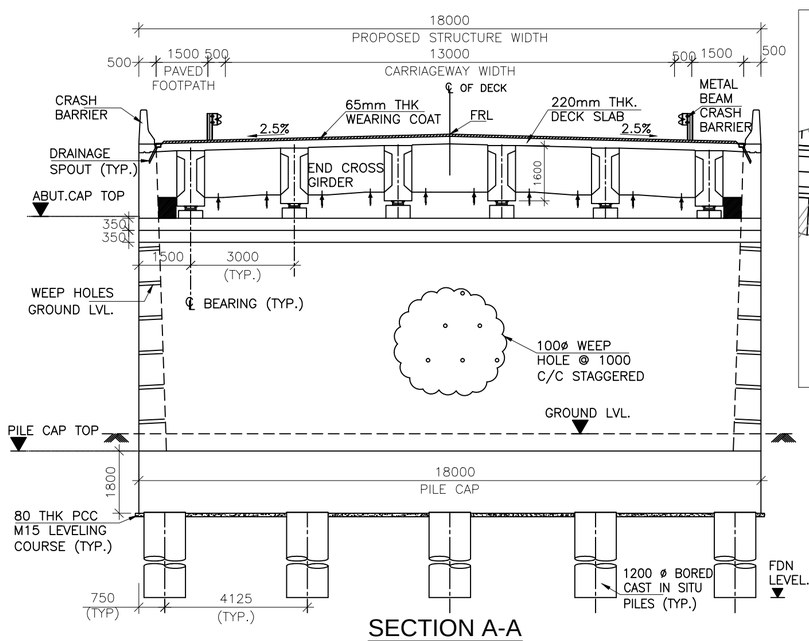


PROPOSED FRL (m)	48.935		48.935
ABT CAP LEVEL (m)	46.700		46.700
GROUND LEVEL (m)	44.331		42.313
PILE CAP TOP LEVEL (m)	43.831		41.813
FOUNDING LEVEL (m)	22.031		20.013
CHAINAGE (Km)	43+887.5	43+900	43+912.5

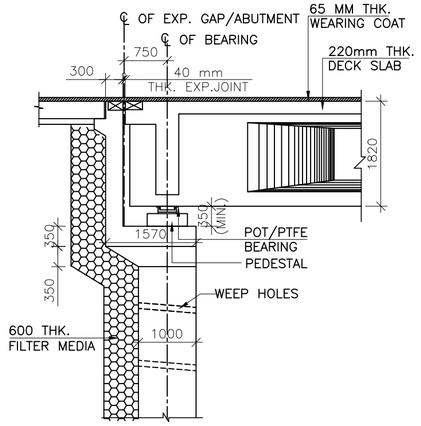
LONGITUDNAL SECTION A-A
(SCALE 1:200)



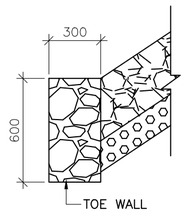
PLAN
(SCALE 1:200)



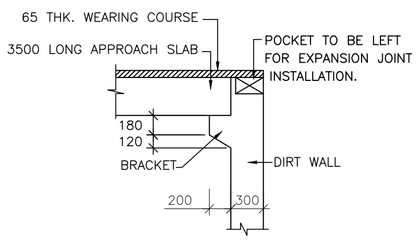
SECTION A-A
(SCALE 1:125)



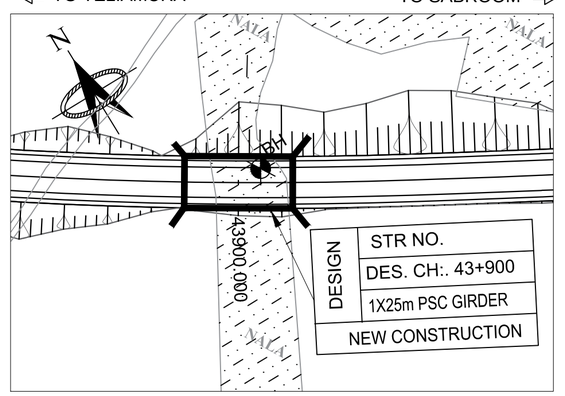
DETAIL-'1'
(SCALE 1:75)



DETAIL-4
(SCALE 1:25)



DETAIL-'3'
(SCALE 1:40)



KEYPLAN
SCALE-1:1

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
2. NO DIMENSION SHALL BE MEASURED FROM THE DRAWINGS. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. CHAINAGE & LEVEL SHALL BE VERIFIED WITH THE RELEVANT PLAN & PROFILE DRAWINGS. VARIATION (IF ANY) SHALL BE REPORTED TO ENGINEER FOR MODIFICATION.
4. CHAINAGE OF THE STRUCTURE IS AT THE CENTER LINE OF THE PROPOSED STRUCTURE.
5. THE REINFORCEMENT SHALL BE HYSD BARS OF GRADE DESIGNATION Fe 500D CONFORMING TO IS 1786-2008.
6. CONCRETE SHALL BE DESIGN MIX WITH WITH A MINIMUM 28 DAYS CHARACTERISTIC CUBE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
   a. PSC-I GIRDER, RCC DECK SLAB & END CROSS GIRDER M45
   b. ABUT. & ABUT CAP M35
   c. PILE & PILE CAP M35
   d. PIER & PIER CAP M35
   e. RETAINING WALL M35
   f. CRASH BARRIER M40
   g. APPROACH SLAB M30
   h. LEVELING COURSE M15
   i. PEDESTALS M40
7. CLEAR COVER TO OUTER STEEL SHALL BE AS FOLLOWS:-
   a. SUPERSTRUCTURE 40MM
   b. ABUTMENT EARTH FACE 75MM
   c. ABUTMENT OUTER FACE/PIER 50MM
   d. FOUNDATION 75MM
   e. CRASH BARRIER 40MM
8. BACK FILLING BEHIND WALLS/ABUTMENT SHALL CONSISTS OF SELECTED EARTH CONFORMING TO APPENDIX 6 OF IRC:78-2014 HAVING PROPERTIES C=0, ø>=30°, γ=2.0t/cu.m.
9. 65MM THICK WEARING COURSE COMPRISING OF BITUMINOUS CONCRETE 40MM THICK OVERLAID WITH 25MM THICK BITUMEN MASTIC ASPHALTIC SHALL BE PROVIDED AS PER SECTION 500 OF MORTH SPECIFICATION.
10. ALL SOLID WALLS RETAINING THE EARTH SHALL HAVE WEEP HOLES STARTING 150MM ABOVE THE GROUND LEVEL AND SPACED 1000MM HORIZONTALLY AND VERTICALLY IN STAGGERED MANNER.
11. 600MM THICK FILTER MEDIA SHALL BE PROVIDED BEHIND SOLID ABUTMENT WALLS AND RETURN/RETAINING WALL.
12. CONDITION OF EXPOSURE IS MODERATE.
13. BRIDGE IS DESIGN FOR SEISMIC ZONE V OF SEISMIC MAP OF INDIA.
14. THE STRUCTURE SHALL BE DESIGNED FOR LIVE LOAD COMBINATION CONFORMING TO IRC:6-2017.
15. SINGLE STRIP SEAL TYPE EXPANSION JOINT SHALL BE PROVIDED AS PER MODIFIED INTERIM SPECIFICATION FOR EXPANSION JOINTS ISSUED VIDE "MORTH" CIRCULAR NO. RW/NH-34059/1/98-S&R DATED 30-11-2000 & 25-01-2001.
16. FOR DETAILS OF DRAINAGE SPOUT, CRASH BARRIER, JOINTS,APPROACH SLAB & RETAINING WALL REFER SEPARATE DRAWING.

LOAD CARRYING CAPACITY OF 1.2m DIA PILE AS PER GEOTECH REPORT.

DESCPTION	NORMAL CASE		SEISMIC CASE	
	VERTICAL (T)	HORIZONTAL (T)	VERTICAL (T)	HORIZONTAL (T)
ABUTMENT (A1)	624	65	780	81.25
ABUTMENT (A2)	624	65	780	81.25

HYDROLOGICAL DETAILS:-

DESIGN DISCHARGE	140.60 CUMECS
HFL	45.737m
DESIGN VELOCITY	2.792 M/sec
MSL AT ABUTMENT	38.781m

Technocrats Advisory Services Private Limited Delhi

Project Title:-

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- GENERAL ARRANGEMENT DRAWING OF MINOR BRIDGE AT CH. 43+900

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 01

CONSULTANT:-

TASPL

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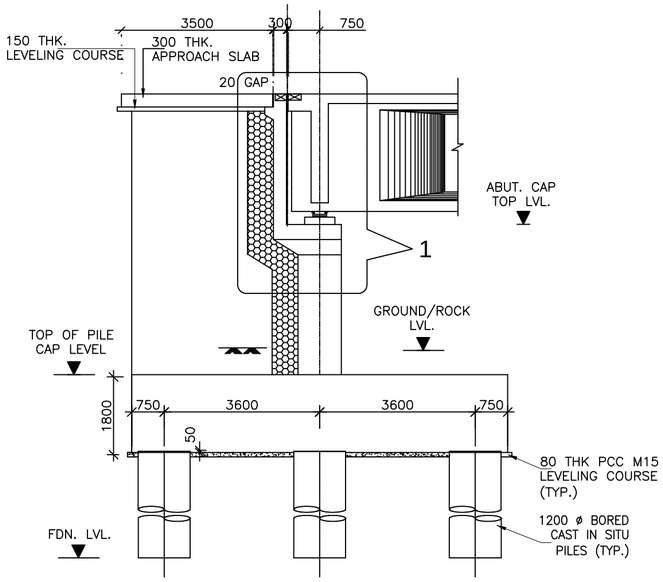
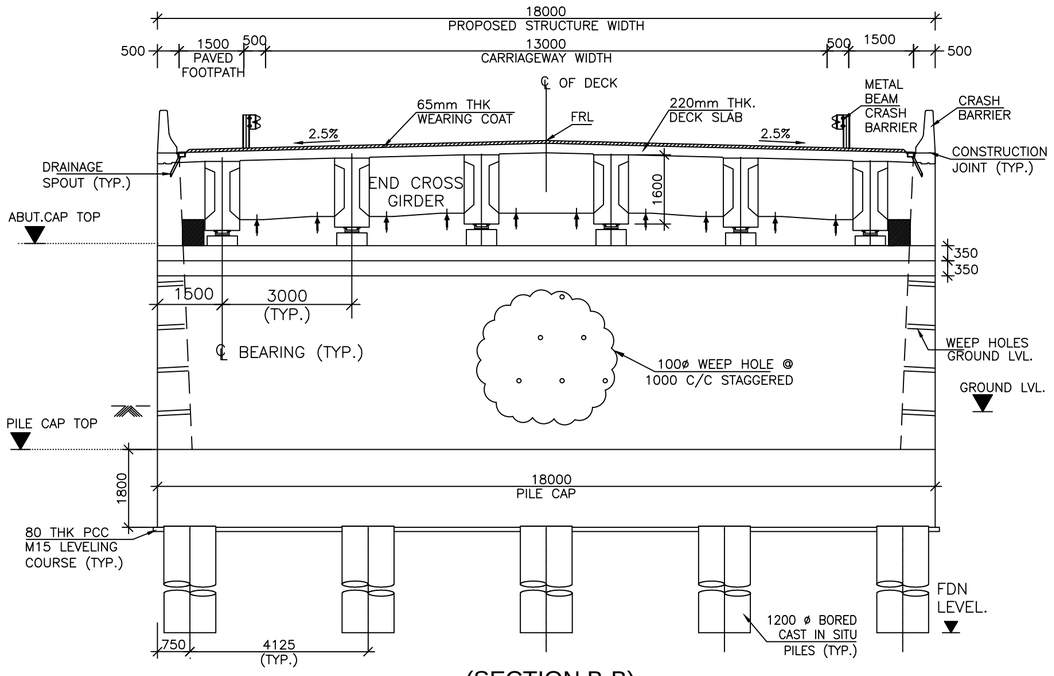
Patparganj Delhi-110092.



SECTION A-A

(SCALE 1:100)

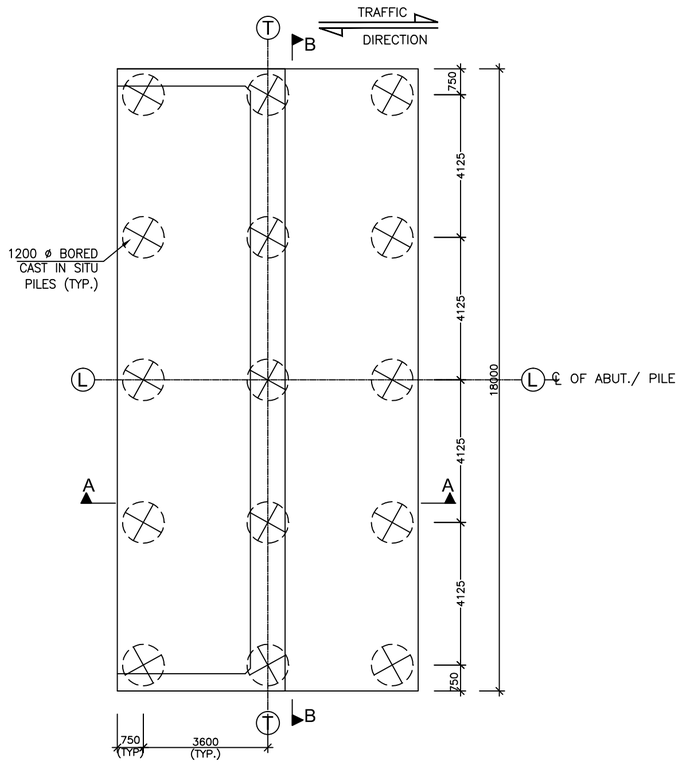


(SECTION B-B)

(SCALE 1:100)

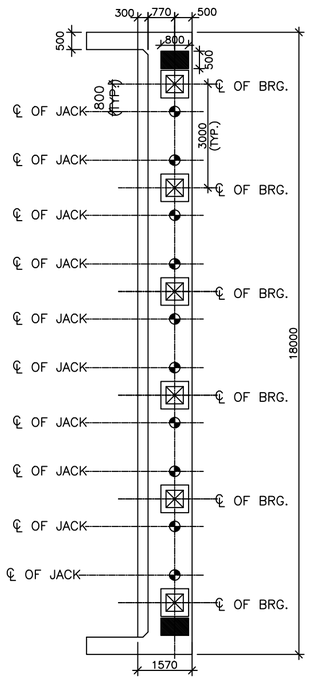
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. L–L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
   T–T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
4. TOP LEVEL OF ABUTMENT CAP HAS BEEN WORKED OUT BY ASSUMING MINIMUIM THICKNESS OF BEARING + PEDESTAL AS 0.35m THIS SHALL BE RECONFIRMED FROM THE BEARING MANUFACTURER BEFORE
5. THE LOCATION OF JACK OR LIFTING OF THE SUPERSTRUCTURE TO REPLACE BEARINGS ETC. IS SHOWN ǀ. THUS THIS SHALL BE DISTINCTLY ETCHED FOR EASY IDENTIFICATION ON THE END CROSS GIRDERS AND ABUTMENT CAPS.
7. CAPACITY OF JACKS SHOULD NOT BE LESS THAN 100 TONS.
8. FOLLOWING DESIGN MIX CONCRETE GRADES SHALL BE USED:–
   i) ABUT. AND ABUT. CAP ---M35
   ii) PILE AND PILE CAP ---M35
   iii) RCC CRASH BARRIER ---M40
   iv) PEDESTAL ---M40
   v) LEVELLING COURSE ---M15



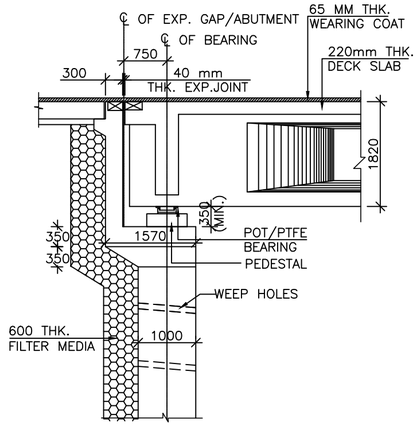
PLAN AT PILE CAP

(SCALE 1:125)



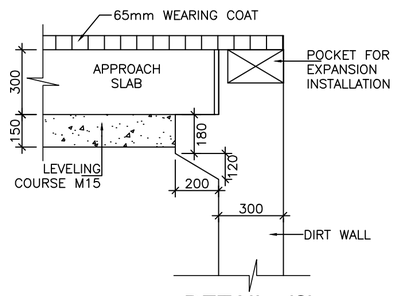
PLAN OF ABUTMENT CAP

(SCALE 1:125)



DETAIL-'1'

(SCALE 1:75)



DETAIL - '2'

TYP. DETAIL OF DIRT WALL BRACKET SUPPORTING APPROACH SLAB
SCALE 1:20

Technocrats Advisory Services Private Limited

Project Title:-

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- DIMENSIONAL DETAILS OF ABUTMENT CAP & ABUTMENT FOUNDATION

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 03

CONSULTANT:-

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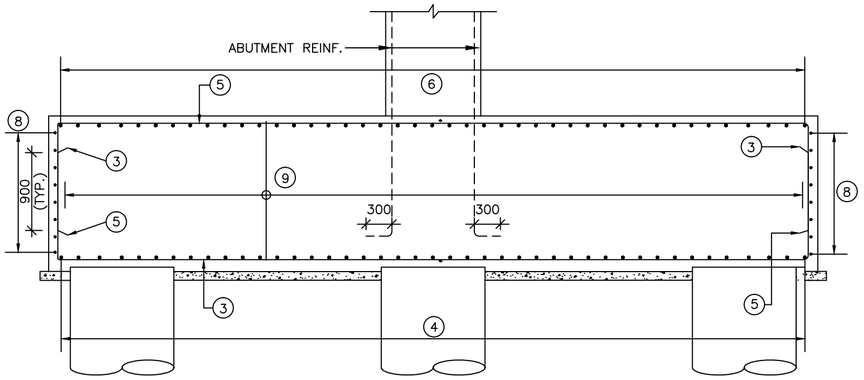
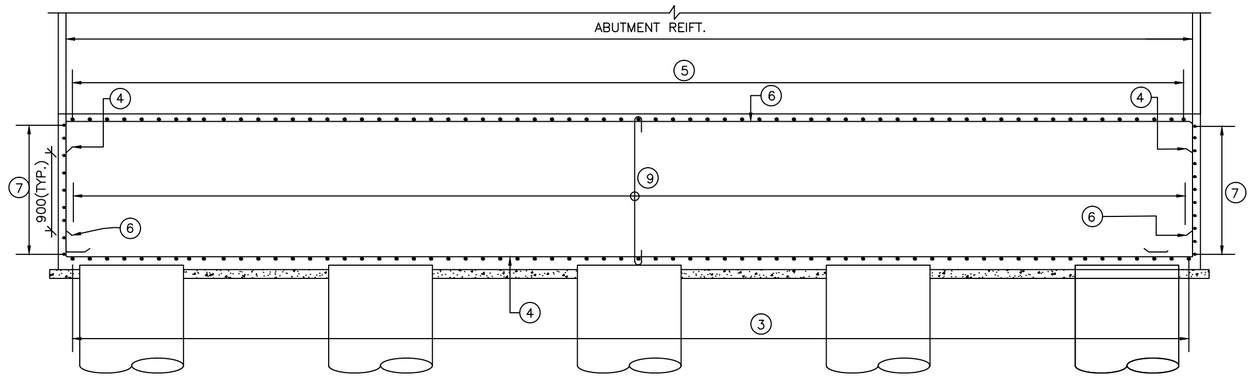


SECTION A-A
(SCALE 1:50)



SECTION B-B
(SCALE 1:50)

SCHEDULE OF PEDESTAL REINFORCEMENT

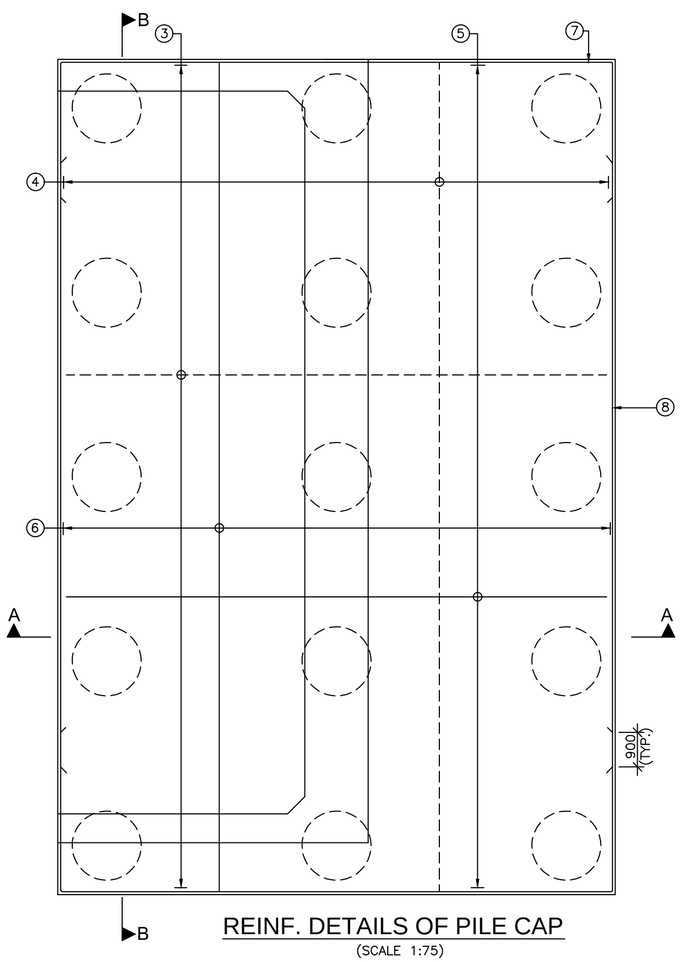
BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
Pd1	12	75	
Pd2	12	75	

LEGEND:

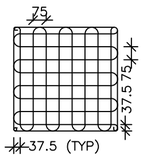
———	TOP/EARTH FACE
– – – – –	BOTTOM/OUTER FACE
B/F	BOTH FACE
V.L	VARYING LENGTH

SCHEDULE OF PILE & PILE CAP REINFORCEMENT

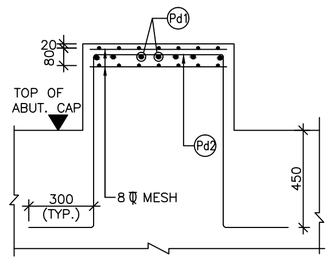
BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
1	32	15 Nos.	
1a	16	100	
2	32	15 Nos.	
2a	10	150	
3	20	100	
4	20	100	
5	16	100	
6	16	100	
7	16	150	
8	16	150	
9	NA	100 both ways	



REINF. DETAILS OF PILE CAP
(SCALE 1:75)



8 Ø MESH IN 2 LAYERS IN PEDESTALS UNDER BEARING
(SCALE 1:25)



SECTION E-E
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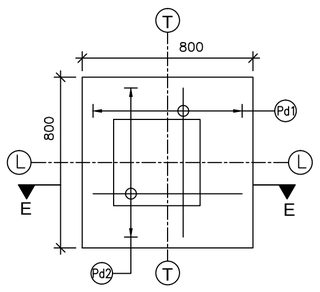
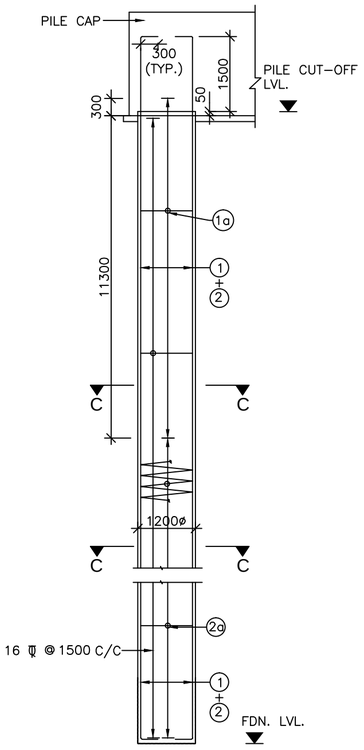
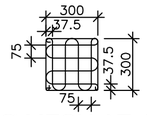


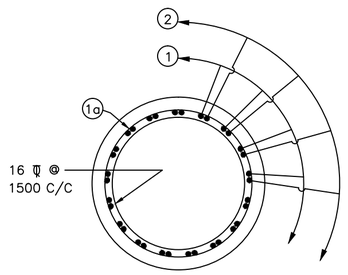
PLAN
(DETAILS OF PEDESTAL)
(SCALE 1:20)



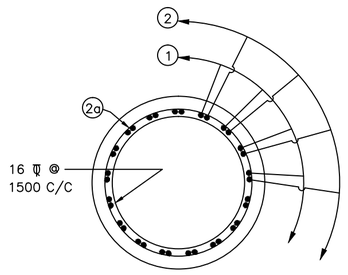
R.C.DETAILS OF PILE
(SCALE 1:75)



8 Ø MESH AT JACK LOCATION IN TWO LAYERS
(SCALE 1:25)



SECTION C-C
(SCALE 1:30)



SECTION D-D
(SCALE 1:30)

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. L–L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE T–T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
4. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION Fe–500D CONFORMING TO IS: 1786 SHALL ONLY BE USED.
5. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE IT'S CONCRETING.
6. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOWS WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50% ONLY (IRC: 112–2011) (CLAUSE:15.2.5.1)

LAP LENGTH $ls = \alpha 1 . lbnet$
$\alpha 1$ = 1.0 FOR p%< 25%
$\alpha 1$ = 1.15 FOR 25%≤p%<25%
$\alpha 1$ = 1.14 FOR 33%≤p%<50%
(IRC:112–2011, CLAUSE:15.2.3.3)

ANCHORAGE LENGTH (lbnet)
$lbnet = \alpha . lb$ (α = 1.0)
$lb = k\phi$
k = 40 FOR M30 (Fe500D)
k = 36 FOR M35 (Fe500D)
k = 34 FOR M40 (Fe500D)

FOR UNFAVORABLE BOND CONDITION THE lb SHOULD BE MULTIPLIED BY FACTOR OF 1.43. FOR ø>32mm lb SHOULD BE INCREASED BY MULTIPLYING FACTOR $\left(\frac{100}{132-\phi}\right)$

Technocrats Advisory Services Private Limited Delhi

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAILS OF ABUTMENT CAP & ABUTMENT FOUNDATION

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 03

CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
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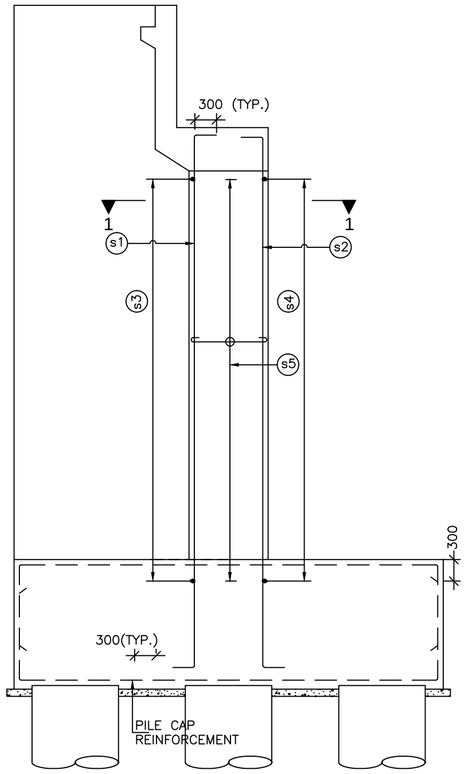
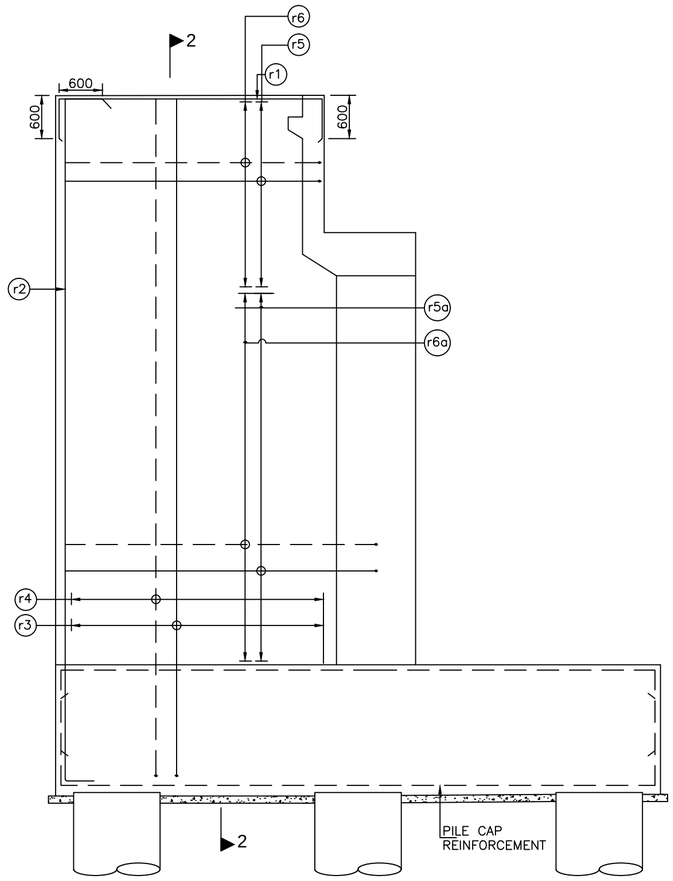
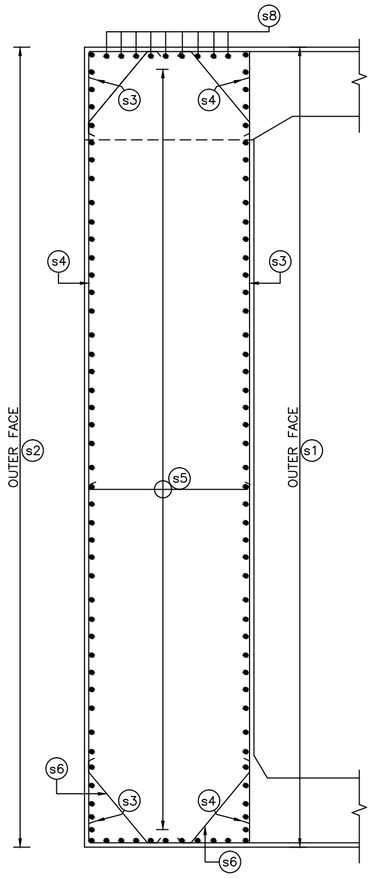
Patparganj Delhi-110092.



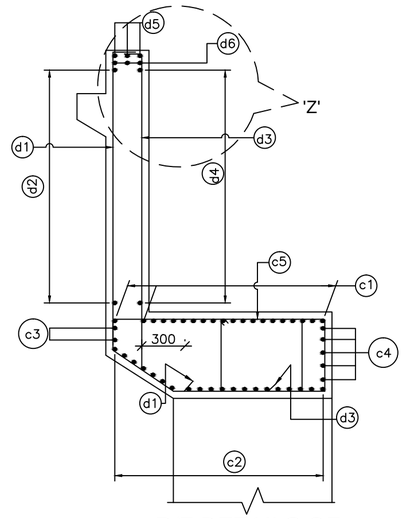
SECTION A-A
(SCALE 1:75)



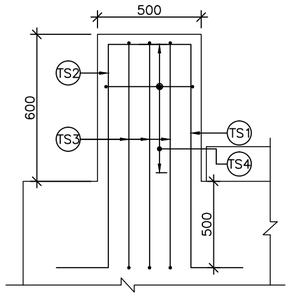
R/F DETAILS OF RETURN WALL
(SCALE 1:60)



SECTION 1-1
(SCALE 1:50)



R/F DETAILS OF
DIRT WALL & ABUTMENT CAP
(SCALE 1:30)



SECTION AT G-G
(SCALE 1:25)

ABUT. SHAFT REINFT.

BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
s1	25	120 Nos.	
s2	16	120 Nos.	
s3	16	200	
s4	16	200	
s5	12	300	
s6	12	150	
s7		NOT USED	
s8	16	5 Nos	

DIRT WALL. REINFT.

d1	12	150	
d2	10	200	
d3	10	150	
d4	10	200	
d5	12	3 Nos.	
d6	12	3 Nos.	

ABUT.CAP REINFT.

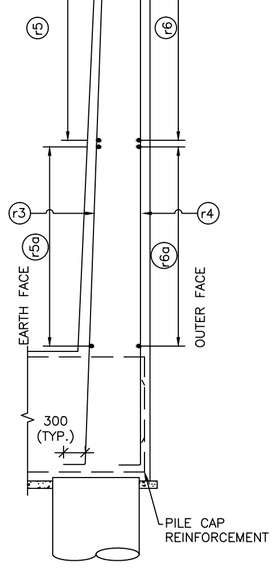
c1	20	10 Nos.	
c2	20	10 Nos.	
c3	16	2 Nos.	
c4	16	5 Nos.	
c5	4L–12	120	

RETURN WALL. REINFT.

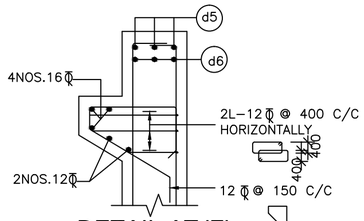
r1	16	4 Nos.	
r2	16	4 Nos.	
r3	20	150	
r4	16	150	
r5	16	150	
r5a	16	150	
r6	12	200	
r6a	10	200	
r8	12	4 Nos.	
r9	16	150	
r10	16	150	

TRANSVERSE SEISMIC STOPPER:-

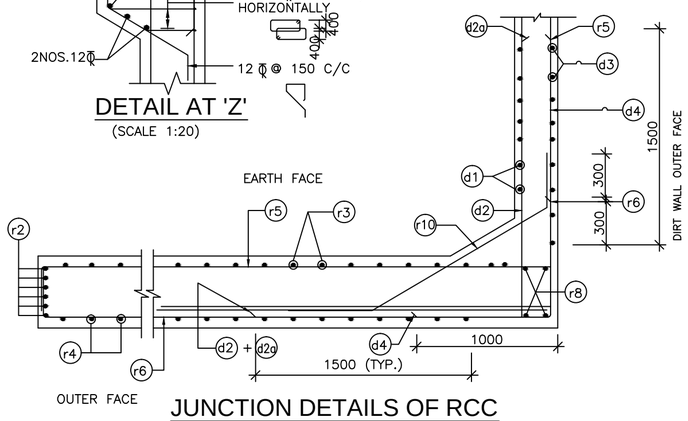
TS1	25	10 Nos.	
TS2	12	8 Nos.	
TS3	12	3x2 Nos.	
TS4	16	100	4 LEGGED



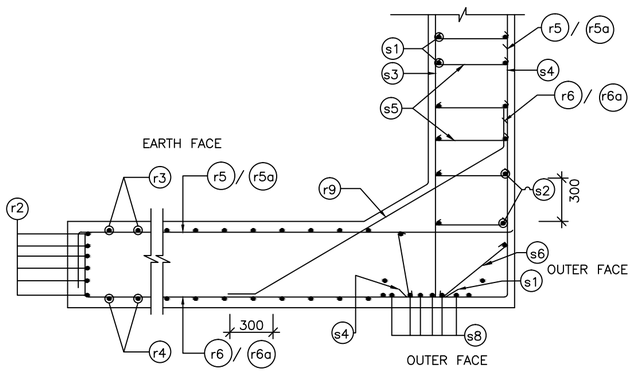
SECTION 2-2
(SCALE 1:60)



DETAIL AT 'Z'
(SCALE 1:20)



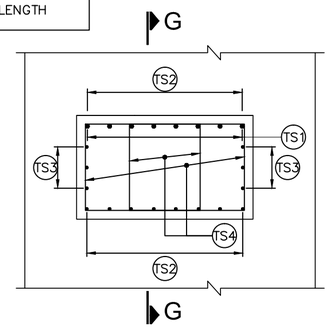
JUNCTION DETAILS OF RCC
SOLID RETURN WALL AND DIRT WALL
(SCALE 1:30)



JUNCTION DETAILS OF RCC
ABUTMENT AND SOLID RETURN WALL
(SCALE 1:30)

LEGEND:

———	TOP/EARTH FACE
– – – –	BOTTOM/OUTER FACE
B/F	BOTH FACE
V.L	VARYING LENGTH



PLAN SHOWING REINF. DETAILS OF
SEISMIC TRANSVERSE STOPPER
(SCALE 1:25)

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:-	REINFORCEMENT DETAILS OF ABUTMENT CAP & ABUTMENT FOUNDATION		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	03 OF 03

CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
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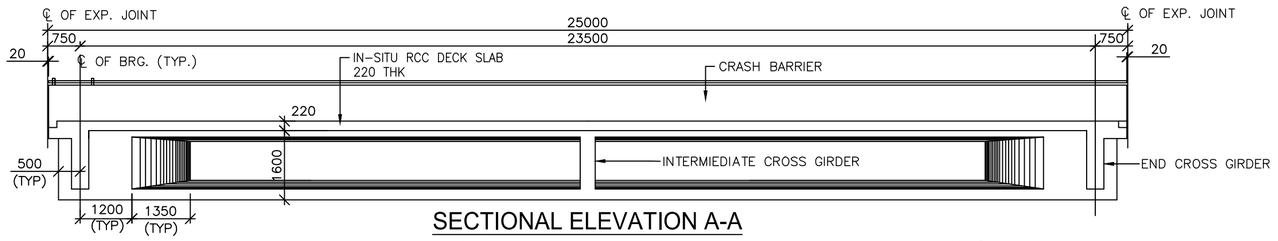
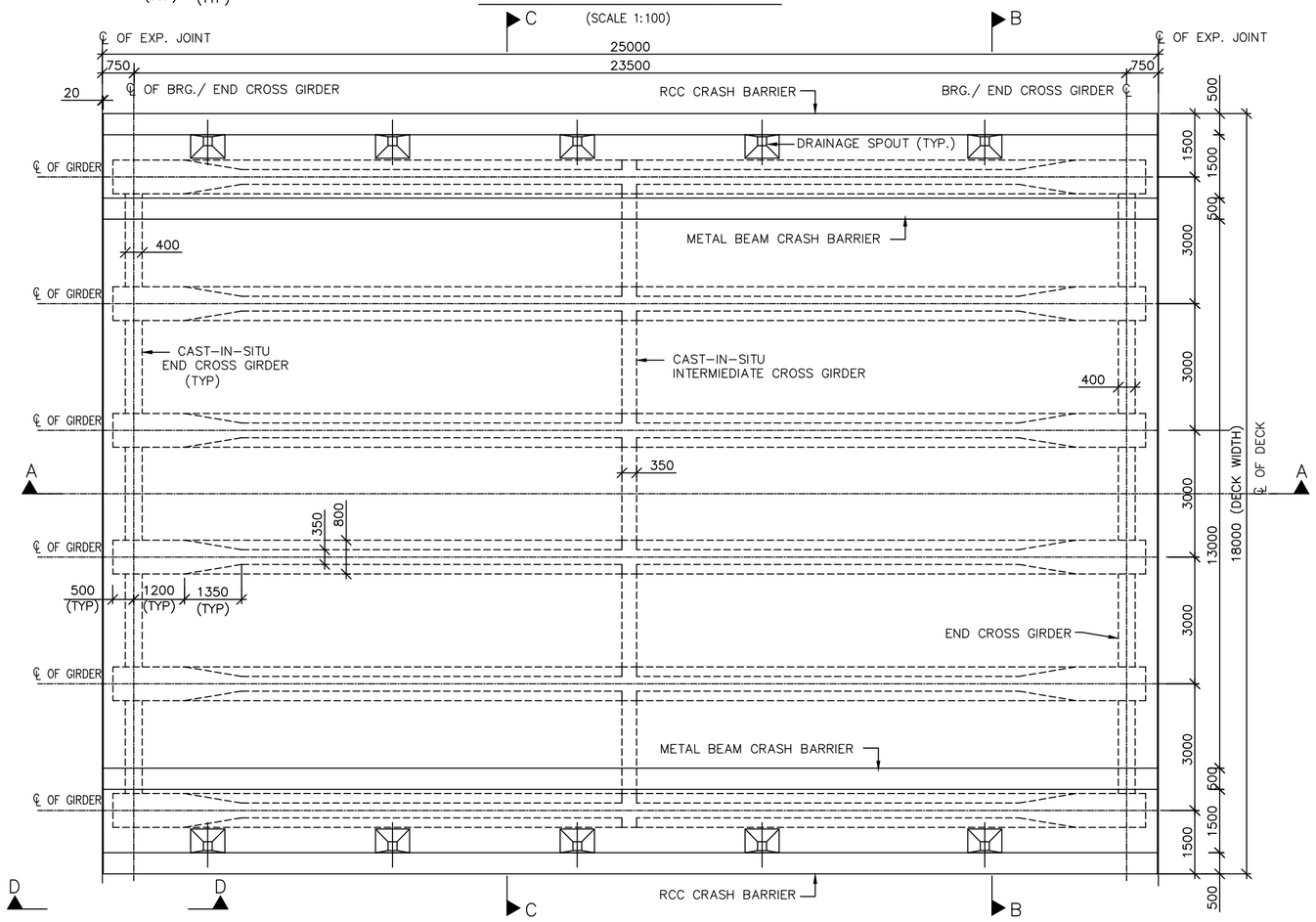
Patparganj Delhi-110092.



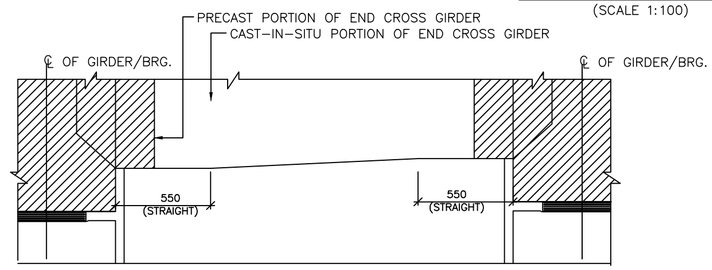
SECTIONAL ELEVATION A-A

(SCALE 1:100)



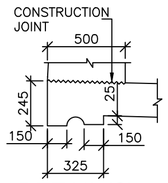
PLAN AT DECK LEVEL

(SCALE 1:100)



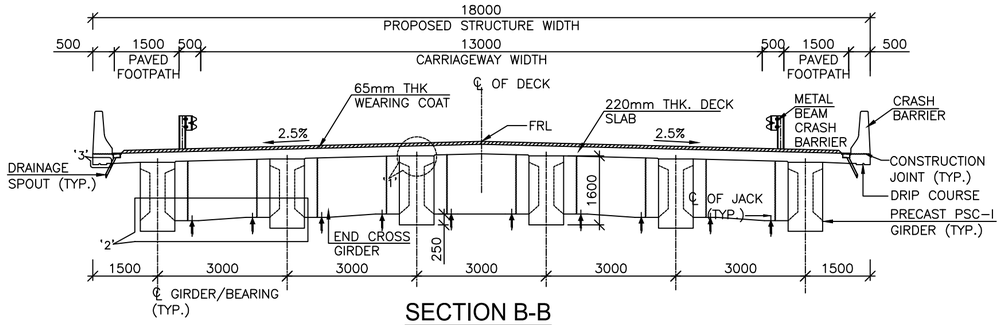
DETAIL '2'

(SCALE 1:25)



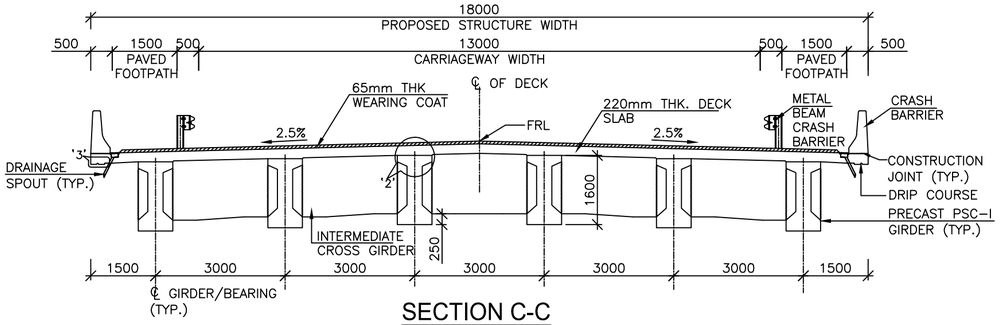
DETAIL '3'

(SCALE 1:25)



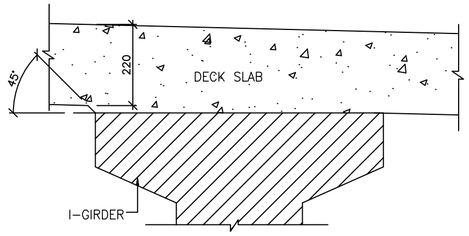
SECTION B-B

(SCALE 1:100)



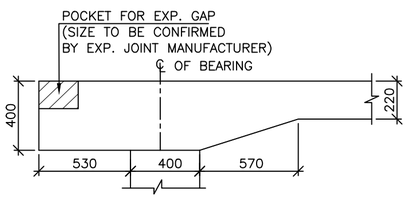
SECTION C-C

(SCALE 1:100)



DETAIL '1'

(SCALE 1:10)



SECTION D-D

(SCALE 1:25)

NOTES:-

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. TOP SURFACE OF GIRDER SHALL BE ROUGHED FOR EFFECTIVE BONDING.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. BEAM SHALL BE KEPT UPRIGHT AT ALL TIMES AND TO BE CLEARLY MARKED INDICATING SPAN, LOCATION, AND RESPECTIVE ENDS BEFORE REMOVAL FROM CASTING BED.
5. CONCRETE FOR SUPERSTRUCTURE SHALL BE DESIGN MIX AND HAVE A MINIMUM 28 DAYS CHARACTERISTIC STRENGTH OF M40.
6. THE JACK FOR LIFTING THE SUPER STRUCTURE DURING BEARING REPLACEMENT SHALL HAVE A MINIMUM CAPACITY OF 200t.

Technocrats Advisory Services Private Limited

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:-	DIMENSION DETAIL OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

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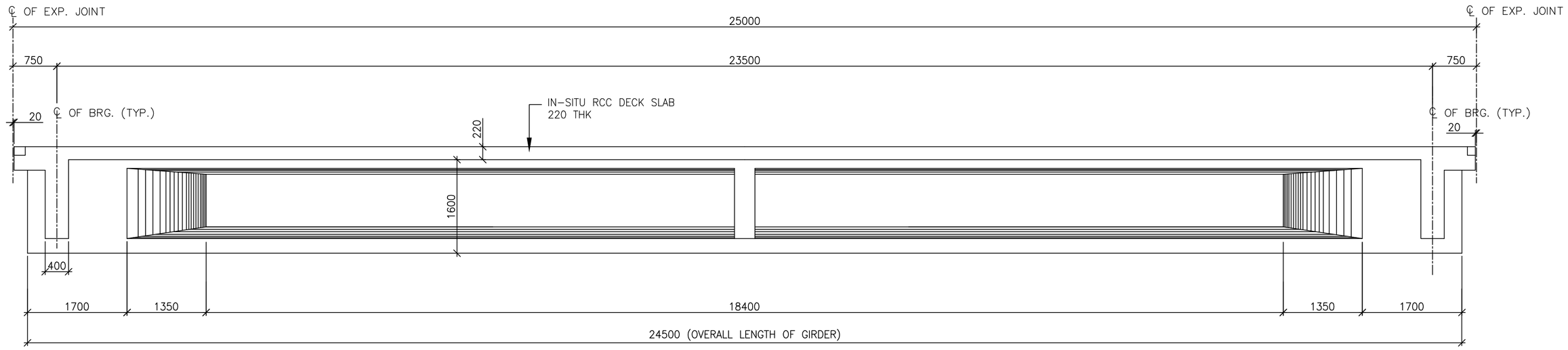
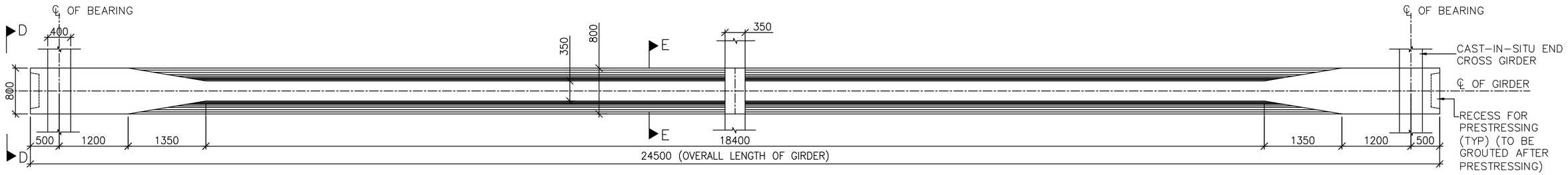
Patparganj Delhi-110092.



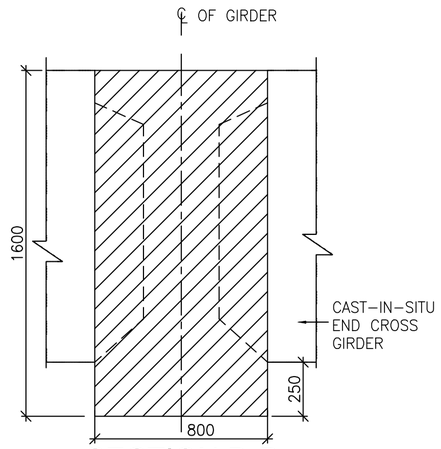
ELEVATION OF PRECAST GIRDER

(SCALE 1:50)



PLAN OF PRECAST GIRDER

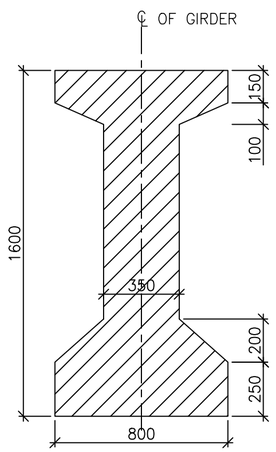
(SCALE 1:50)



SECTION D-D

(SUPPORT SECTION)

(SCALE 1:20)



SECTION E-E

(MID SPAN)

(SCALE 1:20)

NOTES:-

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. TOP SURFACE OF GIRDER SHALL BE ROUGHED FOR EFFECTIVE BONDING.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. BEAM SHALL BE KEPT UPRIGHT AT ALL TIMES AND TO BE CLEARLY MARKED INDICATING SPAN, LOCATION, AND RESPECTIVE ENDS BEFORE REMOVAL FROM CASTING BED.
5. CONCRETE FOR SUPERSTRUCTURE SHALL BE DESIGN MIX AND HAVE A MINIMUM 28 DAYS CHARACTERISTIC STRENGTH OF M40.

Technocrats Advisory Services Private Limited Delhi

Project Title:-

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:-	DIMENSION DETAIL OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

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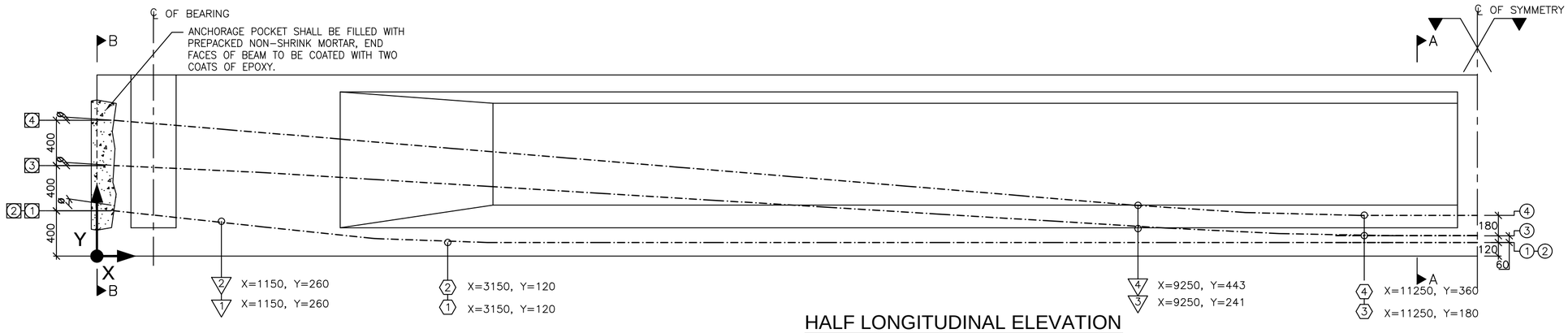
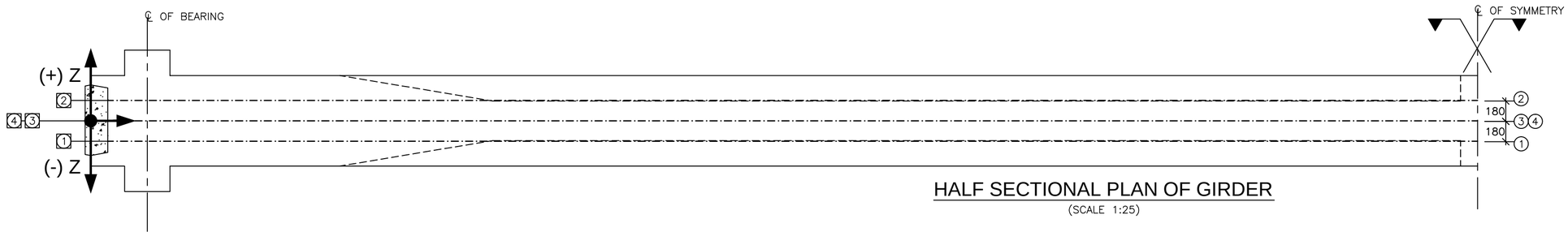


HALF LONGITUDINAL ELEVATION

(SCALE 1:25)



HALF SECTIONAL PLAN OF GIRDER

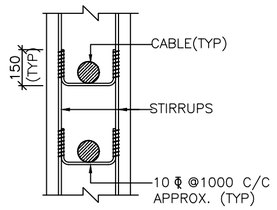
(SCALE 1:25)

TABLE2: DETAILS OF JACKING FORCE & TENDON ELONGATION

CABLE NO.	EXTENSION AT EACH END (mm)	EMERGENCE ANGLE (Ø) (Degree)	GIRDER		
			JACKING FORCE (t)	NOS. OF STRANDS	DUMMY STRANDS
1	88.3	7.970	215.1	11	1
2	88.3	7.970	215.1	11	1
3	89.9	3.513	195.5	10	2
4	89.9	4.754	234.6	12	–

LEGEND :-

- INDICATED START OF CURVE IN ELEVATION
- INDICATED END OF CURVE IN ELEVATION
- INDICATED END OF CABLE
- INDICATED CABLE NUMBER

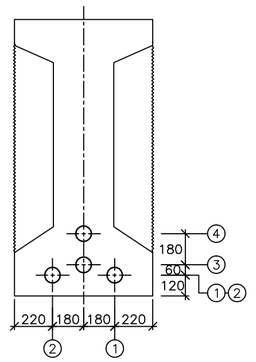


TYPICAL SUPPORTING ARRANGEMENT FOR CABLE

(SCALE 1:15)

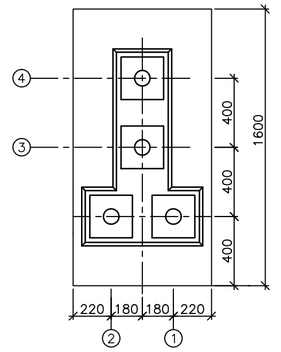
TABLE - 1: DETAILS OF CABLE CO-ORDINATE

CABLE NO.	ORDINATES AT DISTANCE 'X' FROM END OF GIRDER																											
	150		1150		2150		3150		4150		5150		6150		7150		8150		9250		10250		11250		12150		MID OF GIRDER	
	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z
1	400	–180	260	–180	155	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	–120	–180
2	400	180	260	180	155	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180
3	800	0	739	0	677	0	616	0	554	0	493	0	432	0	370	0	309	0	245	0	195	0	180	0	180	0	180	0
4	1200	0	1117	0	1034	0	950	0	867	0	784	0	701	0	618	0	535	0	443	0	381	0	360	0	360	0	360	0



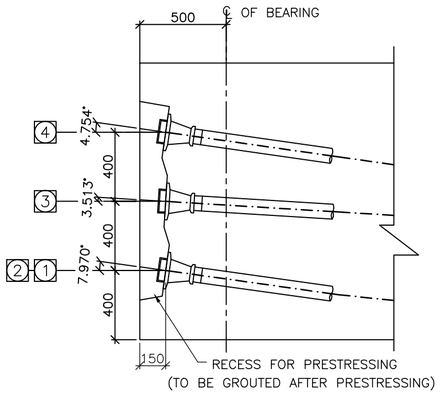
SECTION A-A

(SCALE 1:20)



VIEW B-B (END BLOCK)

(SCALE 1:20)



DIMENSION DETAIL OF END BLOCK

(SCALE 1:20)

Technocrats Advisory Services Private Limited, Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- CABLE LAYOUT OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.

PRESTRESSING NOTES:–

1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.

4. PRESTRESSING SYSTEM

a) ALL PRESTRESSING STRANDS SHALL HAVE 7 PLY UNCOATED STRESS RELIEVED LOW RELAXATION HIGH TENSILE STRANDS OF 15.2mm DIA. CONFORMING TO CLASS 2 OF IS 14268–1995.

b) THE PARAMETERS ADOPTED FOR DESIGN ARE AS FOLLOWS:–

i) ANCHORAGE TYPE ----------12 K 15
ii) SLIP AT EACH END ---------- 6mm
iii) CO–EFFICIENT OF FRICTION(μ) ---------- 0.17/ RADIAN
iv) WOBBLE CO–EFFICIENT (K)---------- 0.0020/m
v) NOMINAL AREA OF EACH STRAND ---------- 140 sq.mm
vi) NOMINAL ULTIMATE BREAKING LOAD OF EACH STRAND ---------- 260.7KN
vii) MODULUS OF ELASTICITY OF HIGH TENSILE STEEL ---------- $1.95X10^5$ MPa
viii) SHEATHING THICKNESS---------- 0.5 mm

c) HDPE SHEATHING DUCT OF 86mm DIA (ID) SHALL BE USED FOR ALL CABLES.

d) ALL THE DESIGN PARAMETERS ADOPTED SHALL BE VERIFIED AT SITE.

5. PRESTRESSING OPERATIONS

a) ALL CABLES SHALL BE LAID IN SMOOTH PROFILE PASSING THROUGH THE GIVEN ORDINATES. FIRM SUPPORT SHALL BE INSTALLED AT EVERY METRE AS SHOWN.

b) CABLE LENGTHS MENTIONED IN THE DRAWING ARE INCLUSIVE OF 1000 MILLIMETRE EXTRA AT EACH END. THE TOTAL LENGTH OF CABLE SHALL BE VERIFIED AT SITE.

c) ABSCISSA (DISTANCE "X") OF CABLE GIVEN IN THE DRAWING ARE EVALUATED WITH REFERENCE TO END OF GIRDER. ORDINATES DISTANCE 'Y' ARE WITH REFERENCE TO SOFFIT OF THE GIRDER.

d) ALL STRANDS OF CABLES SHALL BE STRESSED FROM BOTH ENDS SIMULTANEOUSLY. ONLY MULTIPULL JACKS SHALL BE USED FOR STRESSING.

e) GROUTING OF CABLES SHALL BE DONE IN SAME SEQUENCE AS STRESSING AND SHALL CONFIRM TO TECHNICAL SPECIFICATIONS. ANCHORAGE POCKET SHALL BE FILLED WITH EPOXY MORTAR AFTER STRESSING & GROUTING.

f) TIME LAG BETWEEN STRESSING OF EACH CABLE SHALL BE AVOIDED.

g) EXTENSIONS SHALL BE RECHECKED AT 24 HOURS AFTER ANCHORING TO OBSERVE SLOW SLIPPAGE. INCASE OF EXCESSIVE SLIPPAGE THE MATTER SHALL BE REPORTED TO THE ENGINEER–IN–CHARGE.

h) EXTENSIONS ARE GIVEN FOR HALF CABLE LENGTHS INCLUSIVE OF 600 MILLIMETRE GRIP LENGTH AT EACH END. LOSS UPTO 6mm DUE TO SLIP OF ANCHORAGES ARE NOT TO BE COMPENSATED DURING SITE OPERATIONS. JACK PRESSURE AND EXTENSIONS OF CABLES AT EACH END GIVEN IN THE DRAWING SHALL BE VERIFIED AT SITE.

i) INITIAL SLACKNESS IN CABLES SHALL BE REMOVED BY APPLYING SMALL 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 CL. 12.2.1.3 OF IS:1343–1980.

j) IN CASE THE CALCULATED ELONGATION AND THE JACK PRESSURE ARE NOT ACHIEVED SIMULTANEOUSLY DURING PRESTRESSING OPERATION STRESSING SHALL BE CONTINUED / DISCONTINUED AS PER NOTE NO. 9 GIVEN BELOW.

k) EXCESS STRANDS AS SHOWN IN TABLE–2 SHALL BE STRESSED IF ANY SHORTFALL IN PRESTRESSING.

6. THE EXTENSIONS GIVEN IN TABLE SHALL BE MODIFIED AT SITE IN CASE ACTUAL VALUE OF AREA OF STRANDS 'A' AND MODULUS OF ELASTICITY 'E' VARIES FROM THOSE ASSUMED IN DESIGN, REVISED EXTENSION SHALL BE CALCULATED AS UNDER REVISED EXTENSION = (140 X 195 X 10^5) / (NEW AREA X NEW MODULUS) x ORIGINAL EXTENSION.

7. EXTENSION OF CABLE SHALL BE VERIFIED FOR A FEW CABLES AT SITE. IN CASE OF VALUE OF μ AND K ARE FOUND TO BE DIFFERENT THAN THOSE CONSIDERED FOR DESIGN, EXTENSION SHALL BE SUITABLY MODIFIED AFTER APPROVAL OF DESIGN OFFICE.

8. THE GRIP LENGTH FROM ANCHORAGE FACE UPTO GRIPPING POINT IN JACK ASSUMED IN EXTENSION CALCULATIONS IS 600 mm AND THE ADDITIONAL LENGTH TAKEN FOR CUTTING IS 400 mm. IN CASE GRIP LENGTH VARIES THEN THOSE CONSIDERED, THE EXTENSIONS SHALL BE MODIFIED AS UNDER :

$$E_{x\,(New)} = E_{x\,(Old)} + \frac{\text{JACK FORCE} \times (\text{GRIP LENGTH} - 600)}{\text{AREA} \times E_s}$$

9. SPECIAL NOTE FOR PRESTRESSING

IF THE CALCULATED ELONGATION IS REACHED BEFORE THE CALCULATED GAUGE PRESSURE IS OBTAINED, CONTINUE TENSIONING TILL ATTAINING THE CALCULATED GAUGE PRESSURE PROVIDED THE ELONGATION DOES NOT EXCEED 1.05 TIMES THE CALCULATED ELONGATION. IF THE CALCULATED ELONGATION HAS NOT BEEN REACHED CONTINUE TENSIONING IN INTERVALS OF 5 kg/sqcm UNTIL THE CALCULATED ELONGATION IS REACHED PROVIDED THE GAUGE PRESSURE DOES NOT EXCEED 1.05 TIMES THE CALCULATED GAUGE PRESSURE. IF THE ELONGATION AT 1.05 TIMES THE CALCULATED GAUGE PRESSURE IS LESS THAN 0.95 TIMES THE CALCULATED ELONGATION THE FOLLOWING MEASURES MUST BE TAKEN :

i) RECALIBRATE THE PRESSURE GAUGE
ii) CHECK THE CORRECT FUNCTIONING OF THE JACK PUMP AND LEADS
iii) DE–TENSION THE CABLE SLIDE IT IN ITS DUCT TO CHECK THAT IT IS NOT BLOCKED BY MORTAR WHICH HAS ENTERED THROUGH IN THE SHEATH. RE–TENSION THE CABLE IF FREE. IF THE REQUIRED ELONGATION IS NOT OBTAINED FURTHER FINISHING OPERATION SUCH AS CUTTING OR SEALING SHOULD NOT BE UNDERTAKEN WITHOUT THE APPROVAL THE ENGINEER.

10. THE GAUGE PRESSURE FOR PRESTRESSING SHALL BE WORKED OUT PRIOR TO ANY STRESSING OPERATION DULY TAKING IN TO ACCOUNT THE RAM AREA OF THE JACK AND THE JACK EFFICIENCY. THE STRESSING EQUIPMENTS SHALL BE WELL MAINTAINED AND THE CALIBRATION CHARTS SHALL BE AVAILABLE AT SITE.

11. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.

CONSTRUCTION SEQUENCE OF OUTER GIRDER

1. AT '0'TH DAY GIRDER SHALL BE CASTED ON CASTING BED.
2. CABLE No. ③ & ④ SHALL BE PRESTRESSED AT 5TH DAY OR WHEN CUBE STRENGTH IS 35MPa WHICHEVER IS LATER. AFTER THIS STAGE OF STRESSING THE GIRDER CAN BE LIFTED FROM THE CASTING BED.
3. 4 STRANDS OF CABLE No. ① SHALL BE PRESTRESSED AT 21ST DAY OR WHEN CUBE STRENGTH IS 40MPa.
4. AFTER STRESSING 4 STRANDS OF CABLE NO① , 8 STRANDS OF CABLE No. ② SHALL BE PRESTRESSED.
5. AFTER STRESSING CABLE No. ② REMAINING STRANDS OF CABLE No. ① SHALL BE PRESTRESSED.
6. GIRDERS SHALL BE PLACED ON TEMPORARY SUPPORTS ON PIER CAP.
7. PERMANENT BEARINGS SHALL BE INSTALLED ON PEDESTALS.
8. CAST WEDGE OVER THE BEARING AS PER RELEVANT WEDGE DETAILS.
9. REMOVE TEMPORARY SUPPORT SO THAT GIRDER CAN BE PLACED OVER STEEL WEDGE AND PERMANENT BEARINGS.
10. DECK SLAB SHALL BE CAST AFTER 28 DAYS OF CASTING OF GIRDER.
11. PARAPET, RAIL PLINTH SHALL BE ERECTED/CAST 28 DAYS AFTER CASTING THE DECK SLAB OR AFTER THE DECK SLAB ATTAINS A STRENGTH OF 40MPa, WHICHEVER IS LATER.

NOTES

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Technocrats Advisory Services Private Limited Delhi

Project Title:-

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- CABLE LAYOUT OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

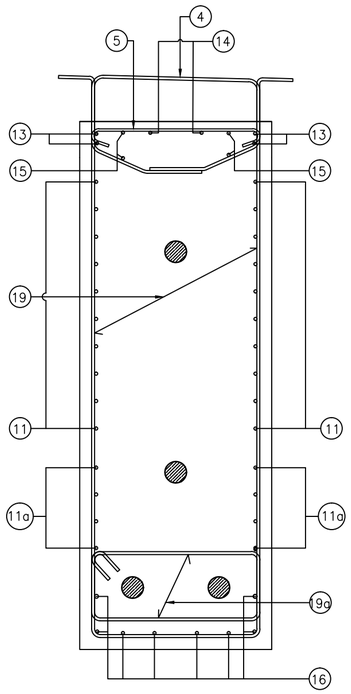
Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

CONSULTANT:-

TASPL
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



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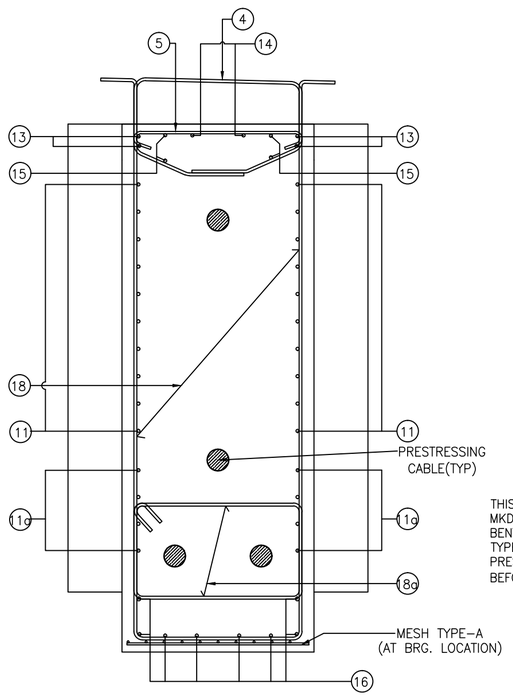

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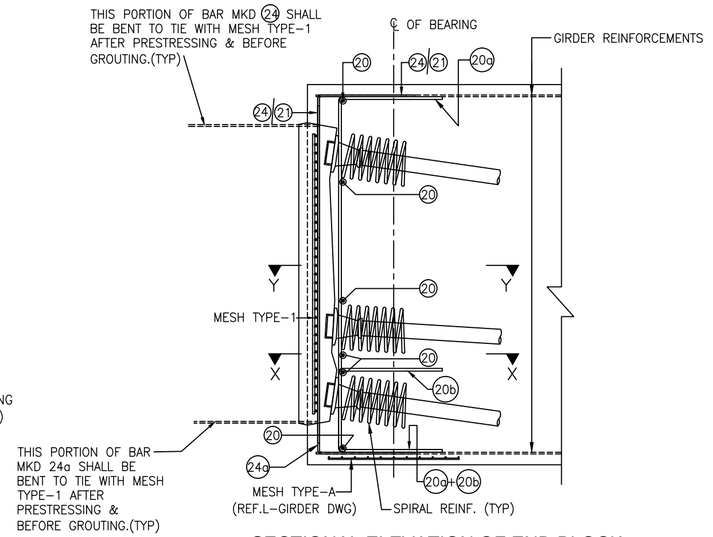

SECTIONAL ELEVATION OF END BLOCK
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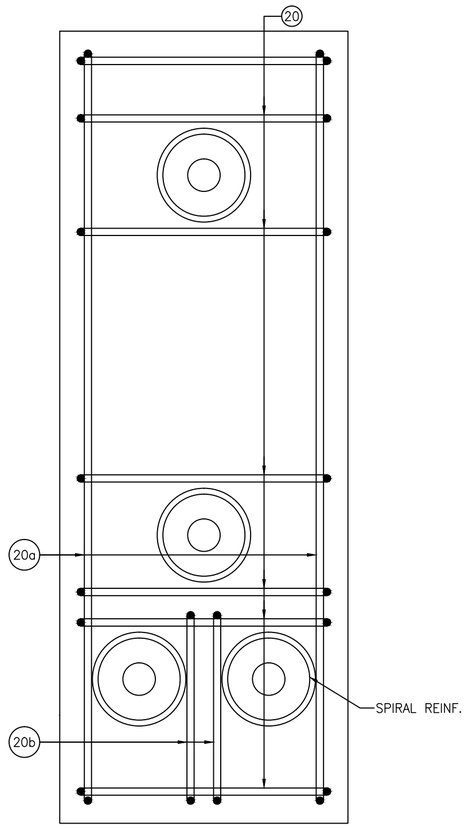

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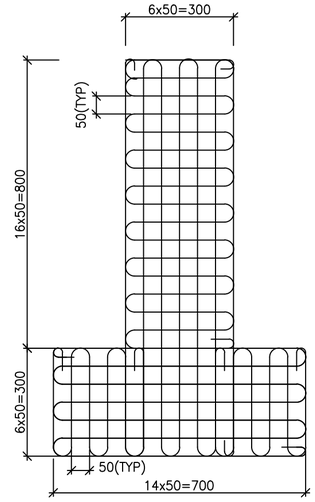
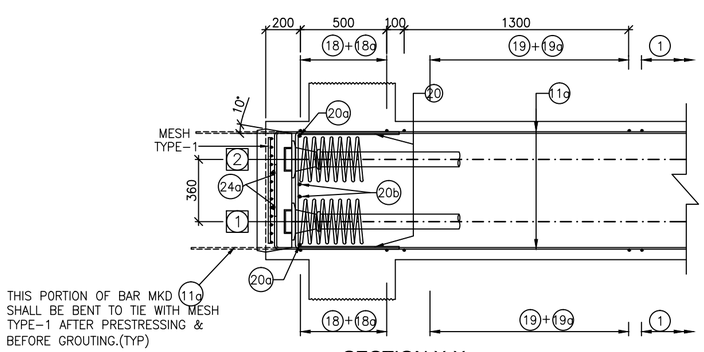
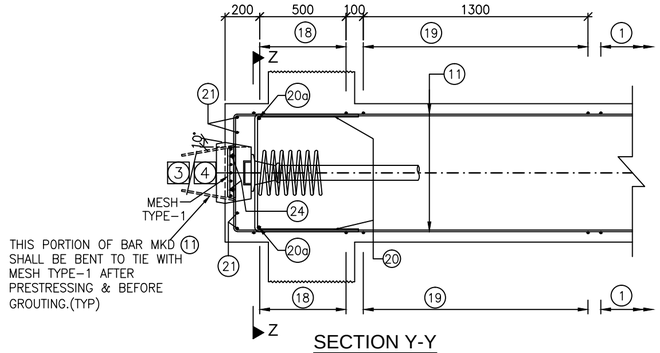


12 ℄ MESH TYPE- 1
(SCALE 1:10)



SECTION X-X
(BAR MKD. 2 NOT SHOWN FOR CLARITY)
(SCALE 1:20)



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(BAR MKD. 2 NOT SHOWN FOR CLARITY)
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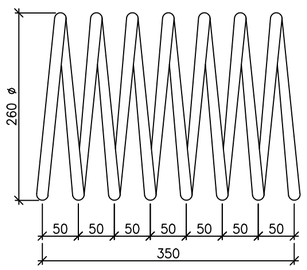

16 ℄ SPIRAL REINFORCEMENT FOR CABLE (TYP)
(SCALE 1:5)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE MENTIONED.
2. DONOT SCALE THE DRAWING, DIMENSIONS SHOWN SHALL BE FOLLOWED.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. ANCHORAGE RECESSES SHALL BE SEALED WITH PREPACKAGED NON–SHRINK MORTAR. END FACES OF GIRDERS TO BE COATED WITH TWO COATES OF EPOXY.

DIAMETER AND DIMENSIONS OF SPIRAL REINFORCEMENT SHALL BE CONFIRMED BY PRESTRESSING SYSTEM SUPPLIER

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:-	REINFORCEMENT DETAIL OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

TASPL

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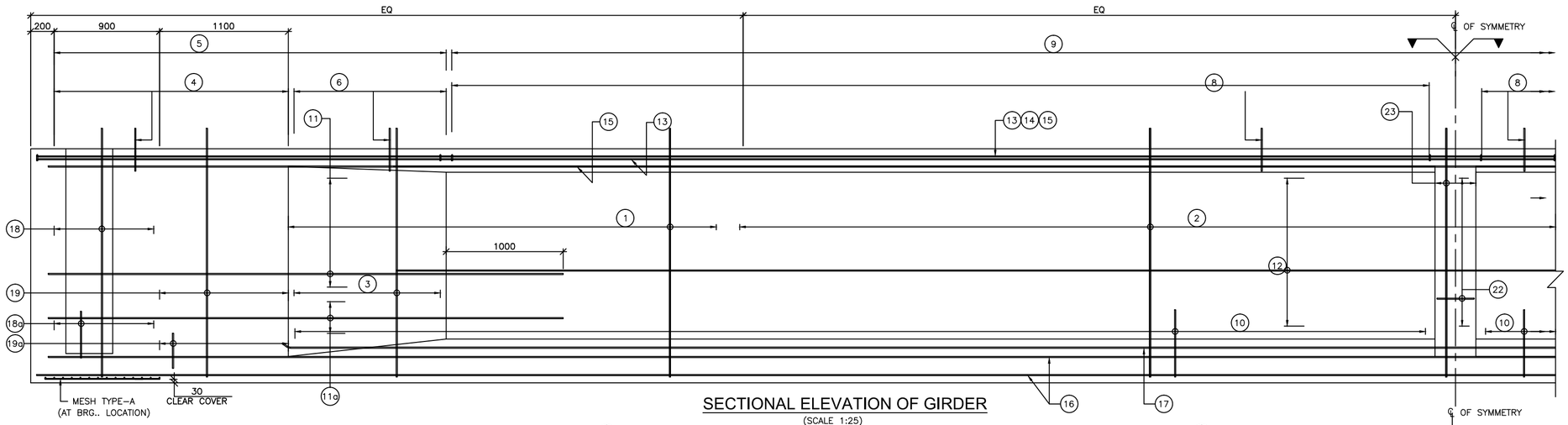
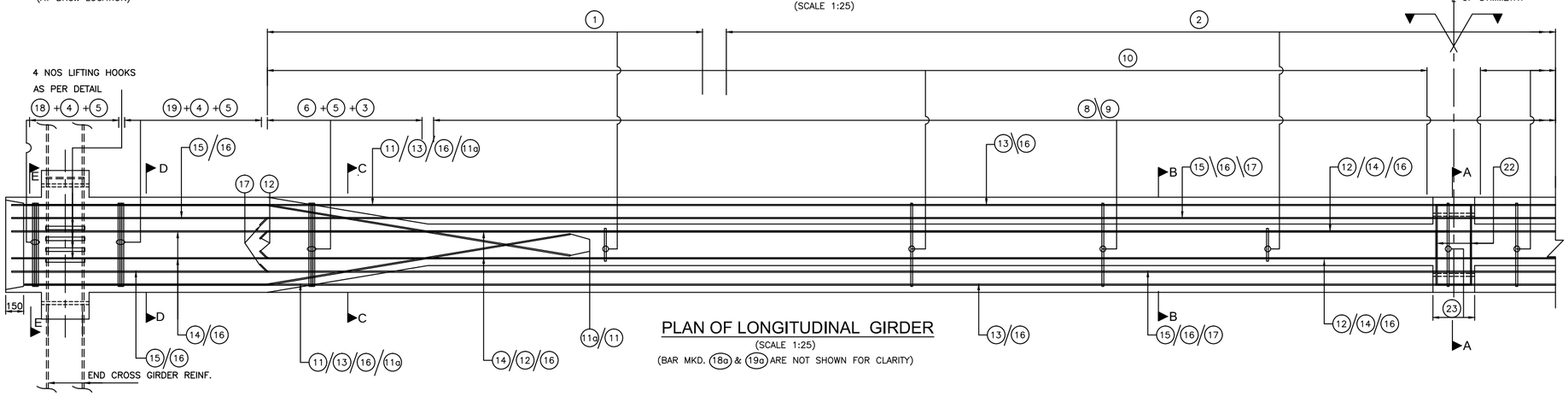
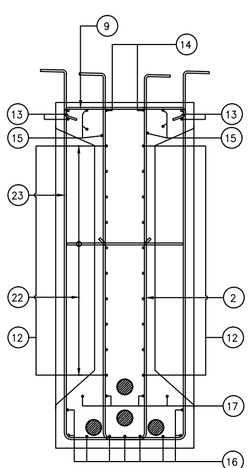


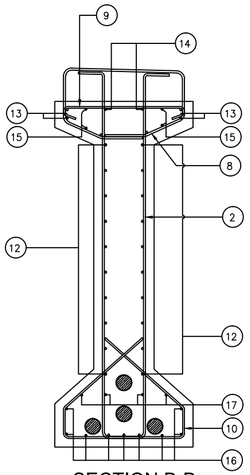
SECTIONAL ELEVATION OF GIRDER
(SCALE 1:25)



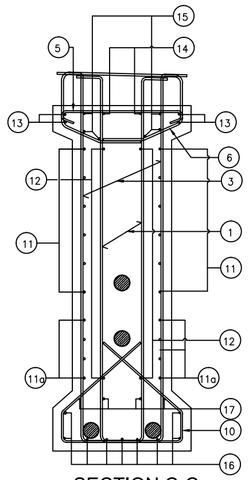
PLAN OF LONGITUDINAL GIRDER
(SCALE 1:25)
(BAR MKD. 18a & 19a ARE NOT SHOWN FOR CLARITY)



SECTION A-A
(SCALE 1:20)



SECTION B-B
(SCALE 1:20)



SECTION C-C
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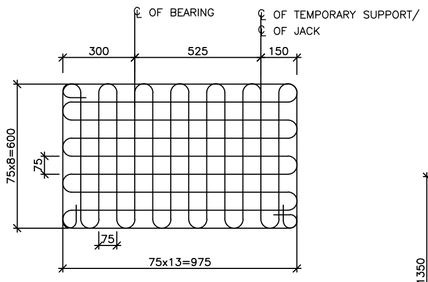
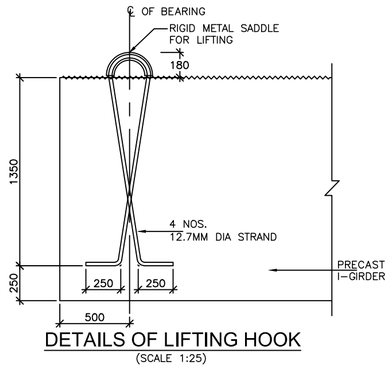


8ϕ MESH TYPE-'A'
(SCALE 1:15)

REINFORCEMENT FOR CROSS GIRDER SHALL BE LEFT IN PRECAST GIRDER BEFORE CASTING



DETAILS OF LIFTING HOOK
(SCALE 1:25)

SCHEDULE OF REINFORCEMENT

BAR MARKED	DIA OF BAR & SPACING/NOS.	BAR SHAPE	REMARKS
1	2L–12 @200c/c	150	
2	2L–12 @200c/c	150	
3	2L–16 @ 200c/c	150	
4	2L–12 @ 200c/c		
5	10 @ 200 c/c		
6	2L–12 @ 200 c/c		
7	NOT USED		
8	2L–12 @ 200 c/c		
9	10 @ 200 c/c		
10	10 @ 200 c/c		
11	10 ϕ– 6 NOS (ON EACH FACE)		EACH END OF GIRDER
11a	10 ϕ– 4 NOS (ON EACH FACE)		EACH END OF GIRDER
12	10 ϕ– 10 NOS (ON EACH FACE)		
13	10 ϕ– 4 NOS		
14	10 ϕ– 2 NOS		
15	10 ϕ– 4 NOS		
16	10 ϕ– 9 NOS		
17	10 ϕ– 4 NOS		
18	2L–16 @ 100 c/c	150	EACH END OF GIRDER
18a	2L–16 @ 100 c/c	400	EACH END OF GIRDER
19	2L–16 @ 100 c/c	150	EACH END OF GIRDER
19a	2L–16 @ 100 c/c	300	EACH END OF GIRDER
20	16 ϕ7 NOS	600 / 705	EACH END OF GIRDER
20a	16 ϕ2 NOS	1495 / 600	EACH END OF GIRDER
20b	16 ϕ2 NOS	600 / 585	EACH END OF GIRDER
21	12 ϕ4 NOS	800 / 600	EACH END OF GIRDER
22	12 ϕ12X2 NOS	450 / 250	
23	2L–12 ϕ NOS	150	
24	10 ϕ2 NOS		EACH END OF GIRDER/ BENT AFTER PRESTRESS
24a	10 ϕ2 NOS		

NOTES :

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3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. THE REINFORCING STEEL SHALL BE DEFORMED TMT BARS (GRADE DESIGNATION Fe:500D) CONFORMING TO IS:1786.
5. CLEAR COVER TO ANY REINFORCEMENT IS 50mm.
6. LAP LENGTH SHALL NOT BE LESS THAN 41D (WHERE D IS THE DIA OF THE SMALLER BAR TO BE LAPPED AT A SECTION.)
7. LAPS SHOULD BE STAGGERED & NOT MORE THAN 50% BARS SHOULD BE LAPPED AT A SECTION.
8. ANCHORAGE LENGTH SHALL NOT BE LESS THAN 41 X DIA OF BAR.
9. REINFORCEMENT SHALL BE SUITABLY ADJUSTED WHILE FOULING WITH PRESTRESS CABLE.

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAIL OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

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CONSULTANT:-

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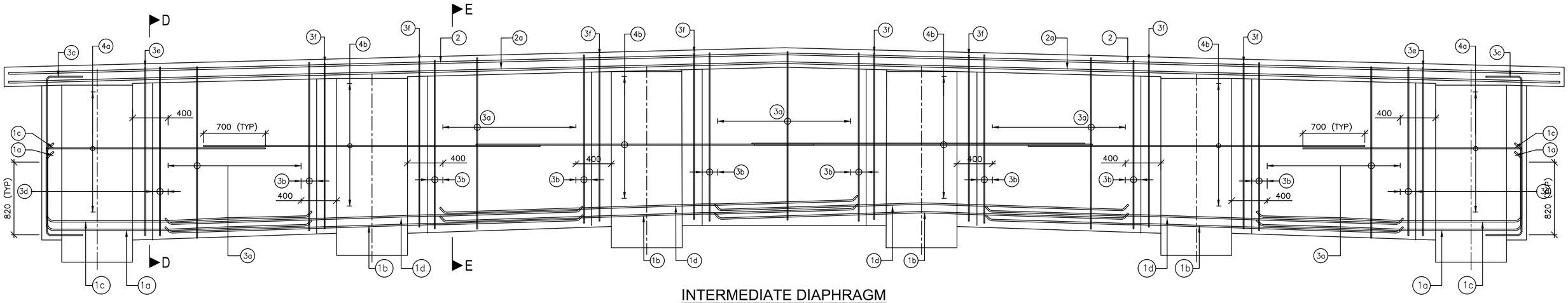
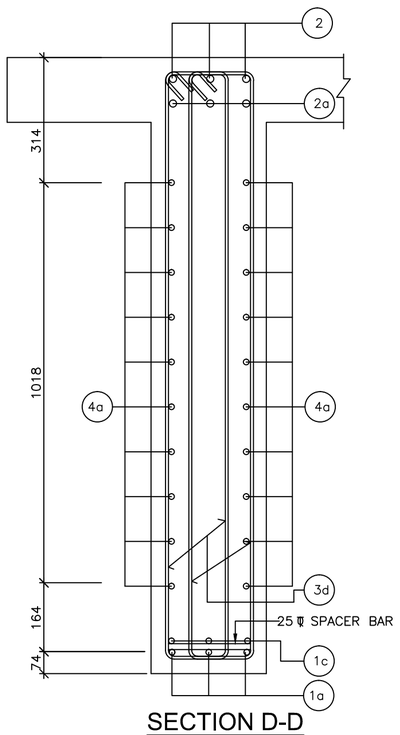


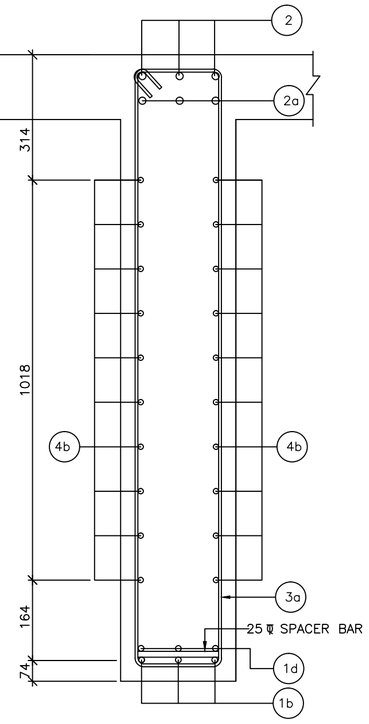
INTERMEDIATE DIAPHRAGM

(SCALE 1:30)



SECTION D-D

(SCALE 1:15



SECTION E-E

(SCALE 1:15)

SCHEDULE OF REINFORCEMENT

BAR MARKED	DIA OF BAR & SPACING/NOS.	BAR SHAPE
1a	25 ϕ 3NOS.	
1b	25 ϕ 3NOS.	
1c	25 ϕ 3NOS.	
1d	25 ϕ 3NOS.	
2	25 ϕ 3NOS.	
2a	25 ϕ 3NOS.	
3a	2L–12ϕ @ 150c/c	
3b	2Nos–2L–12ϕ(EACH LOCATION)	
3c	2Nos.–12ϕ(EACH LOCATION)	400
3d	2Nos.–2L–12ϕ(EACH LOCATION)	
3e	2Nos.–2L–12 ϕ (EACH LOCATION)	
3f	2Nos.–2L–12 ϕ (EACH LOCATION)	
4a	12 ϕ 10NOS.(EACH FACE)	
4b	12 ϕ 10NOS.(EACH FACE)	

NOTES :

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3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. THE REINFORCING STEEL SHALL BE DEFORMED TMT BARS (GRADE DESIGNATION Fe:500D) CONFORMING TO IS:1786.

BAR MARKED (1a) (1b) (1c) (1d) (3c) (3e) (3f) (4a) (4b) SHALL BE PLACED IN PRECAST GIRDER.

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Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAIL OF CAST-IN-SITU END CROSS GIRDER FOR PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

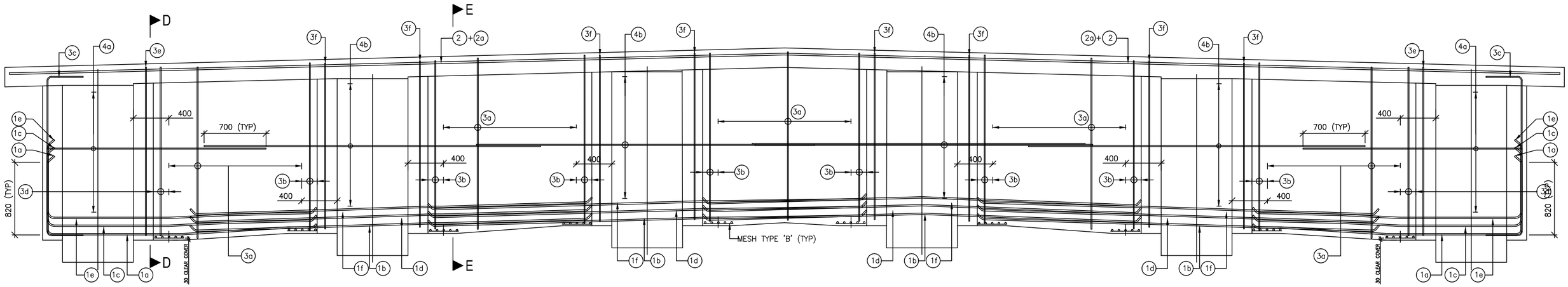
Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



END DIAPHRAGM
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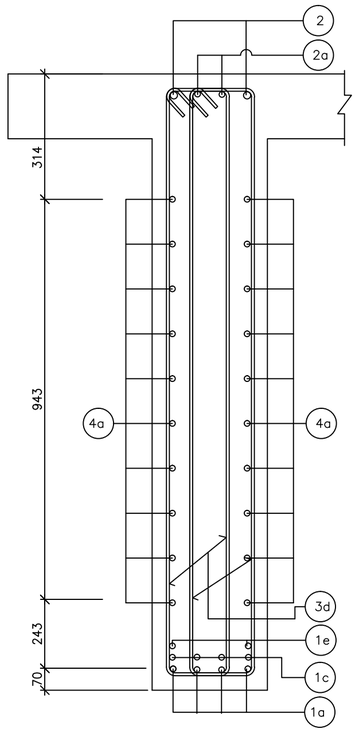
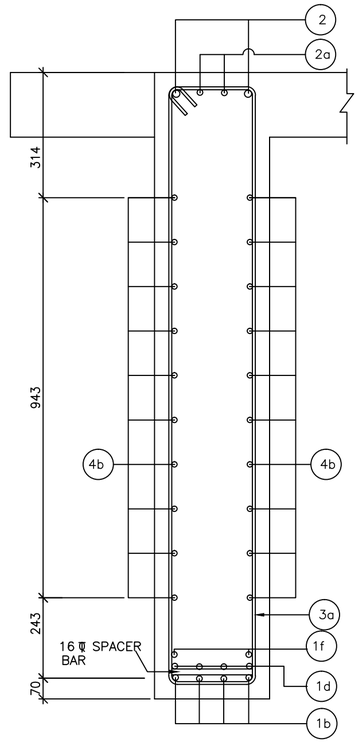
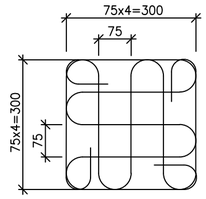


SECTION D-D
(SCALE 1:15)



SECTION E-E
(SCALE 1:15)



8 ϕ MESH TYPE-'B'
(SCALE 1:10)

SCHEDULE OF REINFORCEMENT

BAR MARKED	DIA OF BAR & SPACING/NOS.	BAR SHAPE
1a	16 ϕ 4NOS.	
1b	16 ϕ 4NOS.	
1c	16 ϕ 4NOS.	
1d	16 ϕ 4NOS.	
1e	16 ϕ 2NOS.	
1f	16 ϕ 2NOS.	
2	20 ϕ 2NOS.	
2a	20 ϕ 2NOS.	
3a	2L–12 ϕ @ 150c/c	
3b	2Nos–4L–16ϕ(EACH LOCATION)	
3c	2Nos.–16ϕ(EACH LOCATION)	400
3d	2Nos.–4L–16ϕ(EACH LOCATION)	
3e	2Nos.–4L–16 ϕ (EACH LOCATION)	
3f	2Nos.–4L–16 ϕ (EACH LOCATION)	
4a	12 ϕ 10NOS.(EACH FACE)	
4b	12 ϕ 10NOS.(EACH FACE)	

NOTES :

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. FIGURED DIMENSIONS SHOULD BE FOLLOWED, DO NOT SCALE THE DIMENSIONS.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. THE REINFORCING STEEL SHALL BE DEFORMED TMT BARS (GRADE DESIGNATION Fe:500D) CONFORMING TO IS:1786.
5. CLEAR COVER TO ANY REINFOEMENT IS 50mm.
6. NO LAPS ARE PERMITTED IN CROSS GIRDER UNLESS SPECIFIED IN DRAWING.

BAR MARKED (1a,) (1b,) (1c,) (1d,) (1e,) (1f,) (3c,) (3e,) (3f,) (4a,) (4b) SHALL BE PLACED IN PRECAST GIRDER.

Technocrats Advisory Services Private Limited Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAIL OF CAST-IN-SITU INTER. CROSS GIRDER FOR PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

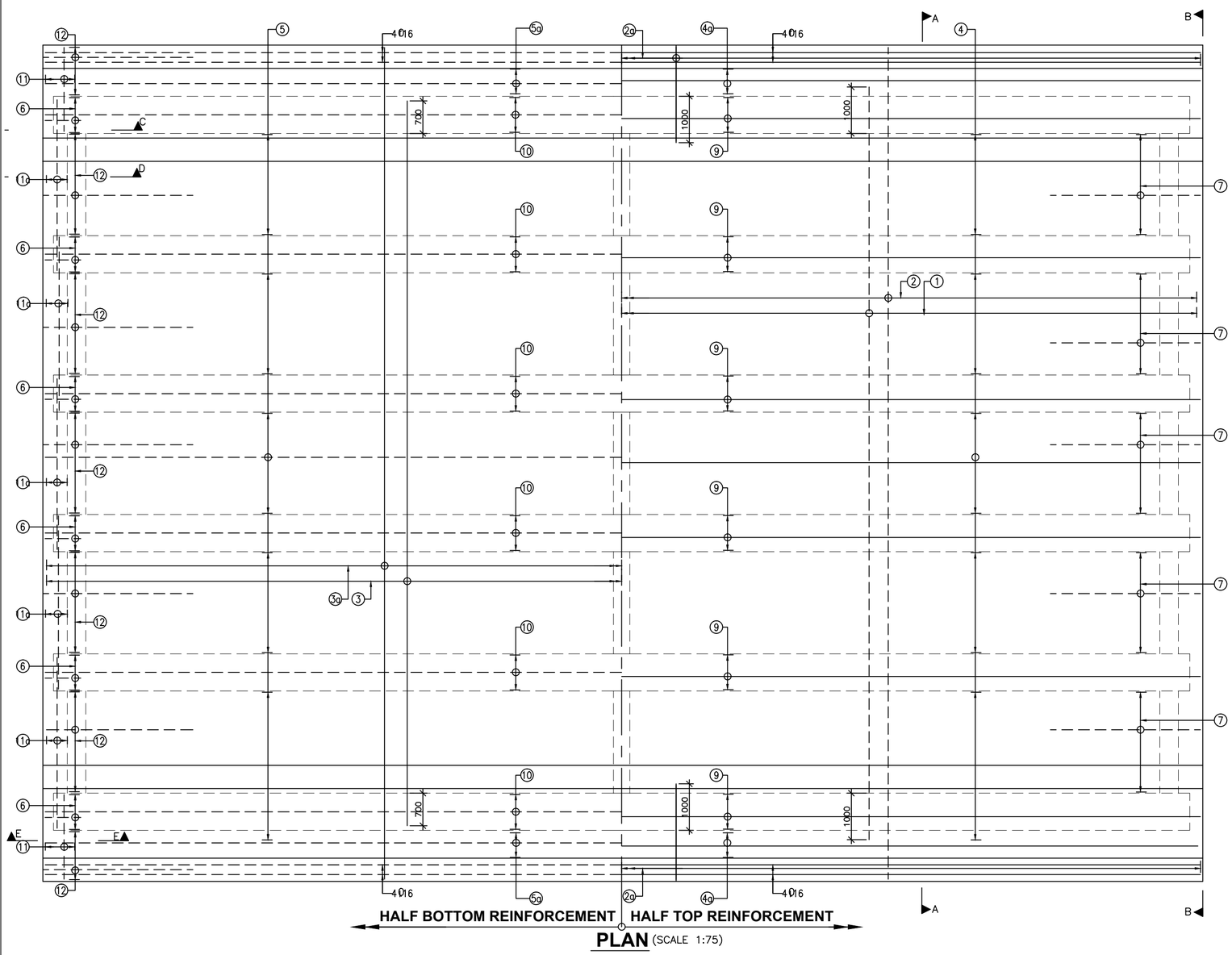
Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

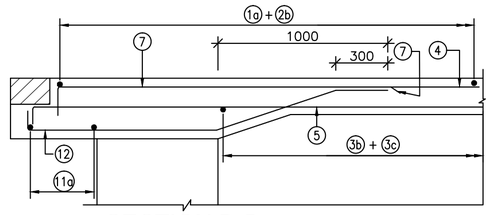
CONSULTANT:-

TASPL

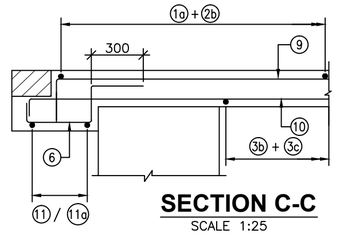
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



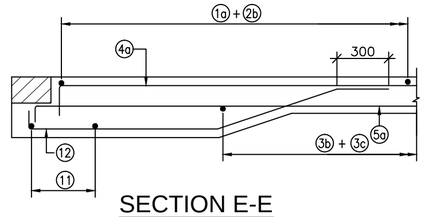
PLAN (SCALE 1:75)



SECTION D-D
(SCALE 1:25)



SECTION C-C
SCALE 1:25



SECTION E-E
(SCALE 1:25)

SCHEDULE OF REINFORCEMENT

BAR MKD.	DIA OF BAR	SPACING/ NO. OF BAR	BAR SHAPE
1	10	240	
1a	10	240	V.L.
2	12	240	
3	16	240	
3a	12	240	
4	10	10 NOS.	250
4a	10	6 NOS.	250
5	10	10 NOS.	250
5a	10	6 NOS.	250
6	10	4 NOS.	250, 300
7	10	10 NOS.	250
8	NOT USED		
9	10	4 NOS.	250
10	10	4 NOS.	250
11	12	5 NOS.	
11a	12	5 NOS.	
12	10	6 NOS.	250, 300

LEGEND

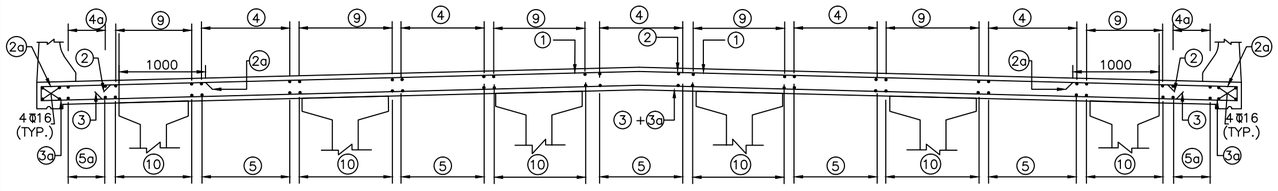
TOP BAR ———————

BOTTOM BAR — — — — — —

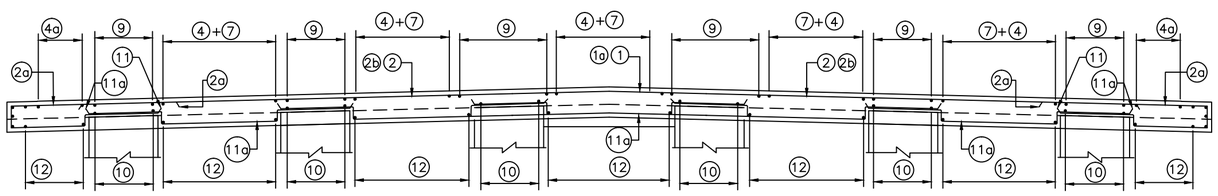
V.L. VARIES LENGTH

NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRG.
3. STEEL REINFORCEMENT SHALL BE HYSD TMT BARS OF GRADE DESIGNATION Fe 500D CONFORMING TO IS 1786–2008.
4. CLEAR COVER TO ANY REINFORCEMENT IS 40MM.
5. LAP LENGTH SHALL CONFIRM TO CLAUSE 15.2 IRC–112 2011.
6. LAP SHOULD BE STAGGERED AND NOT MORE THAN 50% BARS SHOULD BE LAPPED AT ANY SECTION & LAP SHOULD BE LOCATED AT POINT ALONG THE SPAN WHERE STRESSES ARE LOW.
7. ANCHORAGE LENGTH OF REINF. BARS SHALL BE 36xDIA OF BAR & SHALL CONFIRM TO CLAUSE 15.2.3 OF IRC–112 2011.
8. 32 DIA SPACER BARS SHALL BE PROVIDED @ 1M C/C BETWEEN TWO TIERS OF LONGITUDINAL BARS OF GIRDERS.
9. CONDITION OF EXPOSURE IS MODERATE.



SECTION A-A
(SCALE 1:50) SCALE 1:50 (BAR NO 5, 5a & 6 NOT SHOWN FOR CLARITY)



SECTION B-B SCALE 1:50 (BAR NO 5, 5a & 6 NOT SHOWN FOR CLARITY)
(SCALE 1:50)

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

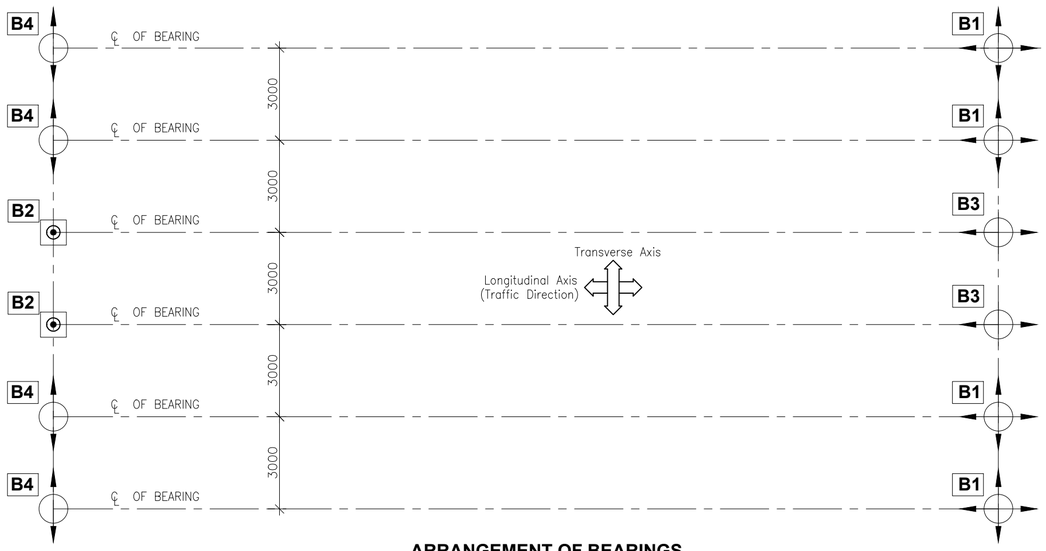
CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:-	REINFORCEMENT DETAIL OF CAST-IN-SITU DECK SLAB FOR PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 01

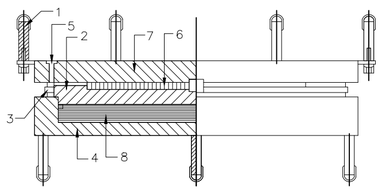
CONSULTANT:-

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.

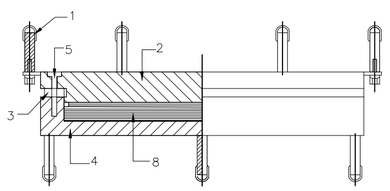


ARRANGEMENT OF BEARINGS

TRAFFIC DIRECTION
SCALE 1:75



POT SLIDING BEARING



POT FIXED BEARING

LEGEND:-

1. ANCHOR BOLT
2. POT COVER
3. METALLIC SEALS
4. POT CYLINDER
5. TEMPORARY BOLTS
6. PTFE
7. TOP SLIDING PLATE
8. CONFINED ELASTOMER

NOTES :-

1. THE CONTRACTOR SHALL SUBMIT DESIGN/DRAWING OF INDIVIDUAL BEARINGS BASED ON FORCES, TRANSLATIONS & ROTATIONS AS GIVEN IN THIS DRAWING FOR APPROVAL OF THE ENGINEER.
2. BEARINGS SHALL BE PROCURED FROM THE LIST OF APPROVED MANUFACTURER'S GIVEN BY MOST.
3. BEARINGS SHALL CONFORM TO LATEST MOST SPECIFICATIONS AND TENDER STIPULATION IF ANY.
4. THE TESTING OF RAW MATERIALS, METALLIC COMPONENTS, ELASTOMER & PTFE AND ACCEPTANCE TEST ON BEARING SHALL CONFORM TO MOST SPECIFICATIONS/ TENDER SPECIFICATIONS.
5. MANUFACTURER SHALL SUBMIT THE CERTIFICATES FOR LOAD TESTING AND DIMENSIONS OF BEARING.
6. SUITABLE ERECTION CLAMPS FOR SAFE TRANSPORTATION AND HANDLING ALONG WITH TEMPLATE FOR ALIGNMENT SHALL BE PROVIDED BY THE MANUFACTURER.
7. PEDESTAL PLAN SIZE GIVEN HERE IN ARE TENTATIVE ONLY. THE PLAN SIZE AND HEIGHT OF PEDESTALS SHALL BE ADJUSTED TO SUIT THE FINALISED SIZE OF BEARING AT THE TIME OF EXECUTION.
8. BEARING DETAILS ARE SCHEMATIC ONLY. DETAILED DESIGN AND DRAWINGS, SPECIFICATION FOR CONSTRUCTION, FABRICATION AND CORROSION PROTECTION, SEALING AGAINST DUST AND WATER, PROVISION FOR REPLACEMENT SHALL BE FURNISHED BY CONTRACTOR / SUPPLIER CONFORMING TO THE RELEVANT SPECIAL SPECFICATION INCLUDED IN CONTRACT. THESE SHALL ALSO INCLUDE THE ANCHORAGE ASSEMBLY AND THE SPECIAL CONCRETE IN ANCHORAGE CUT OUT.
9. MARGINAL MODIFICATION IN THE STRUCTURE DETAILS FOR COMPATIBILITY WITH THE BEARING AND EXPANSION JOINT DETAIL SHALL BE PERMITTED SUBJECT TO APPROVAL OF ENGINEER.
10. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH OTHER RELEVENT DRAWINGS

LEGEND:-

- FREE BEARING
- FIXED BEARING
- GUIDED BEARING ALONG TRANV. AXIS
- GUIDED BEARING ALONG LONG. AXIS

Summary of Forces on Bearing

				Vertical Force (kN)	Horizontal Force (kN)		Rotation (rad)	Movement (mm)	
					Long	Trans		Long	Trans
FREE BEARING (B1)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1680	115	0	0.155	-25/7	8.00
			Min Rn	861	76	0	0.155	-25/7	8.00
			No LL	863	76	0	0.155	-25/7	8.00
		Seismic Long Case	Max Rn	1189	84	0	0.155	-25/7	8.00
			Min Rn	819	76	0	0.155	-25/7	8.00
			No LL	819	76	0	0.155	-25/7	8.00
		Seismic Trans Case	Max Rn	1189	56	0	0.155	-25/7	8.00
			Min Rn	819	51	0	0.155	-25/7	8.00
			No LL	819	76	0	0.155	-25/7	8.00
	SLS	Normal Case	Max Rn	1181	77	0	0.103	-17/5	5.00
			Min Rn	630	51	0	0.103	-17/5	5.00
			No LL	632	51	0	0.103	-17/5	5.00
Fix BEARING (B2)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1680	105	0	0.155		
			Min Rn	861	79	0	0.155		
			No LL	863	79	0	0.155		
		Seismic Long Case	Max Rn	1189	498	245	0.155		
			Min Rn	819	498	219	0.155		
			No LL	819	498	219	0.155		
		Seismic Trans Case	Max Rn	1189	157	816	0.155		
			Min Rn	819	157	730	0.155		
			No LL	819	157	487	0.155		
	SLS	Normal Case	Max Rn	1181	70	0	0.103		
			Min Rn	630	53	0	0.103		
			No LL	632	53	0	0.103		
Longitudinal Guided BEARING (B3)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1680	0	168	0.155	-25/7	
			Min Rn	861	0	86	0.155	-25/7	
			No LL	863	0	86	0.155	-25/7	
		Seismic Long Case	Max Rn	1189	0	245	0.155	-25/7	
			Min Rn	819	0	219	0.155	-25/7	
			No LL	819	0	219	0.155	-25/7	
		Seismic Trans Case	Max Rn	1189	0	816	0.155	-25/7	
			Min Rn	819	0	730	0.155	-25/7	
			No LL	819	0	487	0.155	-25/7	
	SLS	Normal Case	Max Rn	1181	0	118	0.103	-17/5	
			Min Rn	630	0	63	0.103	-17/5	
			No LL	632	0	63	0.103	-17/5	
Transverse Guided BEARING (B4)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1680	105	0	0.155	0	8.00
			Min Rn	861	79	0	0.155	0	8.00
			No LL	863	79	0	0.155	0	8.00
		Seismic Long Case	Max Rn	1189	498	0	0.155	0	8.00
			Min Rn	819	498	0	0.155	0	8.00
			No LL	819	498	0	0.155	0	8.00
		Seismic Trans Case	Max Rn	1189	157	0	0.155	0	8.00
			Min Rn	819	157	0	0.155	0	8.00
			No LL	819	157	0	0.155	0	8.00
	SLS	Normal Case	Max Rn	1181	70	0	0.103	0	5.00
			Min Rn	630	53	0	0.103	0	5.00
			No LL	632	53	0	0.103	0	5.00

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- TYPICAL BEARING LAYOUT FOR 25m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

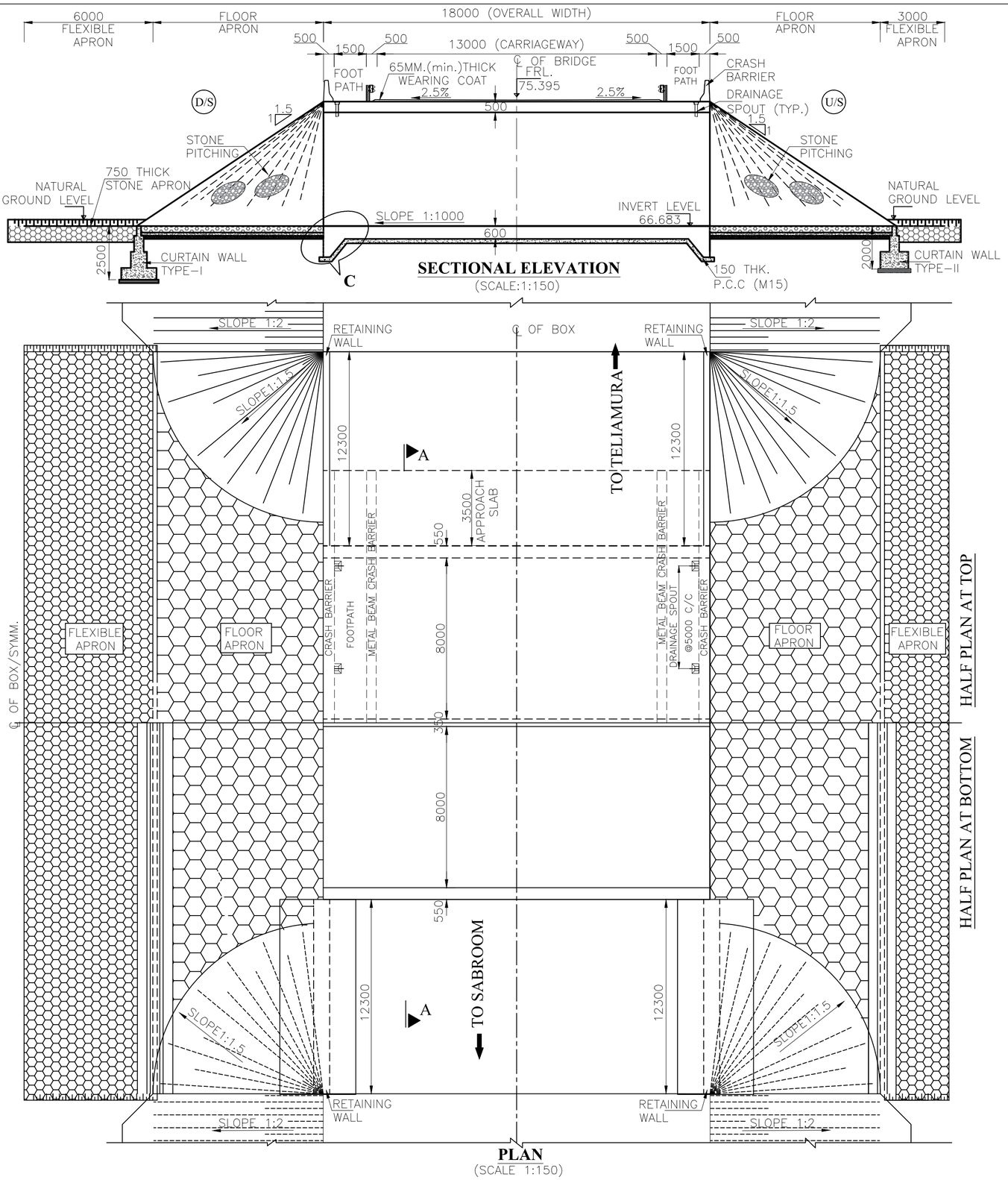
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 01

CONSULTANT:-

TASPL

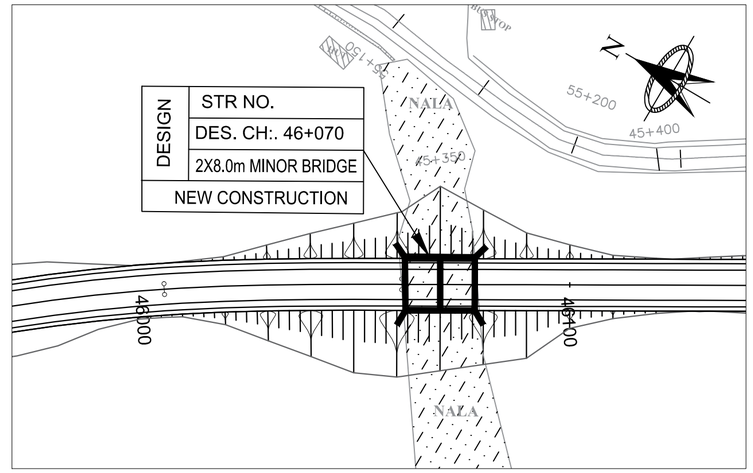
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.

MINOR BRIDGE AT CH. 46+070 (2x8.0m SPAN)



TO TELIAMURA

TO SABROOM



KEY PLAN

SCALE–1:1

NOTES:-

1. ALL DIMENSION ARE IN MM, LEVEL ARE IN METER & CHAINAGE IN KILOMETER UNLESS SPECIFIED OTHERWISE.
2. DO NOT MEASURE THE DRAWING FOLLOW WRITTEN DIMENSION ONLY.
3. THIS DRAWING TO BE READ IN CONJUCTION TO THE HIGHWAY DRAWINGS. IF THERE IS ANY DIFFERENCE IN CHAINAGE OR LEVELS H/W DRAWINGS WILL PREVAIL.
4. BACKFILL GRANULAR SOIL MATERIAL BEHIND ABUTMENT SHALL HAVE THE FOLLOWING PROPERTIES = 2.0 T/m,³C = 0,&ø = 30˚, CONFORMING TO IRC: 78–2014.
5. THE NEW STRUCTURE IS DESIGNED FOR FOUR LANE LOADING AS PER IRC 6:2017.
6. CONCRETE GARDE :–
   - M40 –– FOR CRASH BARRIER
   - M35 –– RCC BOX.
   - M15 –– FOR PCC LEVELLING COURSE

   UNTENSIONED REINFORCEMENT :– FE.500D (T.M.T. DEFORMED BARS) CONFIRMING TO IS:1786.
7. TYPE OF STRUCTURE & CONSTRUCTION METHODOLOGY CONSIDERED IN DESIGN IS
   - RCC BOX STRUCTURE
   - WEARING COAT 65mm THK. C.C.
   - EXPANSION JOINTS – FILLER TYPE.
   - APPROACH SLAB–M30 GRADE.
8. ALL STRUCTURAL DIMENSIONS SHOWN ARE BASED ON PRELIMINARY DESIGNS.
9. 600MM THICK FILTER MATERIAL BEHIND PCC ABUTMENT/RETAINING WALL SHALL BE AS PER APPENDIX 6 OF IRC:78–2014.
10. APPROACH SLAB, DRAINAGE SPOUT, CRASH BARRIER, RAILING & FOOTPATH DETAIL REFER MISCELLANEOUS DRAWING.
11. 100MM DIA P.V.C. PIPE AT SPACING 1000 C/C IN HORIZONTAL/VERTICAL DIRECTION SHALL BE PROVIDED UP TO 150MM ABOVE LOW WATER LEVEL FOR WEEP HOLES IN VERTICAL WALL.
12. ALL CONSTRUCTION SHALL CONFIRM TO CONTRACT SPECIFICATIONS.
13. COMPACTED EARTH SHOULD CONFIRM TO CLAUSE 305.2.1.5 OF MORTH SPECIFICATIONS.
14. HYDROLOGICAL DATA.

DISCHARGE	–– 36.192 CUMEC
HFL	–– 69.168 m
VELOCITY	–– 1.82 m/sec
MIN.VERTICAL CLEARANCE	–– 0.9 m (AS PER IRC:78:2014)

15. CLEAR COVER TO REINFORCEMENT FOR FOOTING & EARTH FACE OF BOX SHALL BE 75 mm & FOR NON EARTH FACE OF BOX & TOP SLAB SHALL BE 50mm.
16. NET BEARING CAPCITY OF SOIL REQUIRED FOR FOUNDATION IS 15T/m², WHICH SHOULD BE CONFIRMED AND VERIFY AT SITE BEFORE EXECUTION.
17. BRIDGE IS DESIGN FOR SEISMIC ZONE V OF SEISMIC MAP OF INDIA.

Technocrats Advisory Services Private Limited Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- GENERAL ARRANGEMENT DRAWING OF MINOR BRIDGE AT CH. 46+070

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
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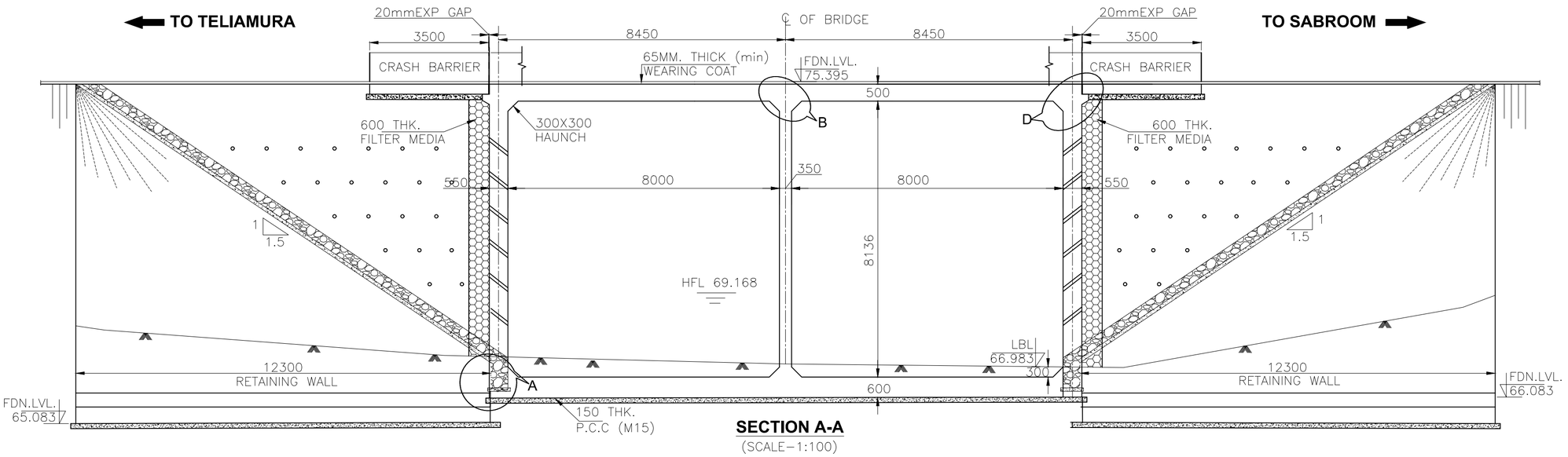
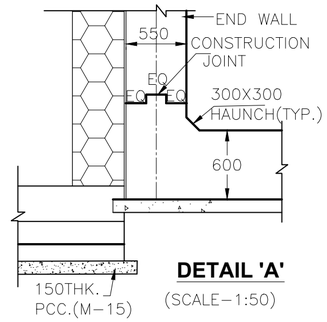
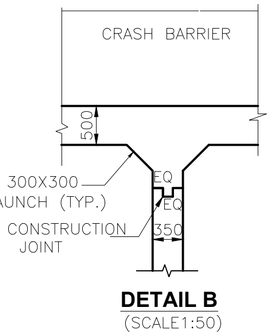


SECTION A-A
(SCALE–1:100)

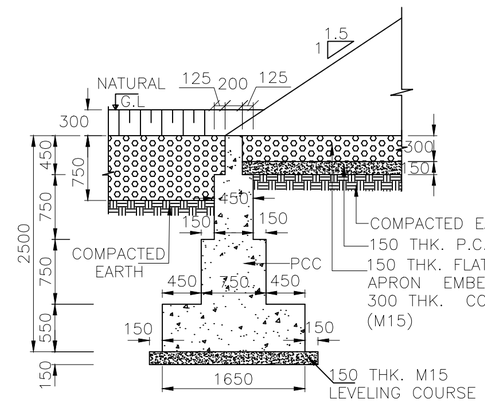
FRL LEVEL	75.395	75.395	75.395
GROUND (M.)	67.283	67.070	66.980
CHAINAGE (M.)	46+61.575	46+070	46+78.425



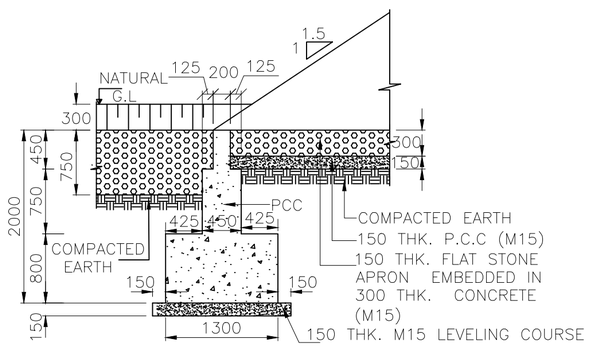
DETAIL 'A'
(SCALE–1:50)



DETAIL B
(SCALE1:50)

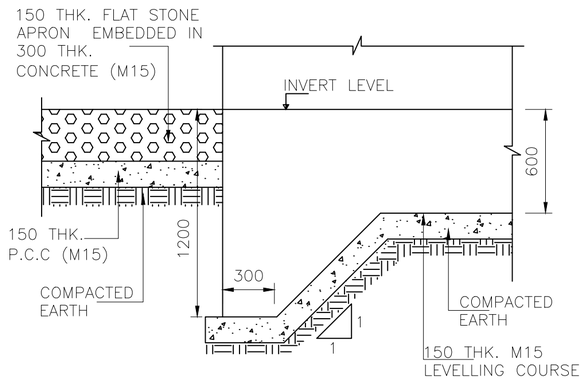


DETAIL OF CURTAIN WALL-I
(DOWN STREAM SIDE)
(SCALE 1:50)

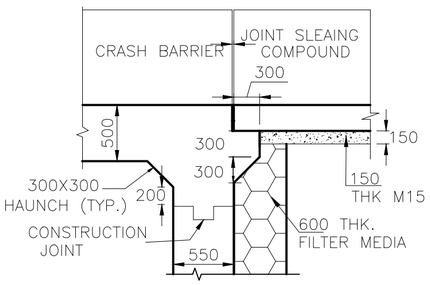


DETAIL OF CURTAIN WALL-II
(UP STREAM SIDE)
(SCALE 1:50)

LEGENDS:-
FRL:–FINISH ROAD LEVEL
HFL:–HIGHEST FLOOD LEVEL
FDN:–FOUNDATION LEVEL
LBL:–LOWEST BED LEVEL



DETAIL-'C'
(SCALE 1:25)



DETAIL D
(SCALE1:50)

Technocrats Advisory Services Private Limited ★ Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- GENERAL ARRANGEMENT DRAWING OF MINOR BRIDGE AT CH. 46+070

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

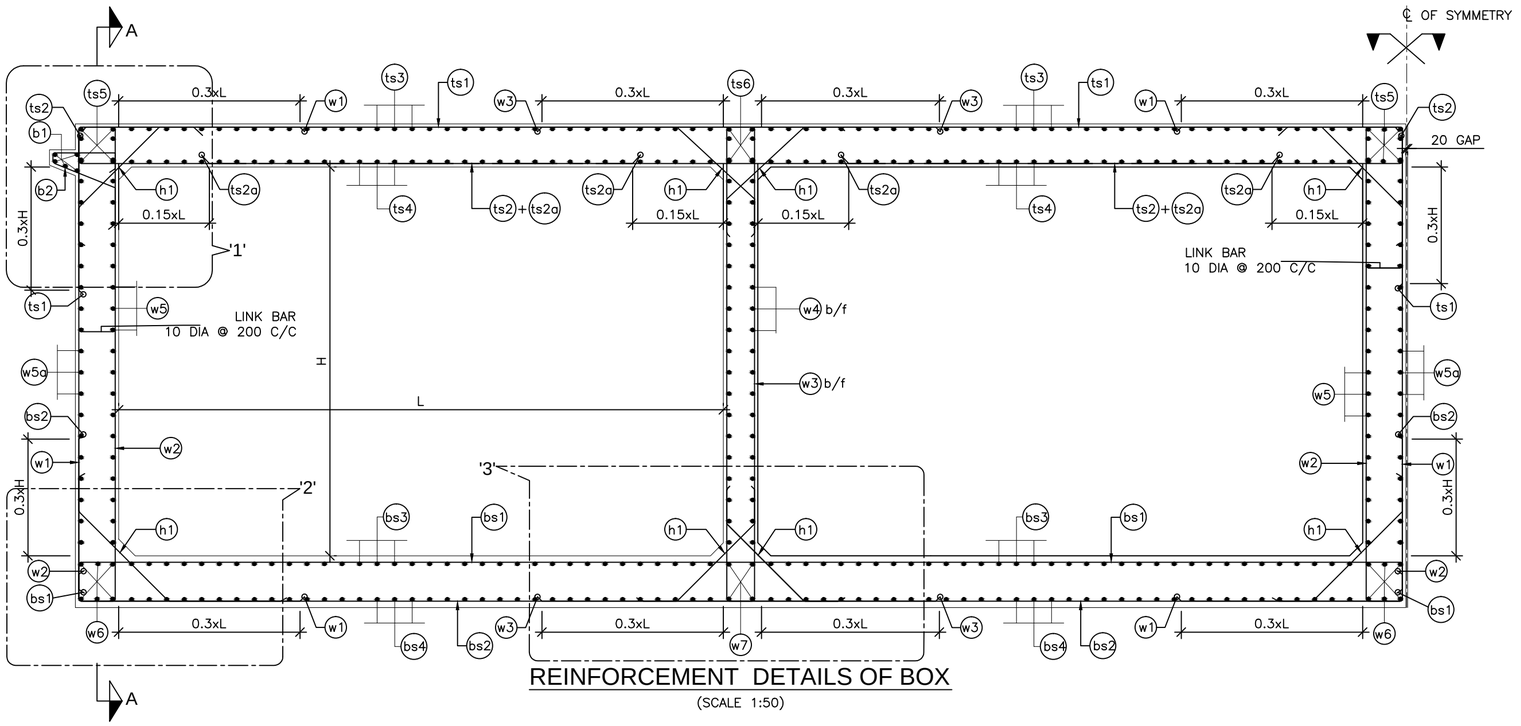
Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

CONSULTANT:-

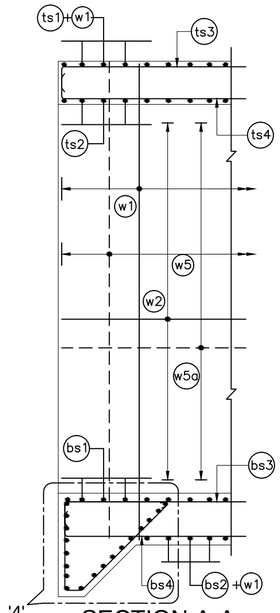
TASPL

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



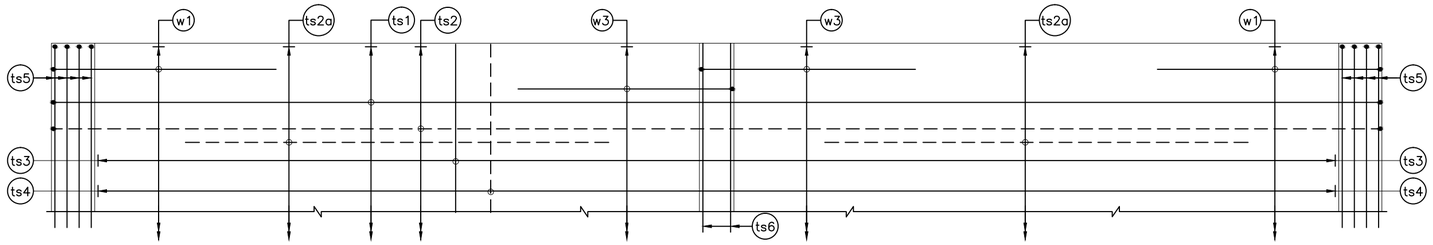
REINFORCEMENT DETAILS OF BOX

(SCALE 1:50)



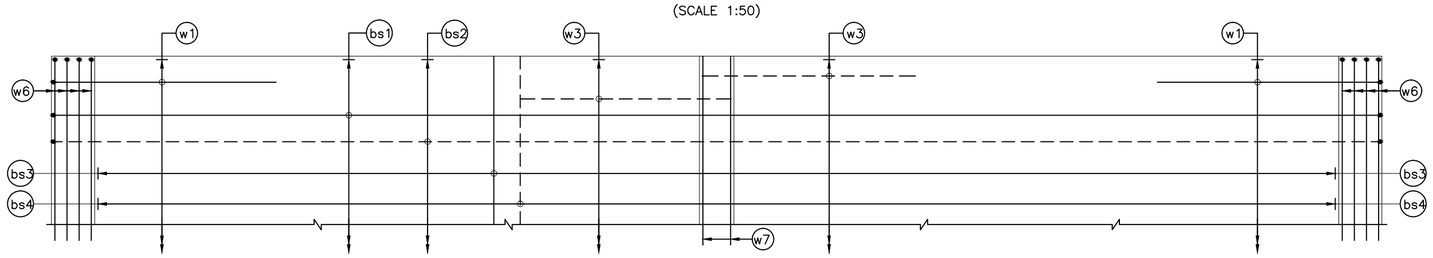
SECTION A-A

(SCALE 1:50)



REINFORCEMENT DETAILS OF TOP SLAB

(SCALE 1:50)



REINFORCEMENT DETAILS OF BOTTOM SLAB

(SCALE 1:50)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. CONCRETE GRADE SHALL BE OF GRADE M25.
4. ALL REINFORCING STEEL SHALL BE HIGH YIELD STRENGTH DEFORMED(TMT) BARS (GRADE–Fe 500D).
5. CLEAR COVER TO OUTERMOST REINF. SHALL BE
   a) TOP SLAB –40mm
   b) SIDE WALL (EARTH SIDE) –75mm
   c) SIDE WALL (INNER SIDE) –40mm
   d) BOTTOM SLAB –75mm
6. BOND CONDITION

   (AS PER CL 15.2.3,IRC:112–2011)
   BASIC ANCHORAGE LENGTH SHALL BE 65XDIAMETER OF THE BAR.
   LAP LENGTH SHALL BE PROVIDED AS PER THE TABLE GIVEN BELOW:–
   (FOR GRADE OF CONC.M30)

LAP LENGTH	% LAP AT ANY SECTIONS IS
58 D	<25%
66 D	BETWEEN 25–33%
80 D	BETWEEN 33–50%
86 D	<50%

7. LAPS SHALL BE STAGGERED AND SUITABLY PLACED.

REFERENCE DRAWINGS

1. GAD FOR MINOR BRIDGE AT DESIGN CH.46+070 TASPL–NHIDCL–FDPR–46+070–101 (2 SHEETS)

LEGEND:

TOP/NON EARTH FACE BAR SHOWN THUS ————

BOTTOM/EARTH FACE BAR SHOWN THUS — — — —

b/f – BOTH FACE

SCHEDULE OF REINFORCEMENT

BAR MARK	SHAPE OF BARS (NOT TO SCALE)	BAR IN DIA IN MM	SPACING OR NO. OF BAR
ts1		16	180
ts2		12	180
ts2a		16	180
ts3		12	140
ts4		12	140
ts5		16	6 Nos.x2
ts6		16	4 Nos.
bs1		16	90
bs2		25	180
bs3		12	100
bs4		12	100
w1		25	180
w2		25	180
w3		16	180
w4		10	180
w5		12	100
w5a		12	100
w6		16	6 Nos.x2
w7		16	4 Nos.
h1		12	180
s1		12	150
s2		10	150
b1		12	5 Nos.
b2		12	200

Technocrats Advisory Services Private Limited

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAILS DRAWING OF MINOR BRIDGE AT CH. 46+070

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

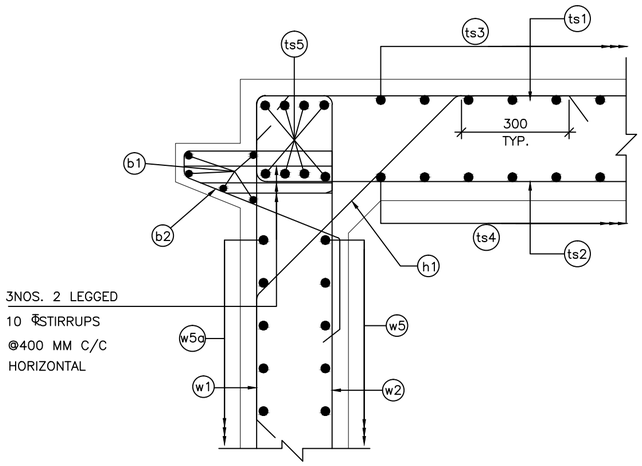
TASPL

Technocrats Advisory Services Private Limited

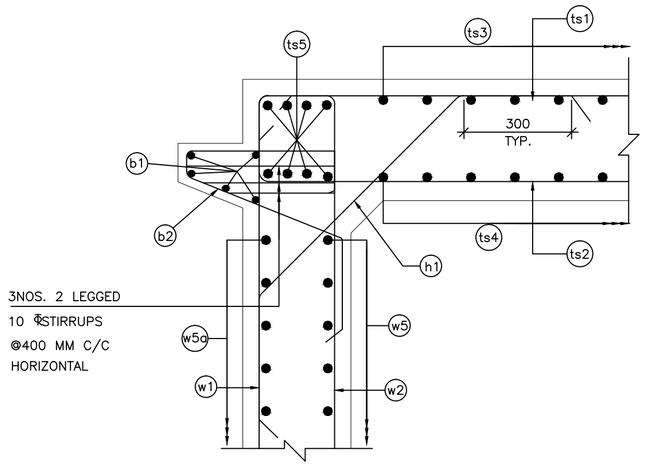
in association with Vaishnavi Infratech Services Pvt. Ltd

68,Ajanta Apartsments, 36, I.P. Extension

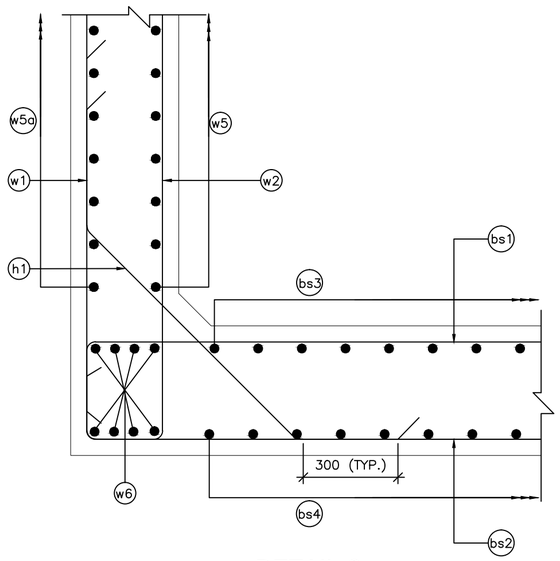
Patparganj Delhi-110092.



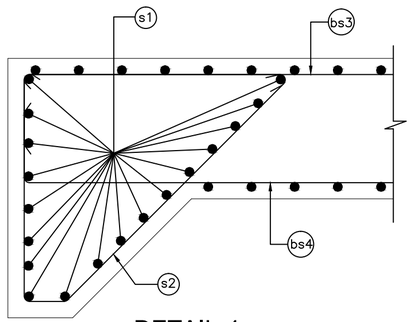
DETAIL-1
SCALE 1:30



DETAIL-1
SCALE 1:30



DETAIL-3
SCALE 1:20



DETAIL-4
SCALE 1:20

Technocrats Advisory Services Private Limited
Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAILS DRAWING OF MINOR BRIDGE AT CH. 46+070

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

CONSULTANT:-

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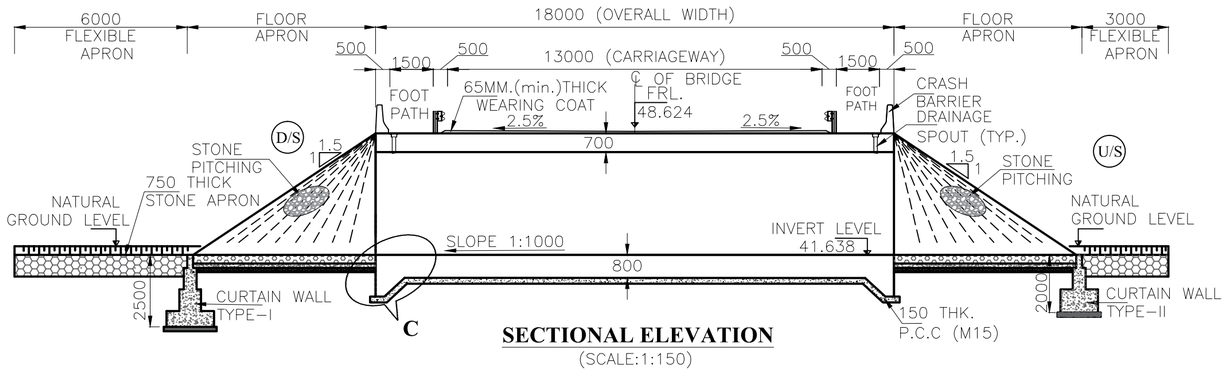
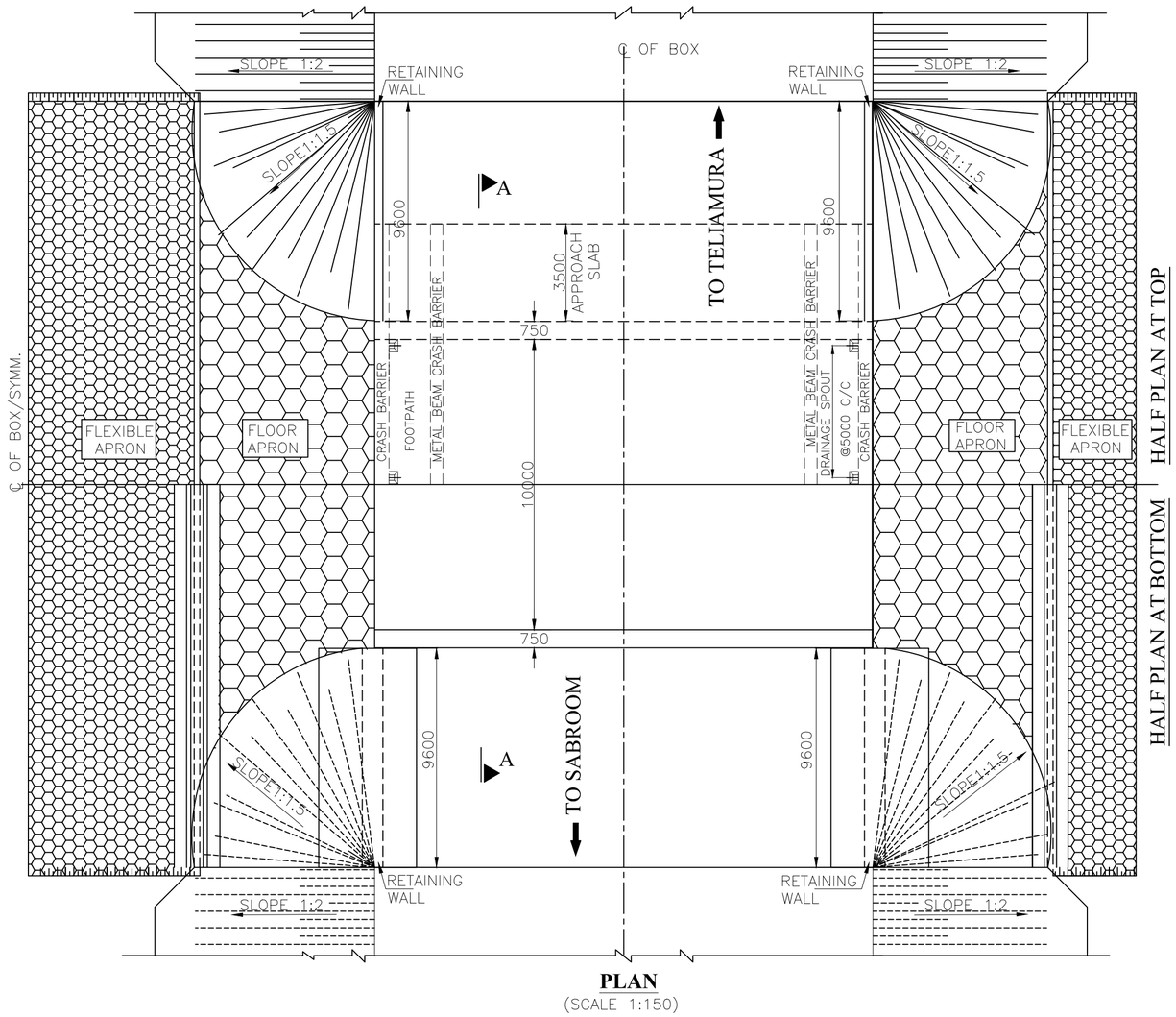
Patparganj Delhi-110092.

MINOR BRIDGE AT CH. 50+775 (1x10m SPAN)



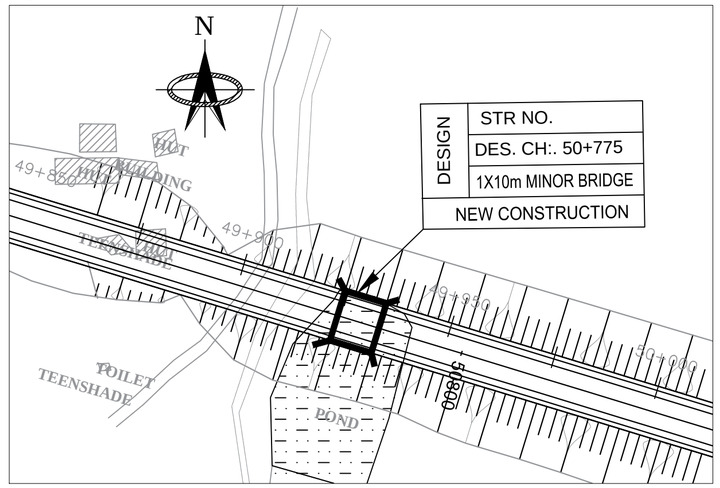
SECTIONAL ELEVATION

(SCALE:1:150)



PLAN

(SCALE 1:150)



KEY PLAN

SCALE–1:1

NOTES:-

1. ALL DIMENSION ARE IN MM, LEVEL ARE IN METER & CHAINAGE IN KILOMETER UNLESS SPECIFIED OTHERWISE.
2. DO NOT MEASURE THE DRAWING FOLLOW WRITTEN DIMENSION ONLY.
3. THIS DRAWING TO BE READ IN CONJUCTION TO THE HIGHWAY DRAWINGS. IF THERE IS ANY DIFFERENCE IN CHAINAGE OR LEVELS H/W DRAWINGS WILL PREVAIL.
4. BACKFILL GRANULAR SOIL MATERIAL BEHIND ABUTMENT SHALL HAVE THE FOLLOWING PROPERTIES = 2.0 T/m,³C = 0,&ø = 30˚, CONFORMING TO IRC: 78–2014.
5. THE NEW STRUCTURE IS DESIGNED FOR FOUR LANE LOADING AS PER IRC 6:2017.
6. CONCRETE GARDE :–
   - M40 –– FOR CRASH BARRIER
   - M35 –– RCC BOX.
   - M15 –– FOR PCC LEVELLING COURSE

   UNTENSIONED REINFORCEMENT :– FE.500D (T.M.T. DEFORMED BARS) CONFIRMING TO IS:1786.
7. TYPE OF STRUCTURE & CONSTRUCTION METHODOLOGY CONSIDERED IN DESIGN IS
   - RCC BOX STRUCTURE
   - WEARING COAT 65mm THK. C.C.
   - EXPANSION JOINTS – FILLER TYPE.
   - APPROACH SLAB–M30 GRADE.
8. ALL STRUCTURAL DIMENSIONS SHOWN ARE BASED ON PRELIMINARY DESIGNS.
9. 600MM THICK FILTER MATERIAL BEHIND PCC ABUTMENT/RETAINING WALL SHALL BE AS PER APPENDIX 6 OF IRC:78–2014.
10. APPROACH SLAB, DRAINAGE SPOUT, CRASH BARRIER, RAILING & FOOTPATH DETAIL REFER MISCELLANEOUS DRAWING.
11. 100MM DIA P.V.C. PIPE AT SPACING 1000 C/C IN HORIZONTAL/VERTICAL DIRECTION SHALL BE PROVIDED UP TO 150MM ABOVE LOW WATER LEVEL FOR WEEP HOLES IN VERTICAL WALL.
12. ALL CONSTRUCTION SHALL CONFIRM TO CONTRACT SPECIFICATIONS.
13. COMPACTED EARTH SHOULD CONFIRM TO CLAUSE 305.2.1.5 OF MORTH SPECIFICATIONS.
14. HYDROLOGICAL DATA.

DISCHARGE	36.19 CUMEC
HFL	44.035 m
VELOCITY	1.979 m/sec
MIN.VERTICAL CLEARANCE	0.9 m (AS PER IRC:78:2014)

15. CLEAR COVER TO REINFORCEMENT FOR FOOTING & EARTH FACE OF BOX SHALL BE 75 mm & FOR NON EARTH FACE OF BOX & TOP SLAB SHALL BE 50mm.
16. NET BEARING CAPCITY OF SOIL REQUIRED FOR FOUNDATION IS 15T/m^2,WHICH SHOULD BE CONFIRMED AND VERIFY AT SITE BEFORE EXECUTION.
17. BRIDGE IS DESIGN FOR SEISMIC ZONE V OF SEISMIC MAP OF INDIA.

Technocrats Advisory Services Private Limited Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- GENERAL ARRANGEMENT DRAWING OF MINOR BRIDGE AT CH. 50+775

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
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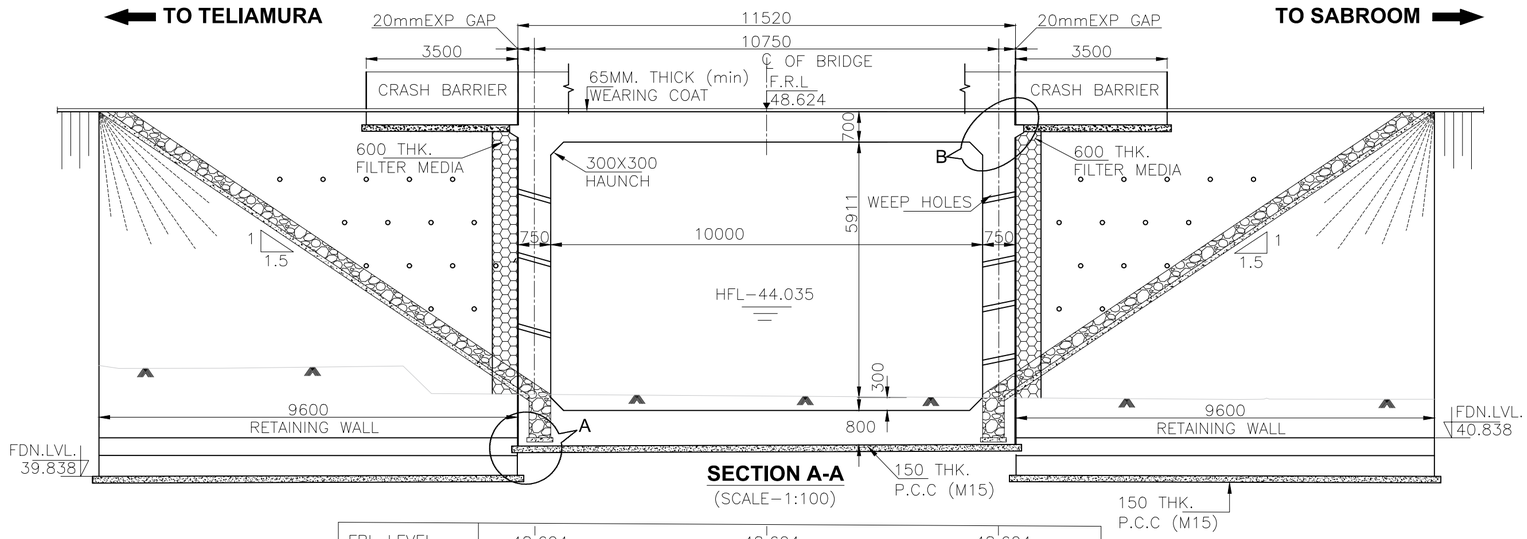
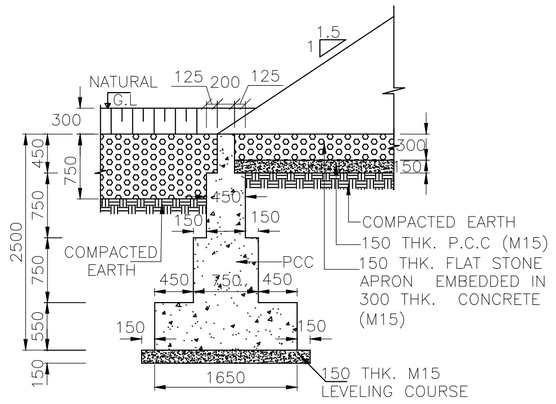
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.

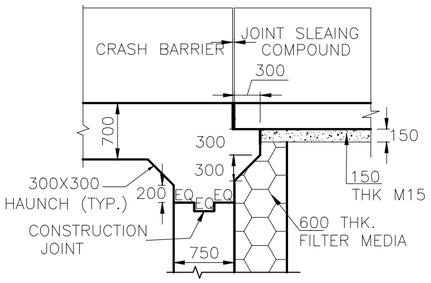


SECTION A-A
(SCALE–1:100)

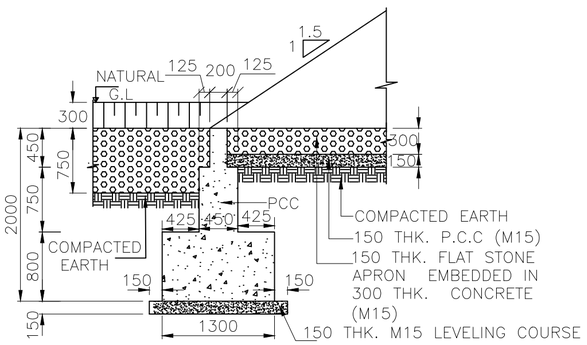
FRL LEVEL	48.624	48.624	48.624
GROUND (M.)	42.012	41.972	41.938
CHAINAGE (M.)	50+769.625	50+775	50+780.375



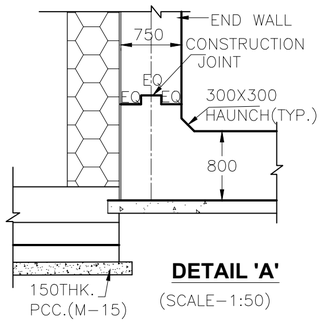
DETAIL OF CURTAIN WALL-I
(DOWN STREAM SIDE)
(SCALE 1:50)



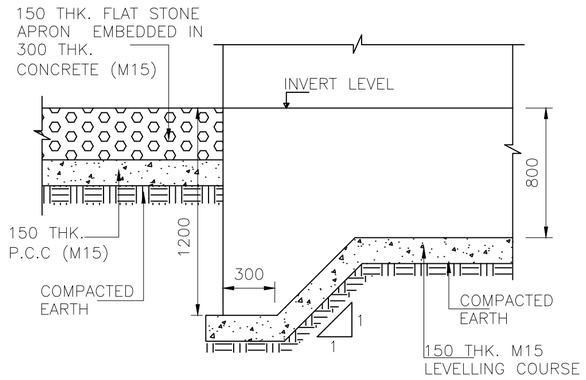
DETAIL B
(SCALE1:50)



DETAIL OF CURTAIN WALL-II
(UP STREAM SIDE)
(SCALE 1:50)



DETAIL 'A'
(SCALE–1:50)



DETAIL-'C'
(SCALE 1:25)

LEGENDS:-
FRL:–FINISH ROAD LEVEL
HFL:–HIGHEST FLOOD LEVEL
FDN:–FOUNDATION LEVEL
LBL:–LOWEST BED LEVEL

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- GENERAL ARRANGEMENT DRAWING OF MINOR BRIDGE AT CH. 50+775

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

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CONSULTANT:-

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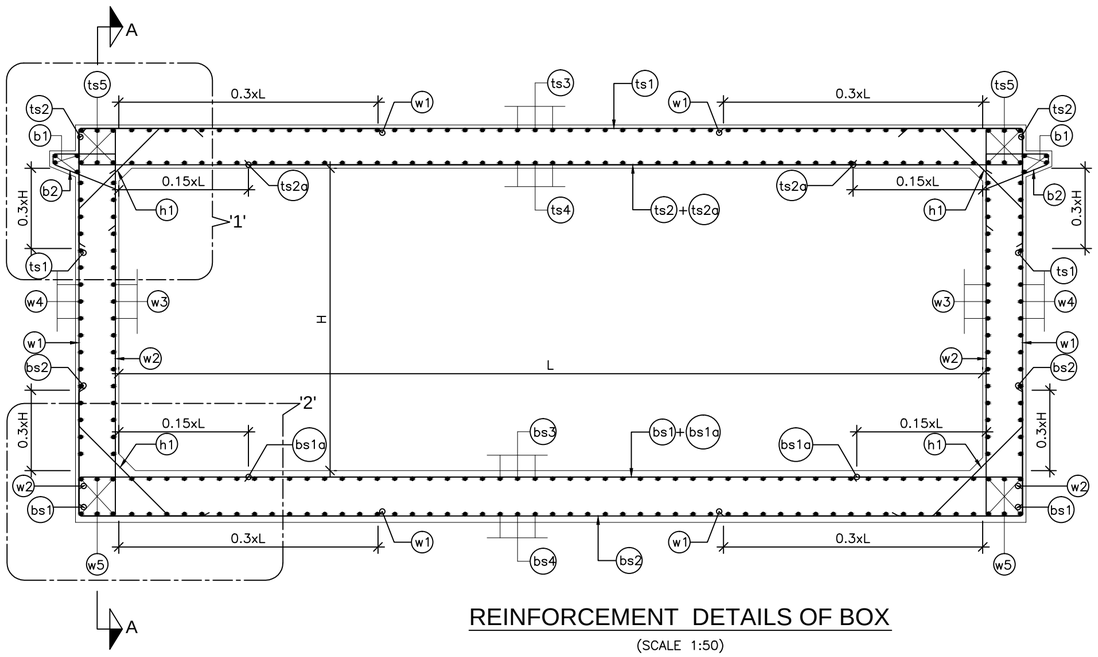
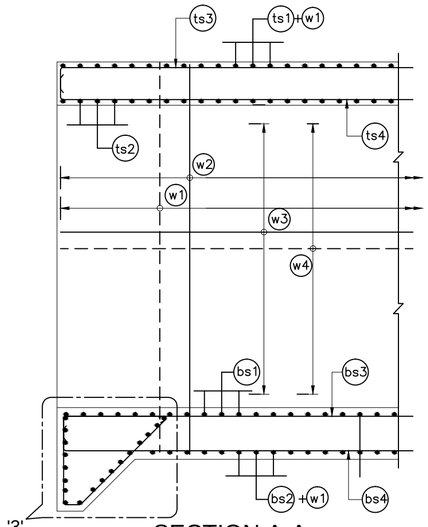
Patparganj Delhi-110092.



REINFORCEMENT DETAILS OF BOX

(SCALE 1:50)

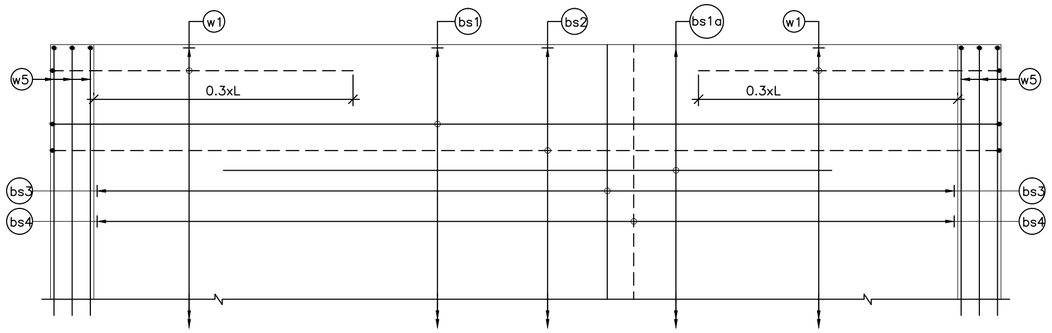


SECTION A-A

(SCALE 1:50)

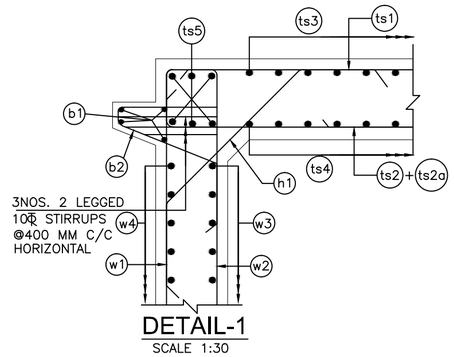
REINFORCEMENT DETAILS OF TOP SLAB

(SCALE 1:50)



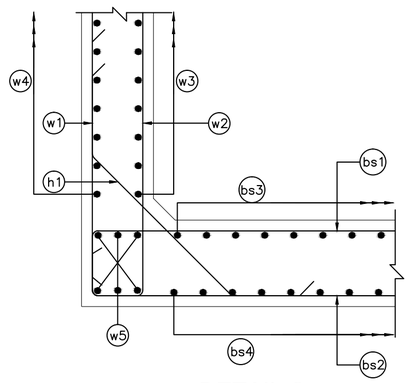
REINFORCEMENT DETAILS OF BOTTOM SLAB

(SCALE 1:50)



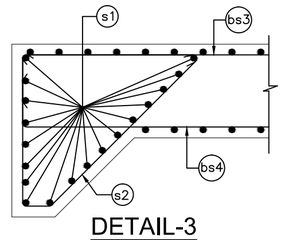
DETAIL-1

SCALE 1:30



DETAIL-2

SCALE 1:30



DETAIL-3

SCALE 1:30

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. CONCRETE GRADE SHALL BE OF GRADE M25.
4. ALL REINFORCING STEEL SHALL BE HIGH YIELD STRENGTH DEFORMED(TMT) BARS (GRADE–Fe 500D).
5. CLEAR COVER TO OUTERMOST REINF. SHALL BE
   a) TOP SLAB –40mm
   b) SIDE WALL (EARTH SIDE) –75mm
   c) SIDE WALL (INNER SIDE) –40mm
   d) BOTTOM SLAB –75mm
6. BOND CONDITION

   (AS PER CL 15.2.3,IRC:112–2011)
   BASIC ANCHORAGE LENGTH SHALL BE 65XDIAMETER OF THE BAR.
   LAP LENGTH SHALL BE PROVIDED AS PER THE TABLE GIVEN BELOW:–
   (FOR GRADE OF CONC.M30)

LAP LENGTH	% LAP AT ANY SECTIONS IS
58 D	<25%
66 D	BETWEEN 25–33%
80 D	BETWEEN 33–50%
86 D	<50%

7. LAPS SHALL BE STAGGERED AND SUITABLY PLACED.

REFERENCE DRAWINGS

1. GAD FOR MINOR BRIDGE AT DESIGN CH.50+775 TASPL–NHIDCL–FDPR–50+775–101 (2 SHEET)

LEGEND:

TOP/NON EARTH FACE BAR SHOWN THUS ————

BOTTOM/EARTH FACE BAR SHOWN THUS — — — —

b/f – BOTH FACE

SCHEDULE OF REINFORCEMENT

BAR MARK	SHAPE OF BARS (NOT TO SCALE)	BAR IN DIA IN MM	SPACING OR NO. OF BAR
ts1		16	200
ts2		16	200
ts2a		12	200
ts3		12	200
ts4		12	200
ts5		16	6 Nos.x2
bs1		20	200
bs1a		16	200
bs2		20	200
bs3		12	200
bs4		12	200
w1		16	200
w2		16	200
w3		12	200
w4		12	200
w5		16	6 Nos.x2
h1		12	200
s1		12	200
s2		10	200
b1		12	4 Nos.
b2		12	200

Technocrats Advisory Services Private Limited ★ Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAILS DRAWING OF MINOR BRIDGE AT CH. 50+775

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

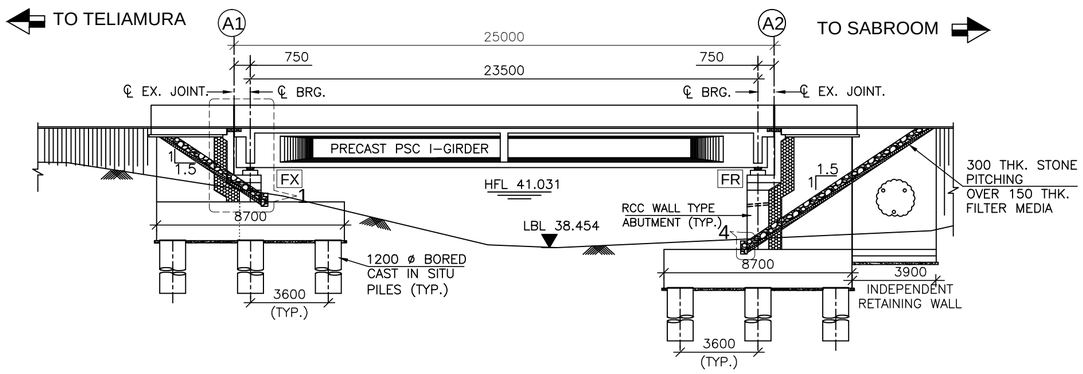
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 01

CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.

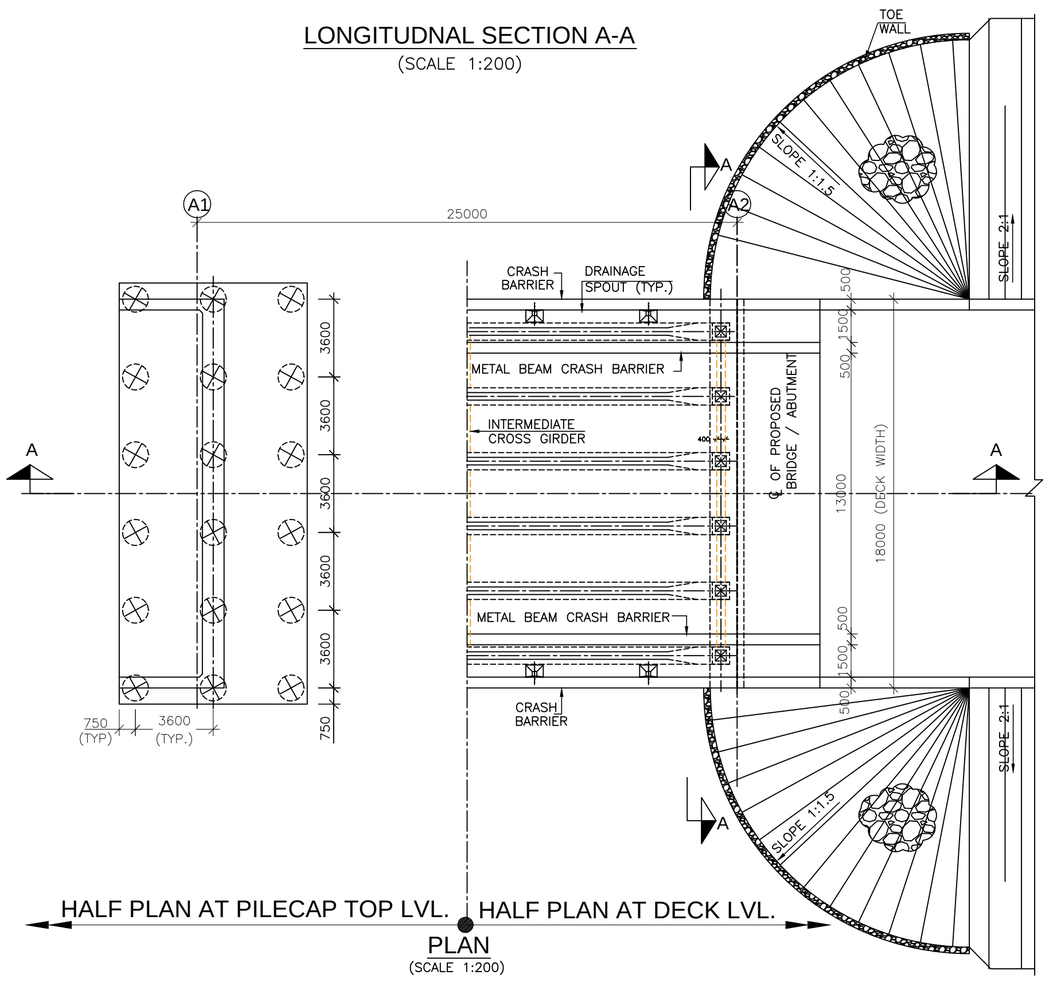
MINOR BRIDGE AT CH. 52+100 (1X25m SPAN)



PROPOSED FRL (m)	44.048		44.048
ABT CAP LEVEL (m)	41.813		41.813
GROUND LEVEL (m)	41.077		38.874
PILE CAP TOP LEVEL (m)	40.577		38.374
FOUNDING LEVEL (m)	16.777		14.574
CHAINAGE (Km)	52+87.5	52+100	52+112.5

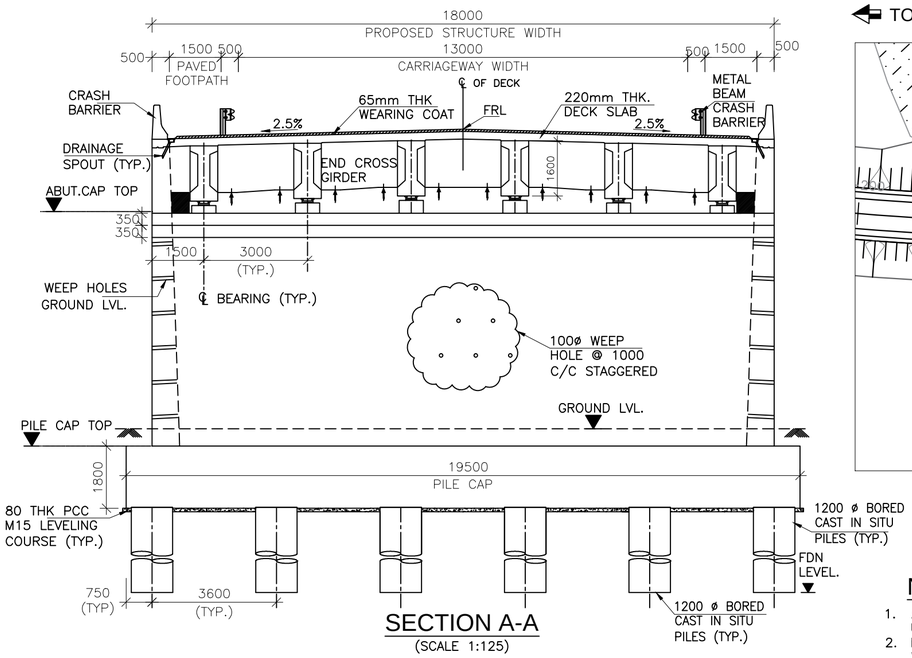
LONGITUDNAL SECTION A-A

(SCALE 1:200)



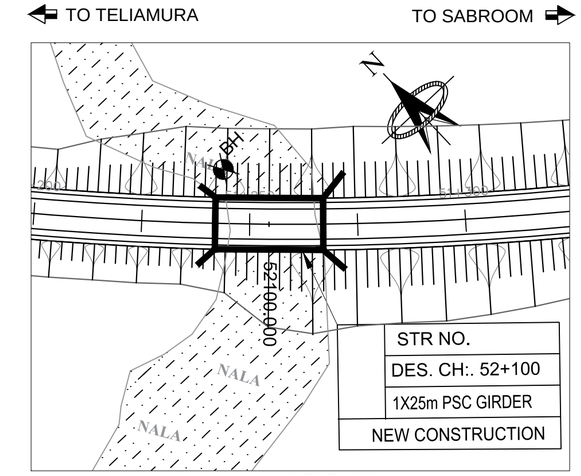
PLAN

(SCALE 1:200)



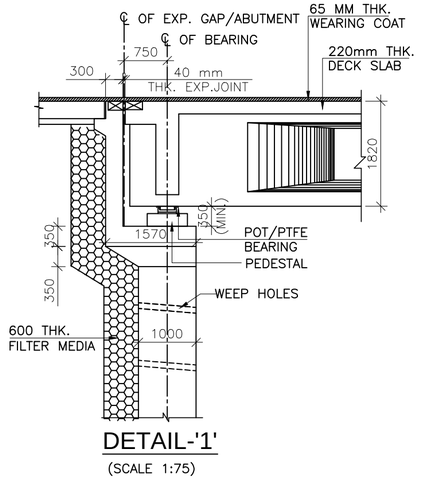
SECTION A-A

(SCALE 1:125)



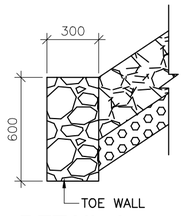
KEYPLAN

SCALE-1:1



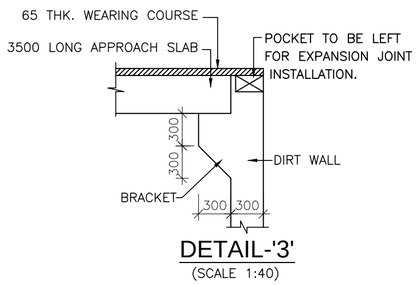
DETAIL-'1'

(SCALE 1:75)



DETAIL-4

(SCALE 1:25)



DETAIL-'3'

(SCALE 1:40)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
2. NO DIMENSION SHALL BE MEASURED FROM THE DRAWINGS. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. CHAINAGE & LEVEL SHALL BE VERIFIED WITH THE RELEVANT PLAN & PROFILE DRAWINGS. VARIATION (IF ANY) SHALL BE REPORTED TO ENGINEER FOR MODIFICATION.
4. CHAINAGE OF THE STRUCTURE IS AT THE CENTER LINE OF THE PROPOSED STRUCTURE.
5. THE REINFORCEMENT SHALL BE HYSD BARS OF GRADE DESIGNATION Fe 500D CONFORMING TO IS 1786-2008.
6. CONCRETE SHALL BE DESIGN MIX WITH WITH A MINIMUM 28 DAYS CHARACTERISTIC CUBE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
   a. PSC-I GIRDER, RCC DECK SLAB & END CROSS GIRDER — M45
   b. ABUT. & ABUT CAP — M35
   c. PILE & PILE CAP — M35
   d. PIER & PIER CAP — M35
   e. RETAINING WALL — M35
   f. CRASH BARRIER — M40
   g. APPROACH SLAB — M30
   h. LEVELING COURSE — M15
   i. PEDESTALS — M40
7. CLEAR COVER TO OUTER STEEL SHALL BE AS FOLLOWS:-
   a. SUPERSTRUCTURE — 40MM
   b. ABUTMENT EARTH FACE — 75MM
   c. ABUTMENT OUTER FACE/PIER — 50MM
   d. FOUNDATION — 75MM
   e. CRASH BARRIER — 40MM
8. BACK FILLING BEHIND WALLS/ABUTMENT SHALL CONSISTS OF SELECTED EARTH CONFORMING TO APPENDIX 6 OF IRC:78-2014 HAVING PROPERTIES C=0, ø>=30°, γ=2.0t/cu.m.
9. 65MM THICK WEARING COURSE COMPRISING OF BITUMINOUS CONCRETE 40MM THICK OVERLAID WITH 25MM THICK BITUMEN MASTIC ASPHALTIC SHALL BE PROVIDED AS PER SECTION 500 OF MORTH SPECIFICATION.
10. ALL SOLID WALLS RETAINING THE EARTH SHALL HAVE WEEP HOLES STARTING 150MM ABOVE THE GROUND LEVEL AND SPACED 1000MM HORIZONTALLY AND VERTICALLY IN STAGGERED MANNER.
11. 600MM THICK FILTER MEDIA SHALL BE PROVIDED BEHIND SOLID ABUTMENT WALLS AND RETURN/RETAINING WALL.
12. CONDITION OF EXPOSURE IS MODERATE.
13. BRIDGE IS DESIGN FOR SEISMIC ZONE V OF SEISMIC MAP OF INDIA.
14. THE STRUCTURE SHALL BE DESIGNED FOR LIVE LOAD COMBINATION CONFORMING TO IRC:6-2017.
15. SINGLE STRIP SEAL TYPE EXPANSION JOINT SHALL BE PROVIDED AS PER MODIFIED INTERIM SPECIFICATION FOR EXPANSION JOINTS ISSUED VIDE "MORTH" CIRCULAR NO. RW/NH-34059/1/98-S&R DATED 30-11-2000 & 25-01-2001.
16. FOR DETAILS OF DRAINAGE SPOUT, CRASH BARRIER, JOINTS,APPROACH SLAB & RETAINING WALL REFER SEPARATE DRAWING.

HYDROLOGICAL DETAILS:-

DESIGN DISCHARGE	74.65 CUMECS
HFL	41.031m
DESIGN VELOCITY	2.664 M/sec
MSL AT ABUTMENT	34.648m

LOAD CARRYING CAPACITY OF 1.2m DIA PILE AS PER GEOTECH REPORT.

DESCPTION	NORMAL CASE		SEISMIC CASE	
	VERTICAL (T)	HORIZONTAL (T)	VERTICAL (T)	HORIZONTAL (T)
ABUTMENT (A1)	625	54	781.25	67.5
ABUTMENT (A2)	625	54	781.25	67.5

Technocrats Advisory Services Private Limited, Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- GENERAL ARRANGEMENT DRAWING OF MINOR BRIDGE AT CH. 52+100

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 01

CONSULTANT:-

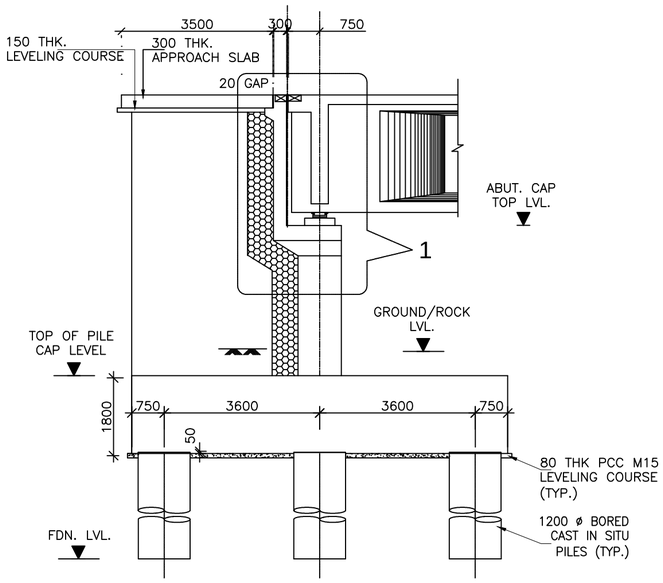
TASPL

Technocrats Advisory Services Private Limited

in association with Vaishnavi Infratech Services Pvt. Ltd

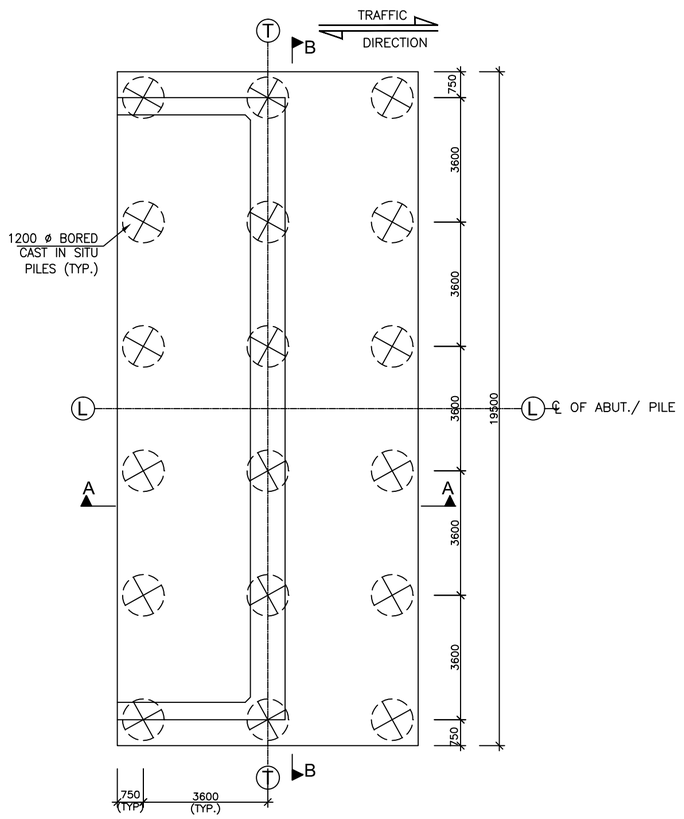
68,Ajanta Apartsments, 36, I.P. Extension

Patparganj Delhi-110092.



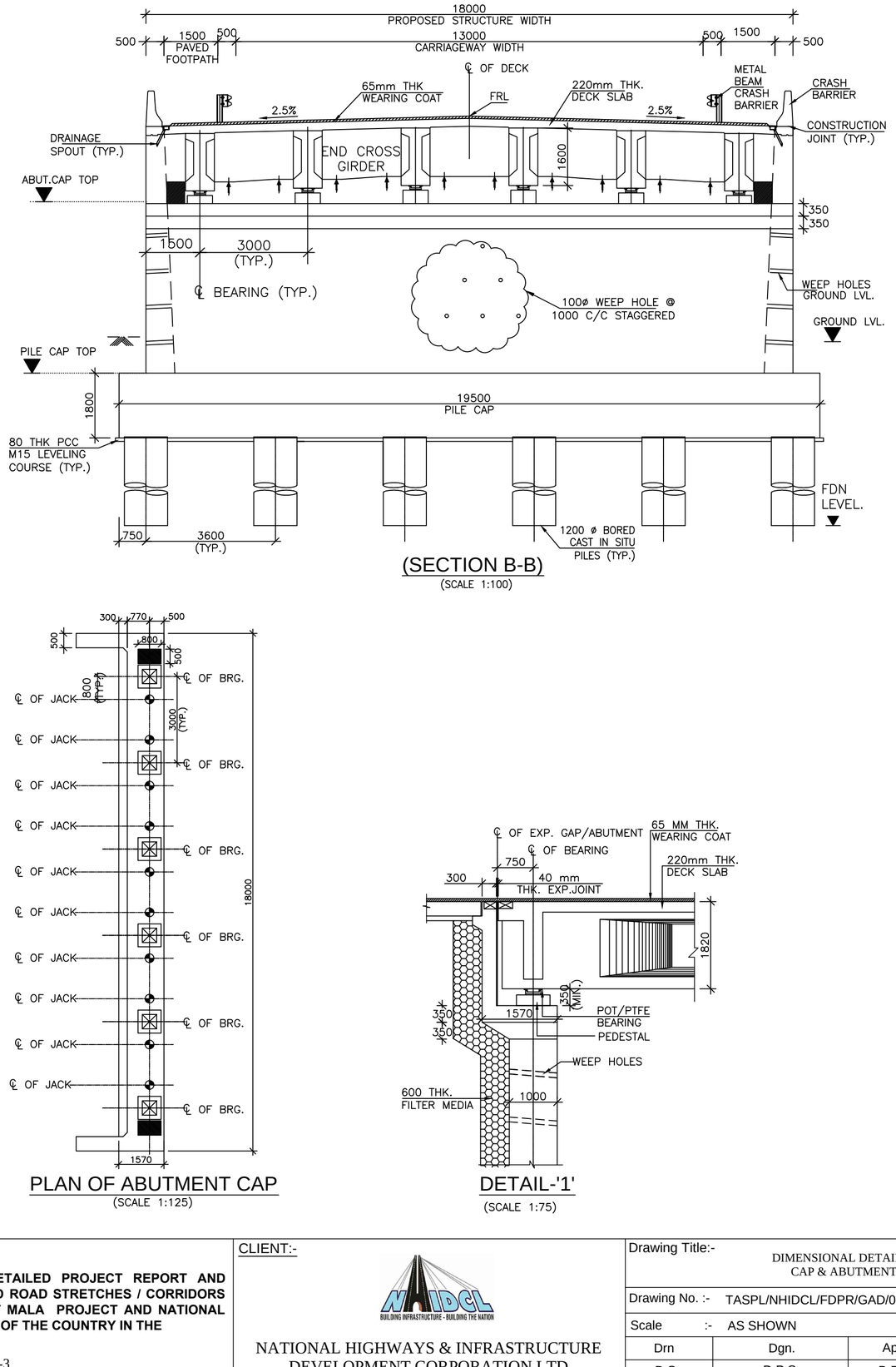
SECTION A-A

(SCALE 1:100)



PLAN AT PILE CAP

(SCALE 1:125)



(SECTION B-B)

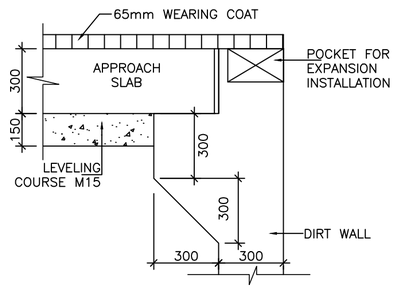
(SCALE 1:100)

PLAN OF ABUTMENT CAP

(SCALE 1:125)

DETAIL-'1'

(SCALE 1:75)



DETAIL - '2'

TYP. DETAIL OF DIRT WALL BRACKET SUPPORTING APPROACH SLAB
SCALE 1:20

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. L–L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE T–T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
4. TOP LEVEL OF ABUTMENT CAP HAS BEEN WORKED OUT BY ASSUMING MINIMUIM THICKNESS OF BEARING + PEDESTAL AS 0.35m THIS SHALL BE RECONFIRMED FROM THE BEARING MANUFACTURER BEFORE
5. THE LOCATION OF JACK OR LIFTING OF THE SUPERSTRUCTURE TO REPLACE BEARINGS ETC. IS SHOWN ⊦. THUS THIS SHALL BE DISTINCTLY ETCHED FOR EASY IDENTIFICATION ON THE END CROSS GIRDERS AND ABUTMENT CAPS.
7. CAPACITY OF JACKS SHOULD NOT BE LESS THAN 100 TONS.
8. FOLLOWING DESIGN MIX CONCRETE GRADES SHALL BE USED:–
   - i) ABUT. AND ABUT. CAP ---M35
   - ii) PILE AND PILE CAP ---M35
   - iii) RCC CRASH BARRIER ---M40
   - iv) PEDESTAL ---M40
   - v) LEVELLING COURSE ---M15

Technocrats Advisory Services Private Limited Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- DIMENSIONAL DETAILS OF ABUTMENT CAP & ABUTMENT FOUNDATION

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

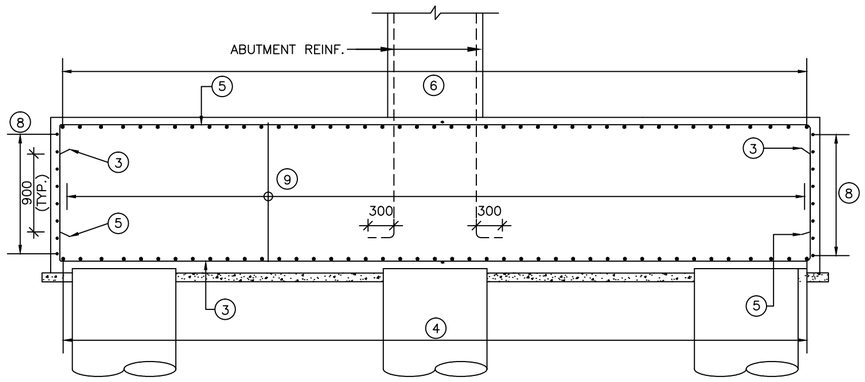
Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 03

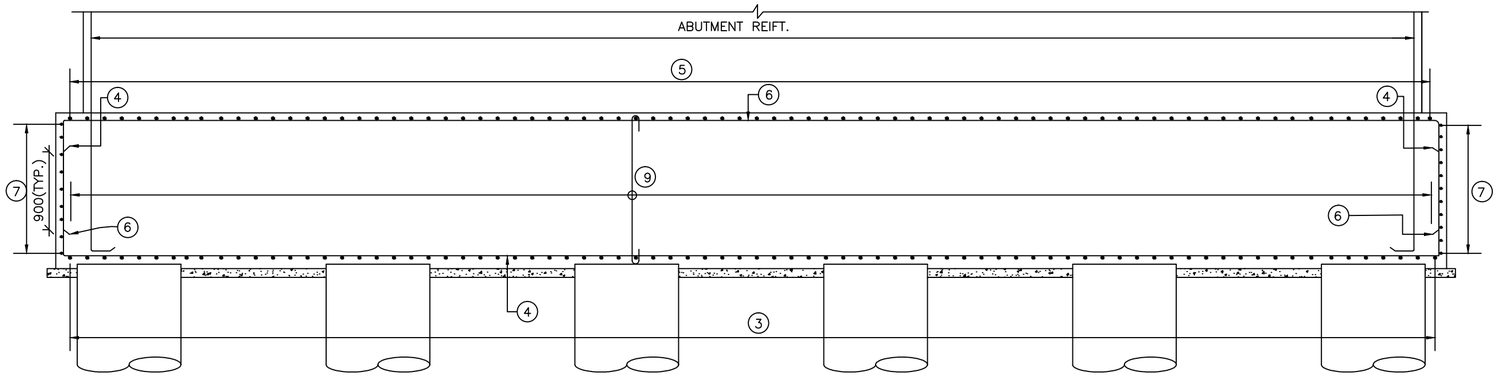
CONSULTANT:-

TASPL

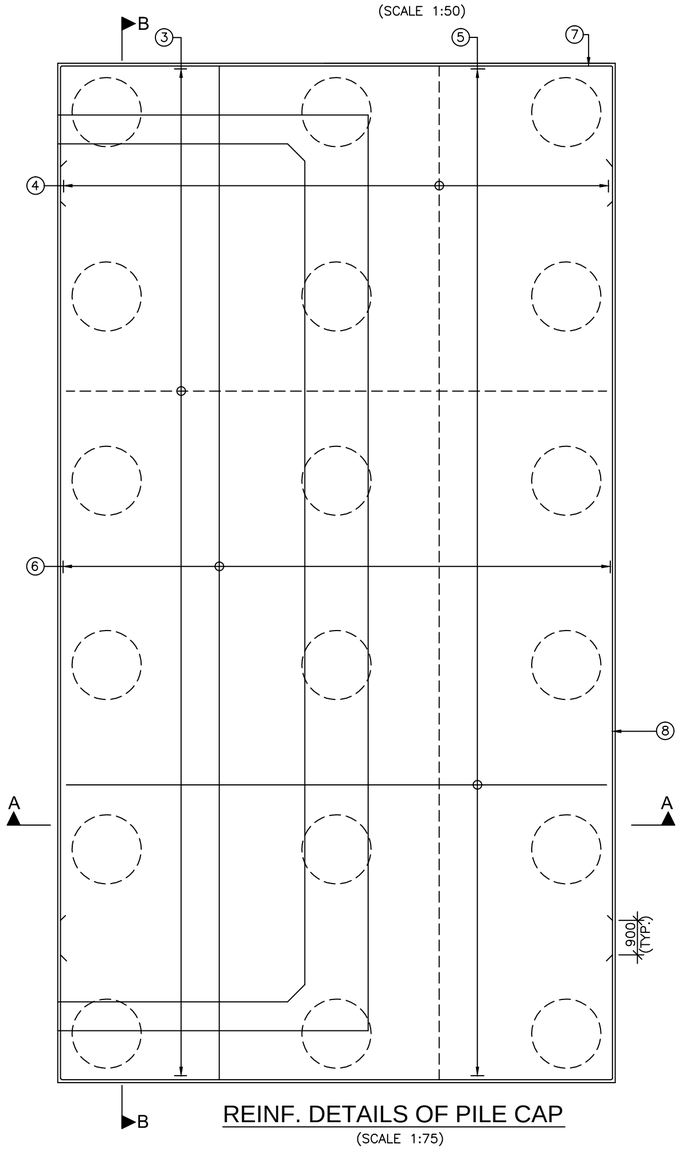
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



SECTION A-A
(SCALE 1:50)



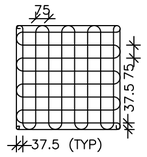
SECTION B-B
(SCALE 1:50)



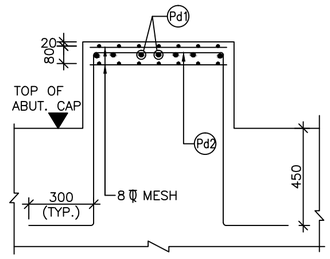
REINF. DETAILS OF PILE CAP
(SCALE 1:75)

SCHEDULE OF PEDESTAL REINFORCEMENT

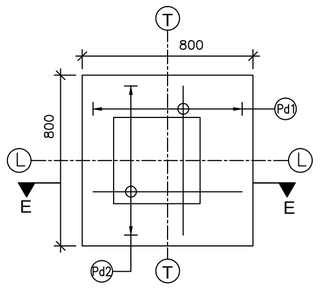
BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
Pd1	12	75	
Pd2	12	75	



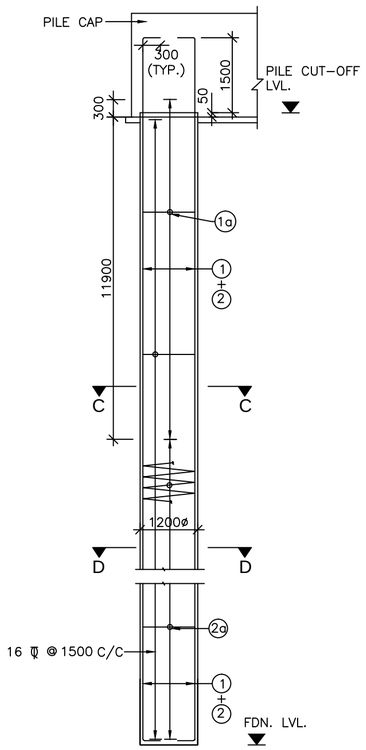
8 Ø MESH IN 2 LAYERS IN PEDESTALS UNDER BEARING
(SCALE 1:25)



SECTION E-E
(SCALE 1:20)



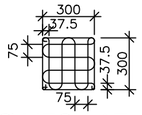
PLAN
(DETAILS OF PEDESTAL)
(SCALE 1:20)



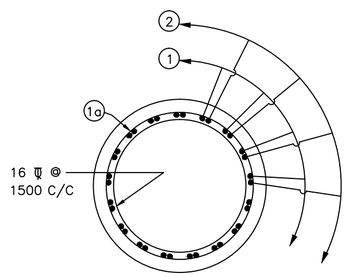
R.C.DETAILS OF PILE
(SCALE 1:75)

LEGEND:

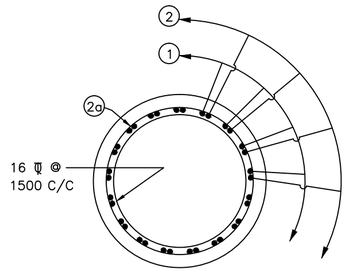
———	TOP/EARTH FACE
- - - - -	BOTTOM/OUTER FACE
B/F	BOTH FACE
V.L	VARYING LENGTH



8 Ø MESH AT JACK LOCATION IN TWO LAYERS
(SCALE 1:25)



SECTION C-C
(SCALE 1:30)



SECTION D-D
(SCALE 1:30)

SCHEDULE OF PILE & PILE CAP REINFORCEMENT

BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
1	25	20 Nos.	
1a	16	100	
2	25	20 Nos.	
2a	10	150	
3	20	100	
4	20	100	
5	16	100	
6	16	100	
7	16	150	
8	16	150	
9	NA	100 both ways	

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. L–L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
   T–T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
4. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION Fe–500D CONFORMING TO IS: 1786 SHALL ONLY BE USED.
5. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE IT'S CONCRETING.
6. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOWS WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50% ONLY (IRC: 112–2011) (CLAUSE:15.2.5.1)

   LAP LENGTH ls = $\alpha 1$. lbnet
   $\alpha 1$ = 1.0 FOR p%≤ 25%
   $\alpha 1$ = 1.15 FOR 25%≤p%≤25%
   $\alpha 1$ = 1.14 FOR 33%≤p%≤50%
   (IRC:112–2011, CLAUSE:15.2.3.3)
   ANCHORAGE LENGTH (lbnet)
   lbnet = α. lb (α = 1.0)
   lb = kø
   k = 40 FOR M30 (Fe500D)
   k = 36 FOR M35 (Fe500D)
   k = 34 FOR M40 (Fe500D)
   FOR UNFAVORABLE BOND CONDITION THE lb SHOULD BE MULTIPLIED BY FACTOR OF 1.43. FOR ø>32mm lb SHOULD BE INCREASED BY MULTIPLYING FACTOR $\left(\frac{100}{132-ø}\right)$

Technocrats Advisory Services Private Limited Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAILS OF ABUTMENT CAP & ABUTMENT FOUNDATION

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 03

CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
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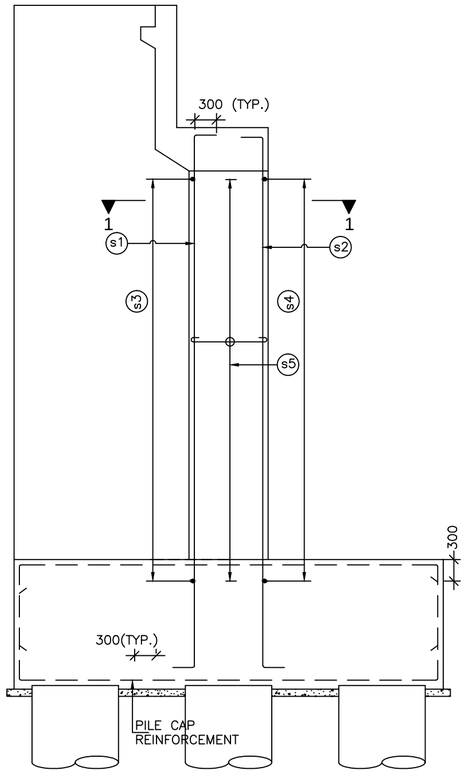
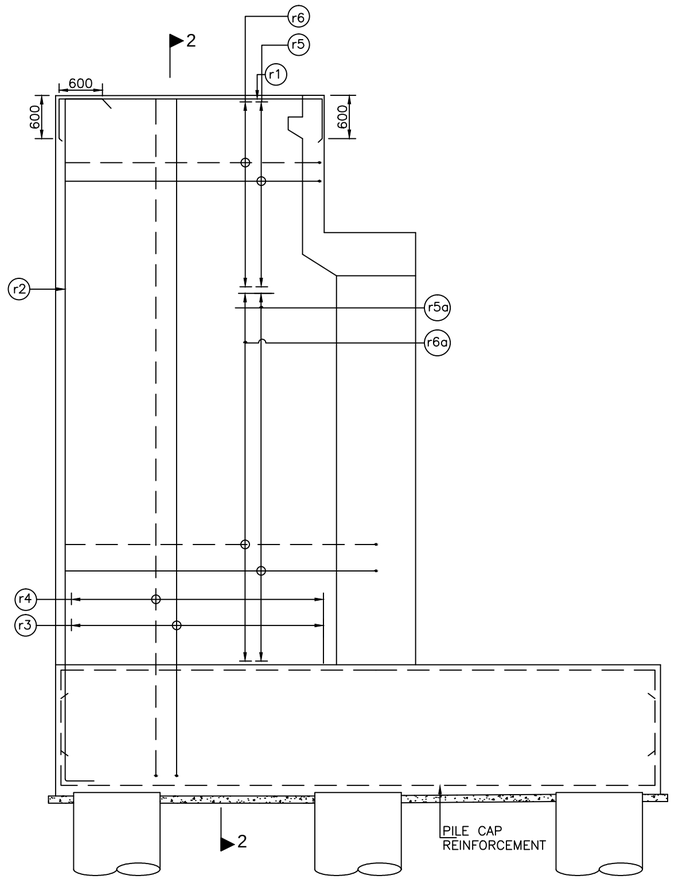
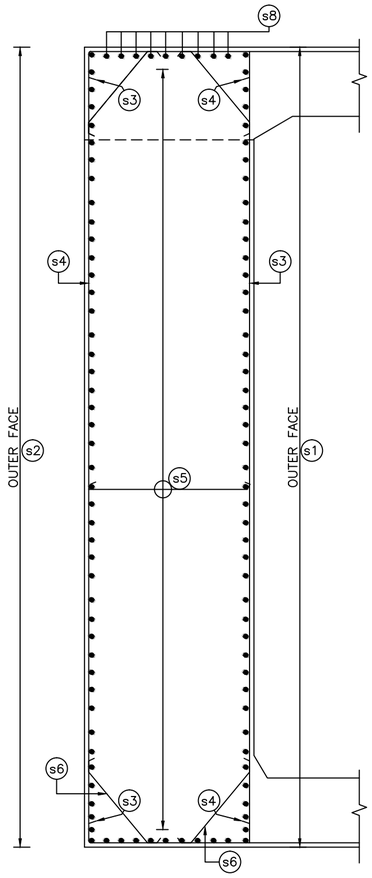


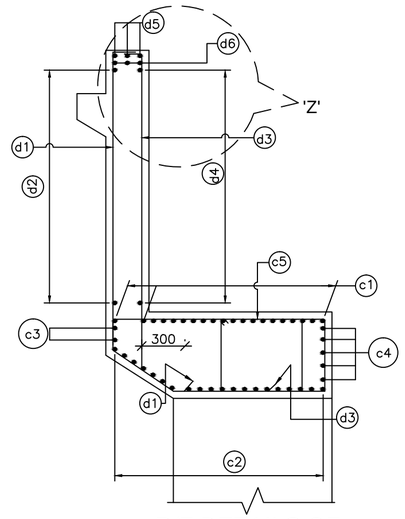
SECTION A-A
(SCALE 1:75)



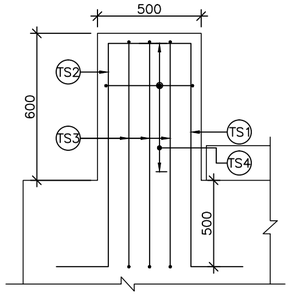
R/F DETAILS OF RETURN WALL
(SCALE 1:60)



SECTION 1-1
(SCALE 1:50)



R/F DETAILS OF DIRT WALL & ABUTMENT CAP
(SCALE 1:30)



SECTION AT G-G
(SCALE 1:25)

ABUT. SHAFT REINFT.

BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
s1	20	120 Nos.	
s2	16	120 Nos.	
s3	16	200	
s4	16	200	
s5	12	300	
s6	12	150	
s7		NOT USED	
s8	16	5 Nos	

DIRT WALL. REINFT.

d1	12	150	
d2	10	200	
d3	10	150	
d4	10	200	
d5	12	3 Nos.	
d6	12	3 Nos.	

ABUT.CAP REINFT.

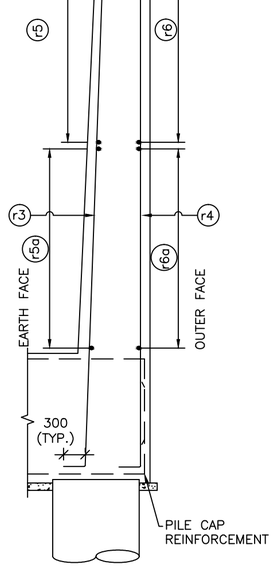
c1	20	10 Nos.	
c2	20	10 Nos.	
c3	16	2 Nos.	
c4	16	5 Nos.	
c5	4L–12	120	

RETURN WALL. REINFT.

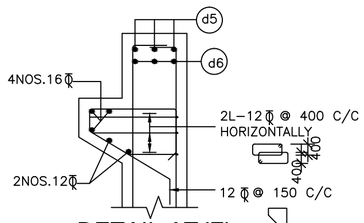
r1	16	4 Nos.	
r2	16	4 Nos.	
r3	16	150	
r4	16	150	
r5	16	150	
r5a	16	150	
r6	12	200	
r6a	12	200	
r8	12	4 Nos.	
r9	16	150	
r10	16	150	

TRANSVERSE SEISMIC STOPPER:-

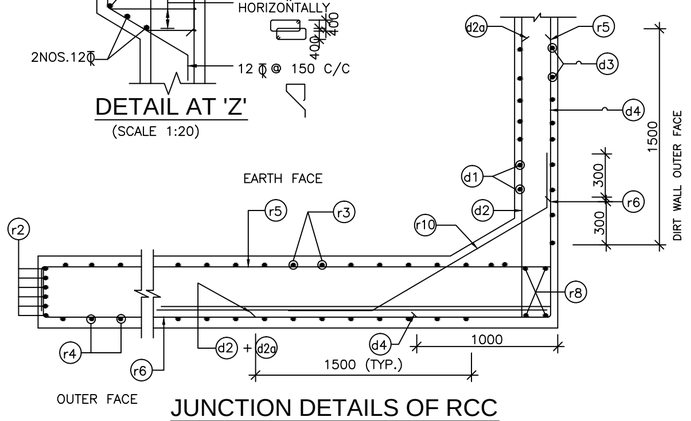
TS1	25	10 Nos.	
TS2	12	8 Nos.	
TS3	12	3x2 Nos.	
TS4	16	100	4 LEGGED



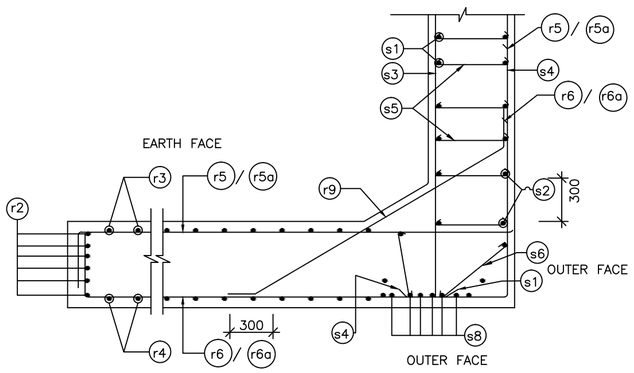
SECTION 2-2
(SCALE 1:60)



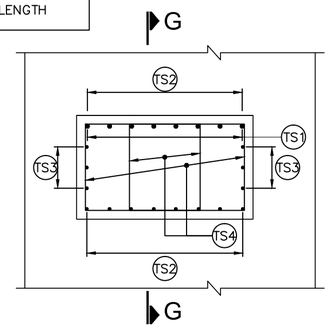
DETAIL AT 'Z'
(SCALE 1:20)



JUNCTION DETAILS OF RCC SOLID RETURN WALL AND DIRT WALL
(SCALE 1:30)



JUNCTION DETAILS OF RCC ABUTMENT AND SOLID RETURN WALL
(SCALE 1:30)



PLAN SHOWING REINF. DETAILS OF SEISMIC TRANSVERSE STOPPER
(SCALE 1:25)

LEGEND:

———	TOP/EARTH FACE
– – – –	BOTTOM/OUTER FACE
B/F	BOTH FACE
V.L	VARYING LENGTH

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:-	REINFORCEMENT DETAILS OF ABUTMENT CAP & ABUTMENT FOUNDATION		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	03 OF 03

CONSULTANT:-

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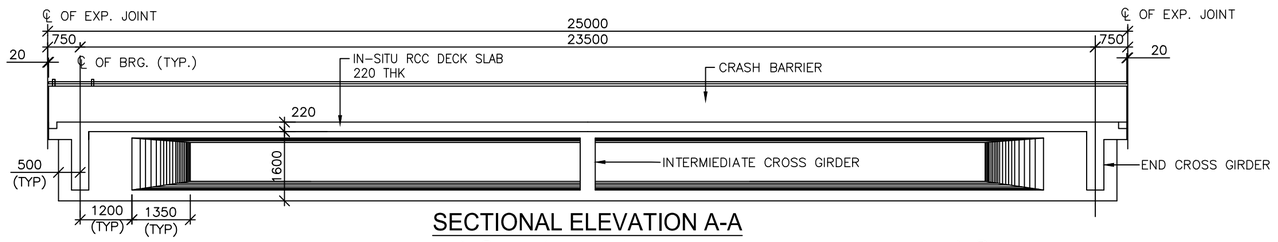
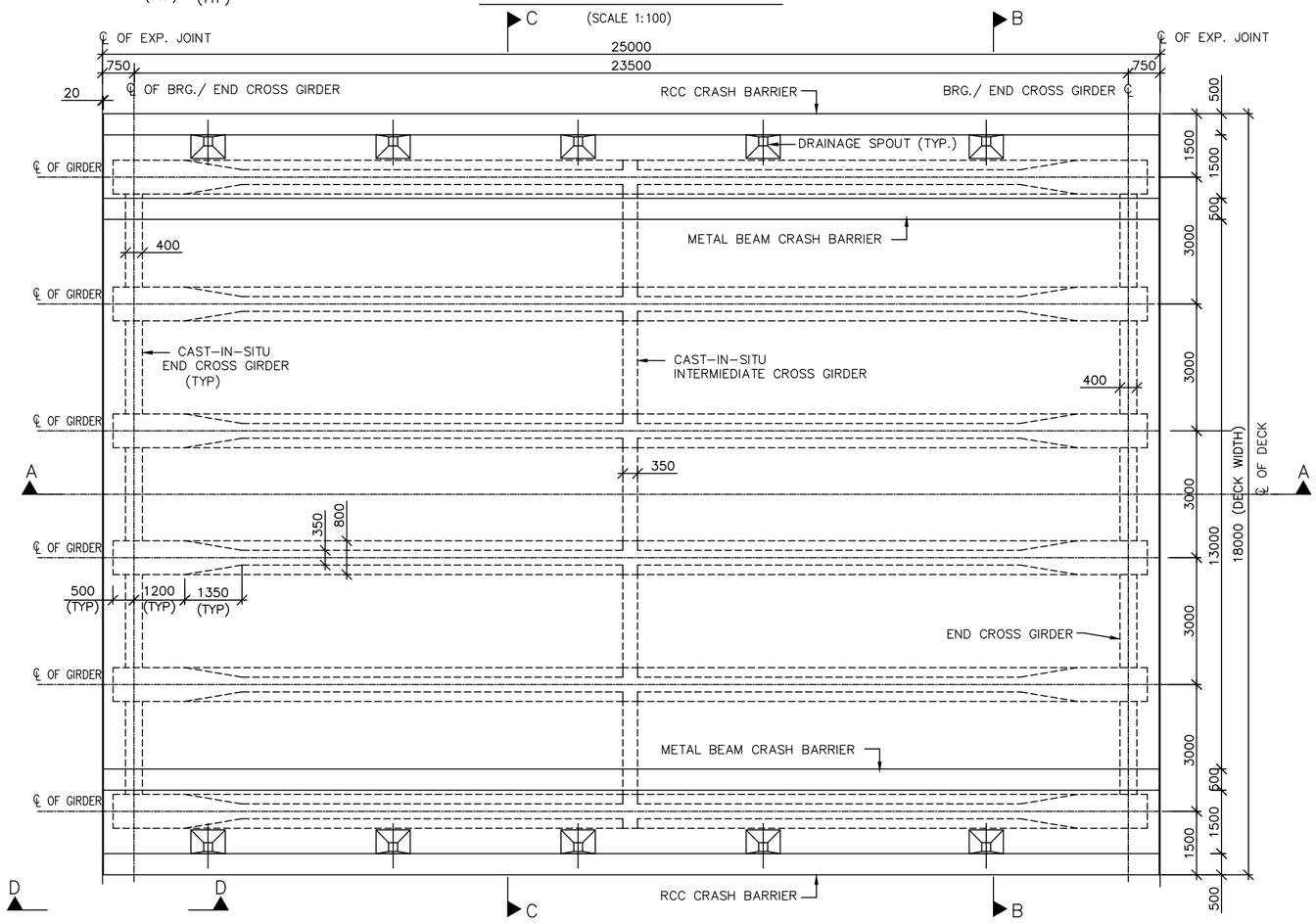
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



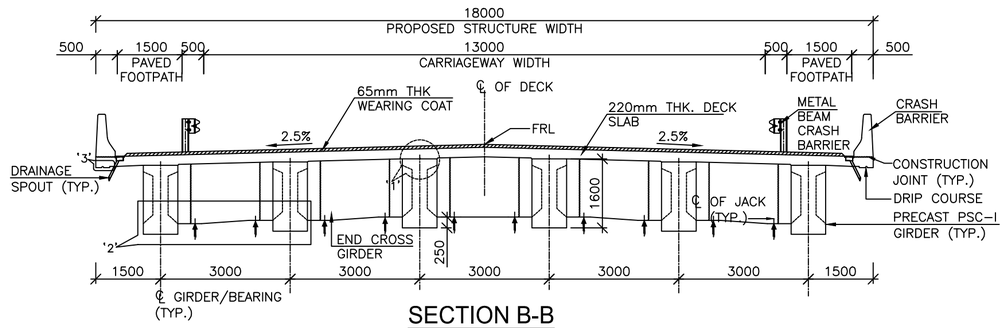
SECTIONAL ELEVATION A-A

(SCALE 1:100)



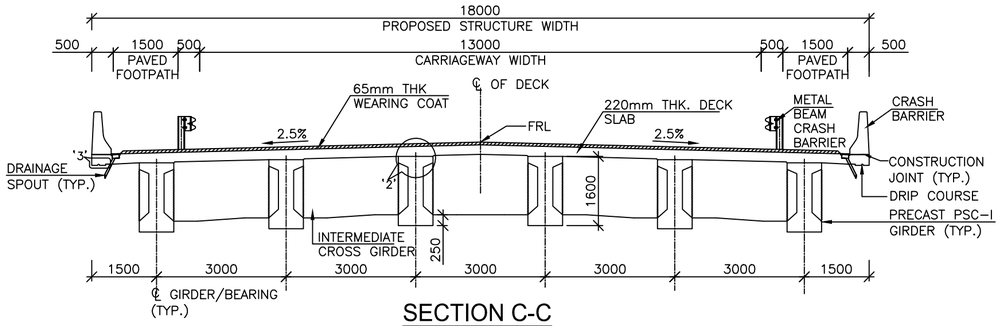
PLAN AT DECK LEVEL

(SCALE 1:100)



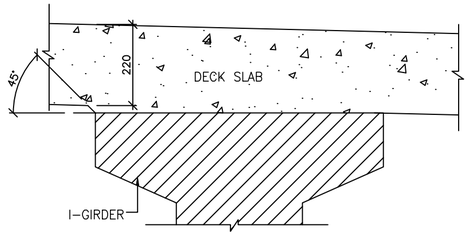
SECTION B-B

(SCALE 1:100)



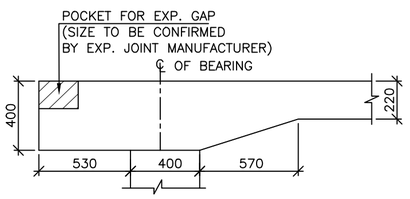
SECTION C-C

(SCALE 1:100)



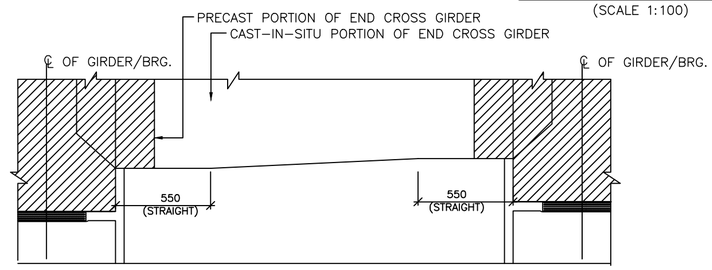
DETAIL '1'

(SCALE 1:10)



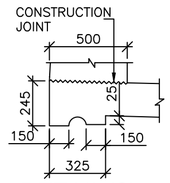
SECTION D-D

(SCALE 1:25)



DETAIL '2'

(SCALE 1:25)



DETAIL '3'

(SCALE 1:25)

NOTES:-

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. TOP SURFACE OF GIRDER SHALL BE ROUGHED FOR EFFECTIVE BONDING.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. BEAM SHALL BE KEPT UPRIGHT AT ALL TIMES AND TO BE CLEARLY MARKED INDICATING SPAN, LOCATION, AND RESPECTIVE ENDS BEFORE REMOVAL FROM CASTING BED.
5. CONCRETE FOR SUPERSTRUCTURE SHALL BE DESIGN MIX AND HAVE A MINIMUM 28 DAYS CHARACTERISTIC STRENGTH OF M40.
6. THE JACK FOR LIFTING THE SUPER STRUCTURE DURING BEARING REPLACEMENT SHALL HAVE A MINIMUM CAPACITY OF 200t.

Technocrats Advisory Services Private Limited

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:-	DIMENSION DETAIL OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

TASPL

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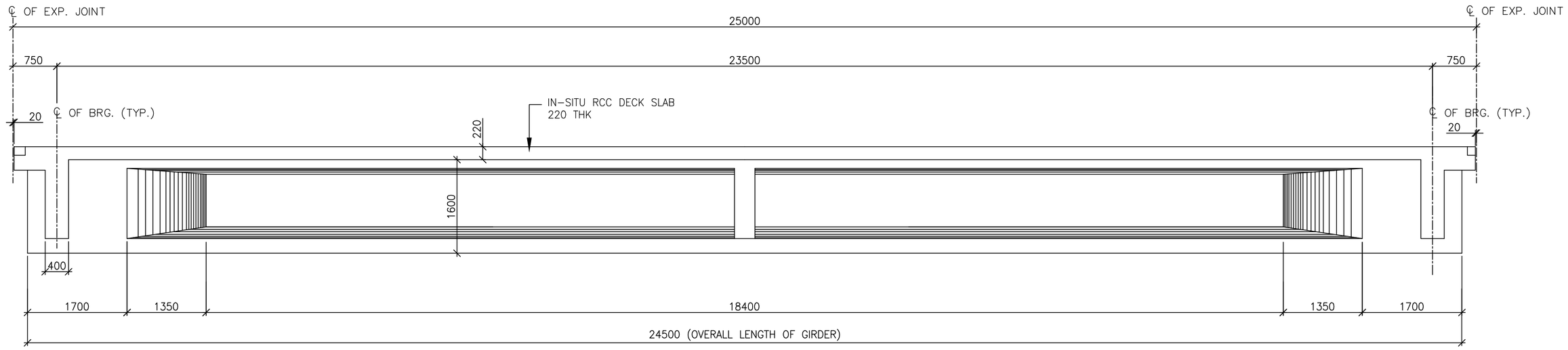
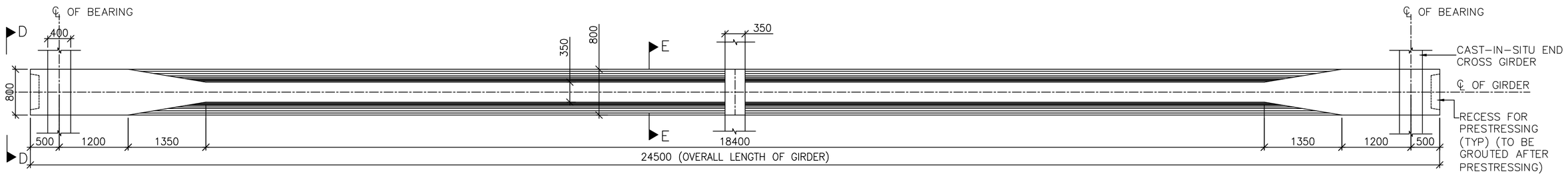
Patparganj Delhi-110092.



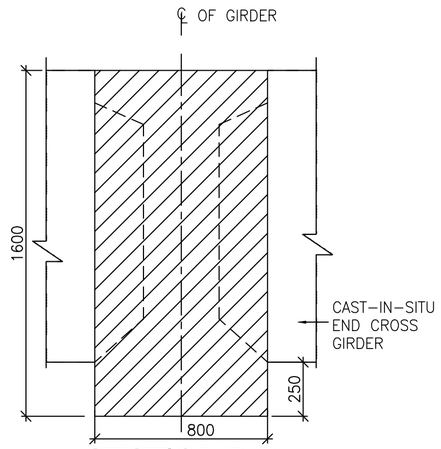
ELEVATION OF PRECAST GIRDER

(SCALE 1:50)



PLAN OF PRECAST GIRDER

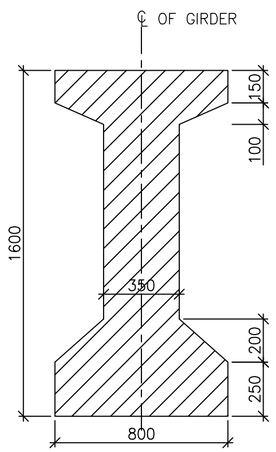
(SCALE 1:50)



SECTION D-D

(SUPPORT SECTION)

(SCALE 1:20)



SECTION E-E

(MID SPAN)

(SCALE 1:20)

NOTES:-

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. TOP SURFACE OF GIRDER SHALL BE ROUGHED FOR EFFECTIVE BONDING.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. BEAM SHALL BE KEPT UPRIGHT AT ALL TIMES AND TO BE CLEARLY MARKED INDICATING SPAN, LOCATION, AND RESPECTIVE ENDS BEFORE REMOVAL FROM CASTING BED.
5. CONCRETE FOR SUPERSTRUCTURE SHALL BE DESIGN MIX AND HAVE A MINIMUM 28 DAYS CHARACTERISTIC STRENGTH OF M40.

Technocrats Advisory Services Private Limited Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- DIMENSION DETAIL OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

CONSULTANT:-

TASPL

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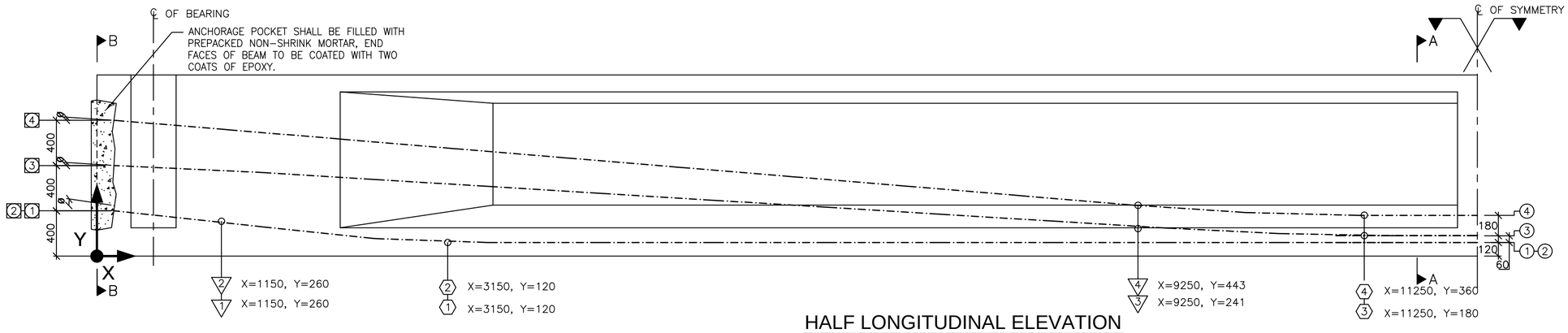
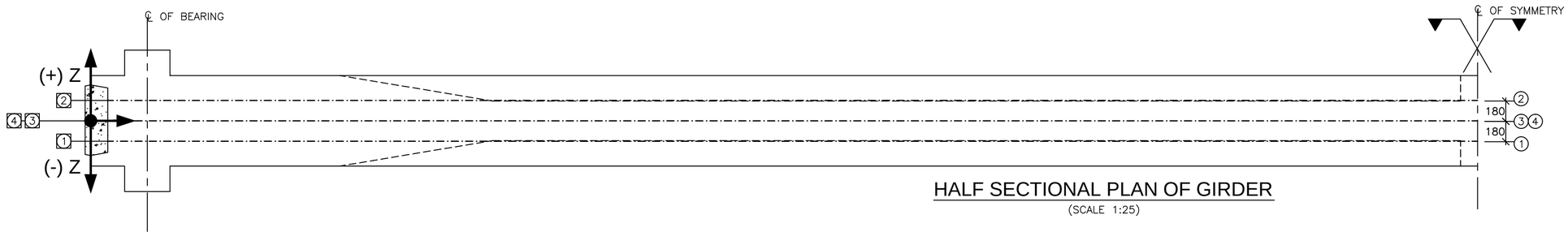
Patparganj Delhi-110092.



HALF LONGITUDINAL ELEVATION

(SCALE 1:25)



HALF SECTIONAL PLAN OF GIRDER

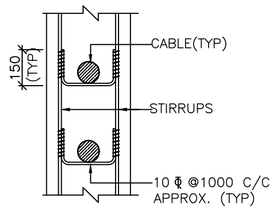
(SCALE 1:25)

TABLE2: DETAILS OF JACKING FORCE & TENDON ELONGATION

CABLE NO.	EXTENSION AT EACH END (mm)	EMERGENCE ANGLE (Ø) (Degree)	GIRDER		
			JACKING FORCE (t)	NOS. OF STRANDS	DUMMY STRANDS
1	88.3	7.970	215.1	11	1
2	88.3	7.970	215.1	11	1
3	89.9	3.513	195.5	10	2
4	89.9	4.754	234.6	12	–

LEGEND :-

- INDICATED START OF CURVE IN ELEVATION
- INDICATED END OF CURVE IN ELEVATION
- INDICATED END OF CABLE
- INDICATED CABLE NUMBER

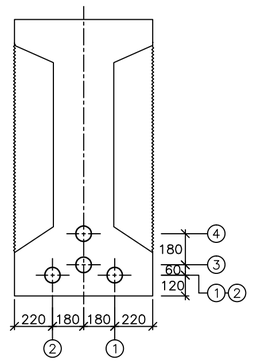


TYPICAL SUPPORTING ARRANGEMENT FOR CABLE

(SCALE 1:15)

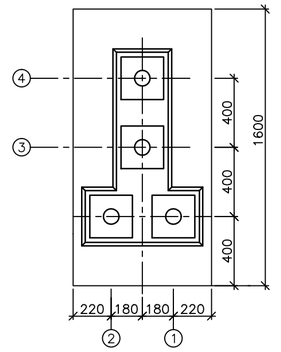
TABLE - 1: DETAILS OF CABLE CO-ORDINATE

CABLE NO.	ORDINATES AT DISTANCE 'X' FROM END OF GIRDER																											
	150		1150		2150		3150		4150		5150		6150		7150		8150		9250		10250		11250		12150		MID OF GIRDER	
	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z
1	400	–180	260	–180	155	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	–120	–180
2	400	180	260	180	155	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180
3	800	0	739	0	677	0	616	0	554	0	493	0	432	0	370	0	309	0	245	0	195	0	180	0	180	0	180	0
4	1200	0	1117	0	1034	0	950	0	867	0	784	0	701	0	618	0	535	0	443	0	381	0	360	0	360	0	360	0



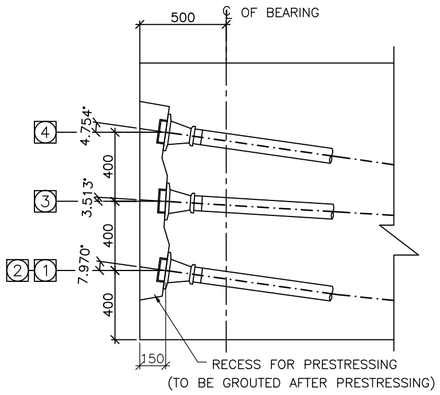
SECTION A-A

(SCALE 1:20)



VIEW B-B (END BLOCK)

(SCALE 1:20)



DIMENSION DETAIL OF END BLOCK

(SCALE 1:20)

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Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:-	CABLE LAYOUT OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.

PRESTRESSING NOTES:–

1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.

4. PRESTRESSING SYSTEM

a) ALL PRESTRESSING STRANDS SHALL HAVE 7 PLY UNCOATED STRESS RELIEVED LOW RELAXATION HIGH TENSILE STRANDS OF 15.2mm DIA. CONFORMING TO CLASS 2 OF IS 14268–1995.

b) THE PARAMETERS ADOPTED FOR DESIGN ARE AS FOLLOWS:–

i) ANCHORAGE TYPE ----------12 K 15
ii) SLIP AT EACH END ---------- 6mm
iii) CO–EFFICIENT OF FRICTION(μ) ---------- 0.17/ RADIAN
iv) WOBBLE CO–EFFICIENT (K)---------- 0.0020/m
v) NOMINAL AREA OF EACH STRAND ---------- 140 sq.mm
vi) NOMINAL ULTIMATE BREAKING LOAD OF EACH STRAND ---------- 260.7KN
vii) MODULUS OF ELASTICITY OF HIGH TENSILE STEEL ---------- $1.95X10^5$ MPa
viii) SHEATHING THICKNESS---------- 0.5 mm

c) HDPE SHEATHING DUCT OF 86mm DIA (ID) SHALL BE USED FOR ALL CABLES.

d) ALL THE DESIGN PARAMETERS ADOPTED SHALL BE VERIFIED AT SITE.

5. PRESTRESSING OPERATIONS

a) ALL CABLES SHALL BE LAID IN SMOOTH PROFILE PASSING THROUGH THE GIVEN ORDINATES. FIRM SUPPORT SHALL BE INSTALLED AT EVERY METRE AS SHOWN.

b) CABLE LENGTHS MENTIONED IN THE DRAWING ARE INCLUSIVE OF 1000 MILLIMETRE EXTRA AT EACH END. THE TOTAL LENGTH OF CABLE SHALL BE VERIFIED AT SITE.

c) ABSCISSA (DISTANCE "X") OF CABLE GIVEN IN THE DRAWING ARE EVALUATED WITH REFERENCE TO END OF GIRDER. ORDINATES DISTANCE 'Y' ARE WITH REFERENCE TO SOFFIT OF THE GIRDER.

d) ALL STRANDS OF CABLES SHALL BE STRESSED FROM BOTH ENDS SIMULTANEOUSLY. ONLY MULTIPULL JACKS SHALL BE USED FOR STRESSING.

e) GROUTING OF CABLES SHALL BE DONE IN SAME SEQUENCE AS STRESSING AND SHALL CONFIRM TO TECHNICAL SPECIFICATIONS. ANCHORAGE POCKET SHALL BE FILLED WITH EPOXY MORTAR AFTER STRESSING & GROUTING.

f) TIME LAG BETWEEN STRESSING OF EACH CABLE SHALL BE AVOIDED.

g) EXTENSIONS SHALL BE RECHECKED AT 24 HOURS AFTER ANCHORING TO OBSERVE SLOW SLIPPAGE. INCASE OF EXCESSIVE SLIPPAGE THE MATTER SHALL BE REPORTED TO THE ENGINEER–IN–CHARGE.

h) EXTENSIONS ARE GIVEN FOR HALF CABLE LENGTHS INCLUSIVE OF 600 MILLIMETRE GRIP LENGTH AT EACH END. LOSS UPTO 6mm DUE TO SLIP OF ANCHORAGES ARE NOT TO BE COMPENSATED DURING SITE OPERATIONS. JACK PRESSURE AND EXTENSIONS OF CABLES AT EACH END GIVEN IN THE DRAWING SHALL BE VERIFIED AT SITE.

i) INITIAL SLACKNESS IN CABLES SHALL BE REMOVED BY APPLYING SMALL 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 CL. 12.2.1.3 OF IS:1343–1980.

j) IN CASE THE CALCULATED ELONGATION AND THE JACK PRESSURE ARE NOT ACHIEVED SIMULTANEOUSLY DURING PRESTRESSING OPERATION STRESSING SHALL BE CONTINUED / DISCONTINUED AS PER NOTE NO. 9 GIVEN BELOW.

k) EXCESS STRANDS AS SHOWN IN TABLE–2 SHALL BE STRESSED IF ANY SHORTFALL IN PRESTRESSING.

6. THE EXTENSIONS GIVEN IN TABLE SHALL BE MODIFIED AT SITE IN CASE ACTUAL VALUE OF AREA OF STRANDS 'A' AND MODULUS OF ELASTICITY 'E' VARIES FROM THOSE ASSUMED IN DESIGN, REVISED EXTENSION SHALL BE CALCULATED AS UNDER REVISED EXTENSION = (140 X 195 X 10^5) / (NEW AREA X NEW MODULUS) x ORIGINAL EXTENSION.

7. EXTENSION OF CABLE SHALL BE VERIFIED FOR A FEW CABLES AT SITE. IN CASE OF VALUE OF μ AND K ARE FOUND TO BE DIFFERENT THAN THOSE CONSIDERED FOR DESIGN, EXTENSION SHALL BE SUITABLY MODIFIED AFTER APPROVAL OF DESIGN OFFICE.

8. THE GRIP LENGTH FROM ANCHORAGE FACE UPTO GRIPPING POINT IN JACK ASSUMED IN EXTENSION CALCULATIONS IS 600 mm AND THE ADDITIONAL LENGTH TAKEN FOR CUTTING IS 400 mm. IN CASE GRIP LENGTH VARIES THEN THOSE CONSIDERED, THE EXTENSIONS SHALL BE MODIFIED AS UNDER :

$$E_{x\,(New)} = E_{x\,(Old)} + \frac{\text{JACK FORCE} \times (\text{GRIP LENGTH} - 600)}{\text{AREA} \times Es}$$

9. SPECIAL NOTE FOR PRESTRESSING

IF THE CALCULATED ELONGATION IS REACHED BEFORE THE CALCULATED GAUGE PRESSURE IS OBTAINED, CONTINUE TENSIONING TILL ATTAINING THE CALCULATED GAUGE PRESSURE PROVIDED THE ELONGATION DOES NOT EXCEED 1.05 TIMES THE CALCULATED ELONGATION. IF THE CALCULATED ELONGATION HAS NOT BEEN REACHED CONTINUE TENSIONING IN INTERVALS OF 5 kg/sqcm UNTIL THE CALCULATED ELONGATION IS REACHED PROVIDED THE GAUGE PRESSURE DOES NOT EXCEED 1.05 TIMES THE CALCULATED GAUGE PRESSURE. IF THE ELONGATION AT 1.05 TIMES THE CALCULATED GAUGE PRESSURE IS LESS THAN 0.95 TIMES THE CALCULATED ELONGATION THE FOLLOWING MEASURES MUST BE TAKEN :

i) RECALIBRATE THE PRESSURE GAUGE
ii) CHECK THE CORRECT FUNCTIONING OF THE JACK PUMP AND LEADS
iii) DE–TENSION THE CABLE SLIDE IT IN ITS DUCT TO CHECK THAT IT IS NOT BLOCKED BY MORTAR WHICH HAS ENTERED THROUGH IN THE SHEATH. RE–TENSION THE CABLE IF FREE. IF THE REQUIRED ELONGATION IS NOT OBTAINED FURTHER FINISHING OPERATION SUCH AS CUTTING OR SEALING SHOULD NOT BE UNDERTAKEN WITHOUT THE APPROVAL THE ENGINEER.

10. THE GAUGE PRESSURE FOR PRESTRESSING SHALL BE WORKED OUT PRIOR TO ANY STRESSING OPERATION DULY TAKING IN TO ACCOUNT THE RAM AREA OF THE JACK AND THE JACK EFFICIENCY. THE STRESSING EQUIPMENTS SHALL BE WELL MAINTAINED AND THE CALIBRATION CHARTS SHALL BE AVAILABLE AT SITE.

11. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.

CONSTRUCTION SEQUENCE OF OUTER GIRDER

1. AT '0'TH DAY GIRDER SHALL BE CASTED ON CASTING BED.
2. CABLE No. ③ & ④ SHALL BE PRESTRESSED AT 5TH DAY OR WHEN CUBE STRENGTH IS 35MPa WHICHEVER IS LATER. AFTER THIS STAGE OF STRESSING THE GIRDER CAN BE LIFTED FROM THE CASTING BED.
3. 4 STRANDS OF CABLE No. ① SHALL BE PRESTRESSED AT 21ST DAY OR WHEN CUBE STRENGTH IS 40MPa.
4. AFTER STRESSING 4 STRANDS OF CABLE NO① , 8 STRANDS OF CABLE No. ② SHALL BE PRESTRESSED.
5. AFTER STRESSING CABLE No. ② REMAINING STRANDS OF CABLE No. ① SHALL BE PRESTRESSED.
6. GIRDERS SHALL BE PLACED ON TEMPORARY SUPPORTS ON PIER CAP.
7. PERMANENT BEARINGS SHALL BE INSTALLED ON PEDESTALS.
8. CAST WEDGE OVER THE BEARING AS PER RELEVANT WEDGE DETAILS.
9. REMOVE TEMPORARY SUPPORT SO THAT GIRDER CAN BE PLACED OVER STEEL WEDGE AND PERMANENT BEARINGS.
10. DECK SLAB SHALL BE CAST AFTER 28 DAYS OF CASTING OF GIRDER.
11. PARAPET, RAIL PLINTH SHALL BE ERECTED/CAST 28 DAYS AFTER CASTING THE DECK SLAB OR AFTER THE DECK SLAB ATTAINS A STRENGTH OF 40MPa, WHICHEVER IS LATER.

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.

Technocrats Advisory Services Private Limited Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- CABLE LAYOUT OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

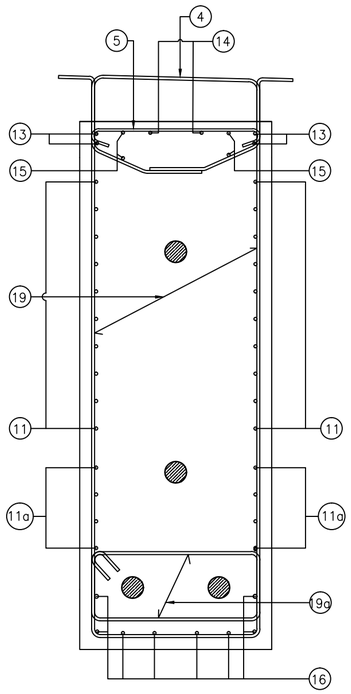
Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

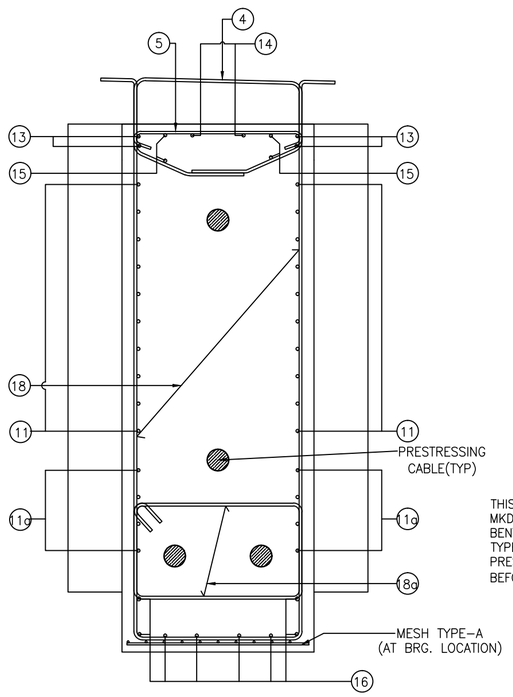
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

CONSULTANT:-

TASPL
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



SECTION D-D
(SCALE 1:15)



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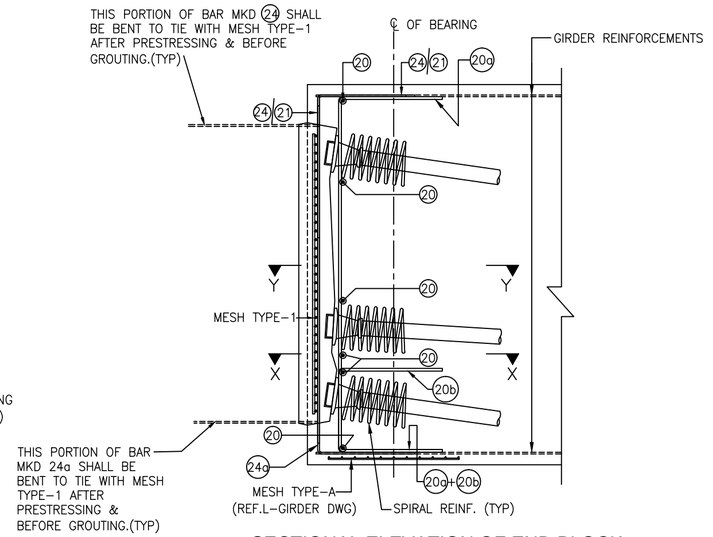
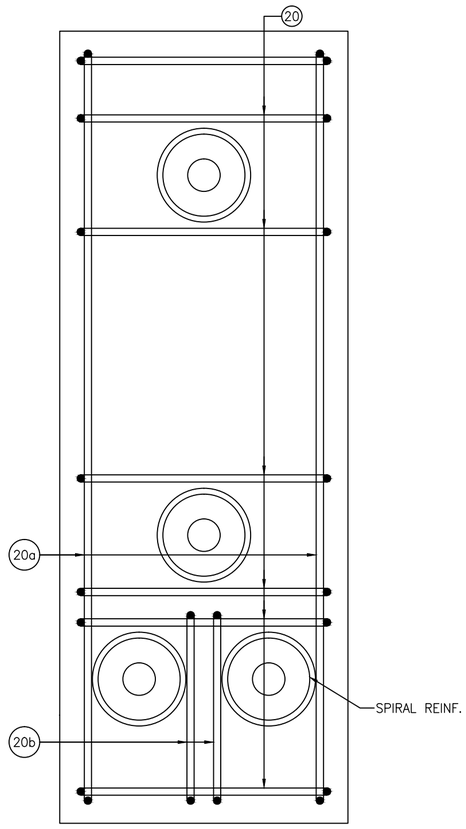
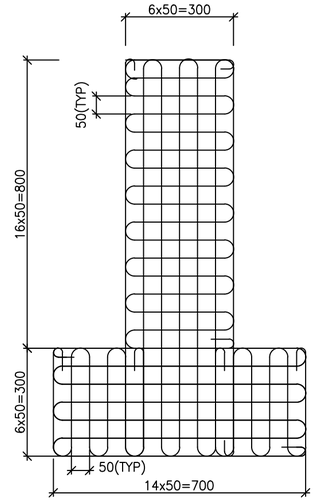


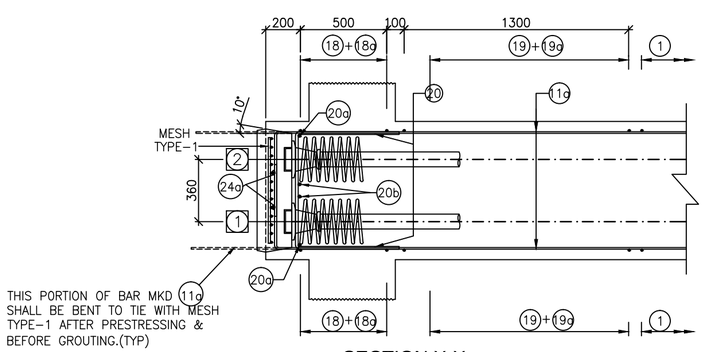
SECTIONAL ELEVATION OF END BLOCK
(SCALE 1:20)



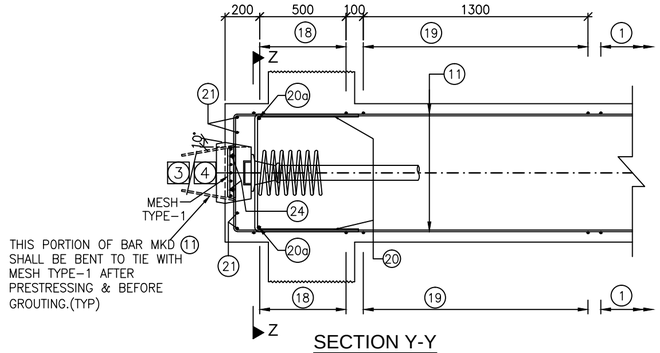
SECTION Z-Z
(SCALE 1:10)



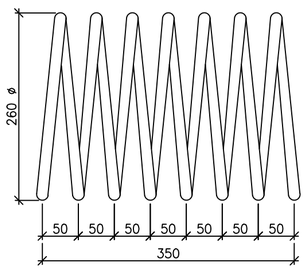
12 ℄ MESH TYPE- 1
(SCALE 1:10)



SECTION X-X
(BAR MKD. 2 NOT SHOWN FOR CLARITY)
(SCALE 1:20)



SECTION Y-Y
(BAR MKD. 2 NOT SHOWN FOR CLARITY)
(SCALE 1:20)



16 ℄ SPIRAL REINFORCEMENT FOR CABLE (TYP)
(SCALE 1:5)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE MENTIONED.
2. DONOT SCALE THE DRAWING, DIMENSIONS SHOWN SHALL BE FOLLOWED.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. ANCHORAGE RECESSES SHALL BE SEALED WITH PREPACKAGED NON–SHRINK MORTAR. END FACES OF GIRDERS TO BE COATED WITH TWO COATES OF EPOXY.

DIAMETER AND DIMENSIONS OF SPIRAL REINFORCEMENT SHALL BE CONFIRMED BY PRESTRESSING SYSTEM SUPPLIER

Technocrats Advisory Services Private Limited

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

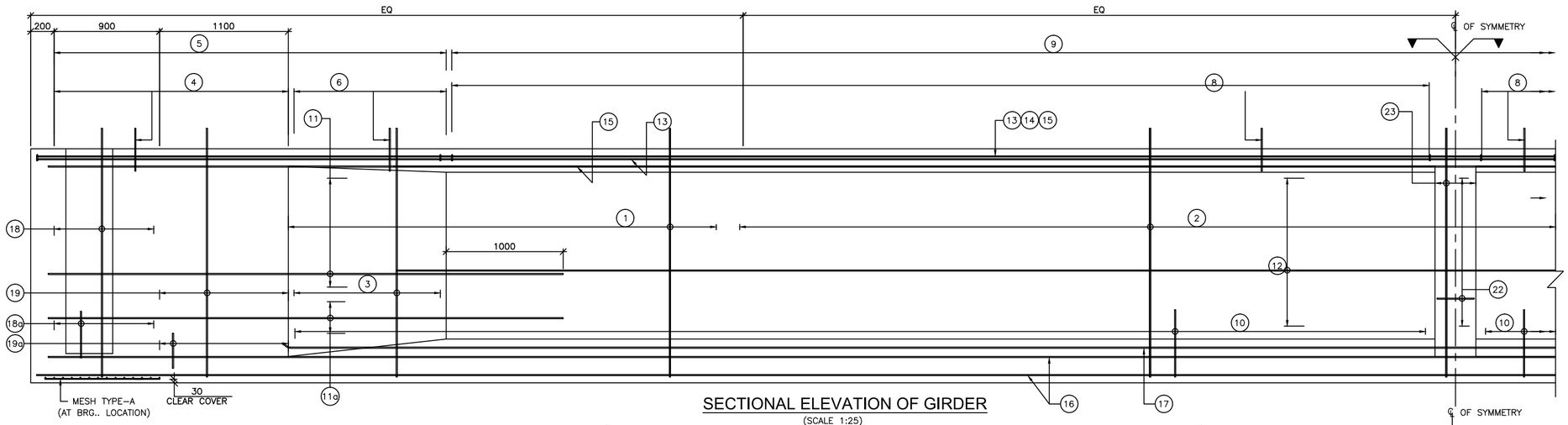
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:-	REINFORCEMENT DETAIL OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

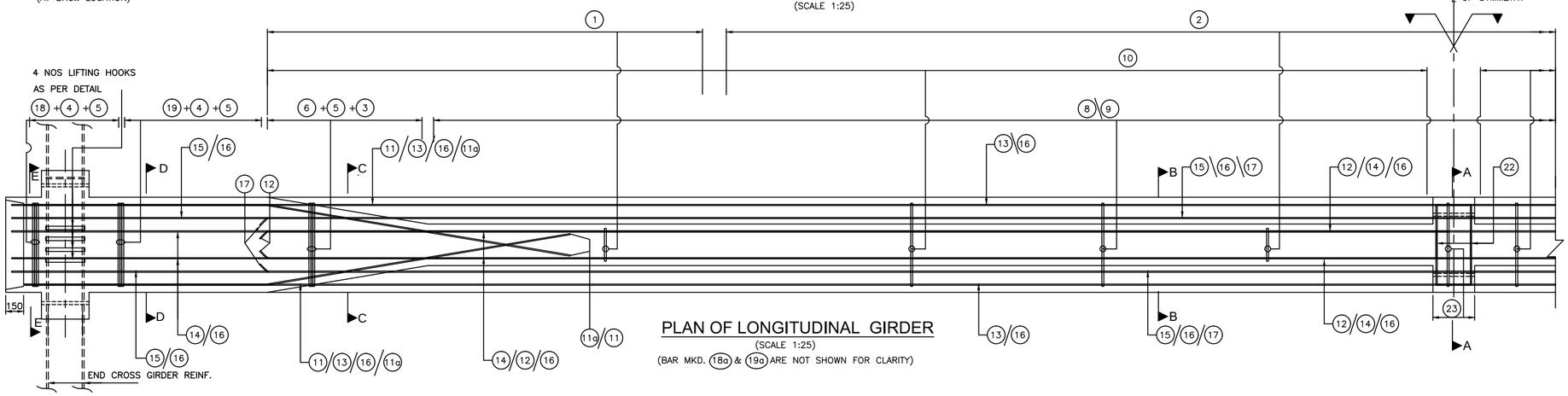
CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



SECTIONAL ELEVATION OF GIRDER
(SCALE 1:25)



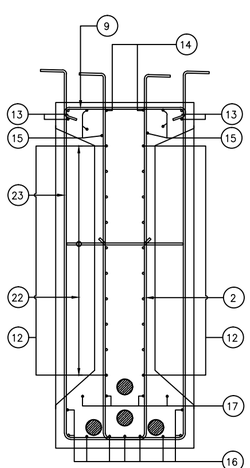
PLAN OF LONGITUDINAL GIRDER
(SCALE 1:25)
(BAR MKD. 18a & 19a ARE NOT SHOWN FOR CLARITY)

SCHEDULE OF REINFORCEMENT

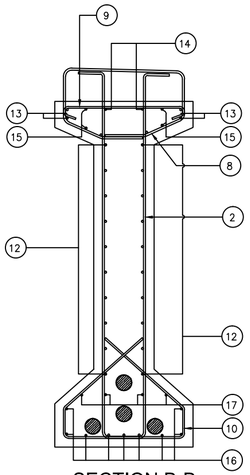
BAR MARKED	DIA OF BAR & SPACING/NOS.	BAR SHAPE	REMARKS
1	2L–12 @200c/c	150	
2	2L–12 @200c/c	150	
3	2L–16 @ 200c/c	150	
4	2L–12 @ 200c/c		
5	10 @ 200 c/c		
6	2L–12 @ 200 c/c		
7	NOT USED		
8	2L–12 @ 200 c/c		
9	10 @ 200 c/c		
10	10 @ 200 c/c		
11	10 ⌀– 6 NOS (ON EACH FACE)		EACH END OF GIRDER
11a	10 ⌀– 4 NOS (ON EACH FACE)		EACH END OF GIRDER
12	10 ⌀– 10 NOS (ON EACH FACE)		
13	10 ⌀– 4 NOS		
14	10 ⌀– 2 NOS		
15	10 ⌀– 4 NOS		
16	10 ⌀– 9 NOS		
17	10 ⌀– 4 NOS		
18	2L–16 @ 100 c/c	150	EACH END OF GIRDER
18a	2L–16 @ 100 c/c	400	EACH END OF GIRDER
19	2L–16 @ 100 c/c	150	EACH END OF GIRDER
19a	2L–16 @ 100 c/c	300	EACH END OF GIRDER
20	16 ⌀7 NOS	600 705	EACH END OF GIRDER
20a	16 ⌀2 NOS	1495 600	EACH END OF GIRDER
20b	16 ⌀2 NOS	600 585	EACH END OF GIRDER
21	12 ⌀4 NOS	800 600	EACH END OF GIRDER
22	12 ⌀12X2 NOS	450 250	
23	2L–12 ⌀ NOS	150	
24	10 ⌀2 NOS		EACH END OF GIRDER/ BENT AFTER PRESTRESS
24a	10 ⌀2 NOS		

NOTES :

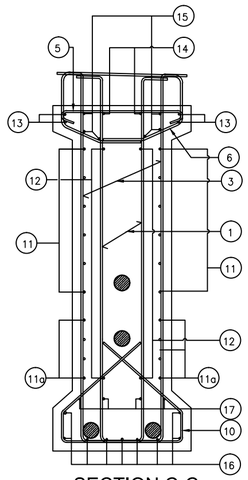
1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. FIGURED DIMENSIONS SHOULD BE FOLLOWED, DO NO SCALE THE DIMENSIONS.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. THE REINFORCING STEEL SHALL BE DEFORMED TMT BARS (GRADE DESIGNATION Fe:500D) CONFORMING TO IS:1786.
5. CLEAR COVER TO ANY REINFORCEMENT IS 50mm.
6. LAP LENGTH SHALL NOT BE LESS THAN 41D (WHERE D IS THE DIA OF THE SMALLER BAR TO BE LAPPED AT A SECTION.)
7. LAPS SHOULD BE STAGGERED & NOT MORE THAN 50% BARS SHOULD BE LAPPED AT A SECTION.
8. ANCHORAGE LENGTH SHALL NOT BE LESS THAN 41 X DIA OF BAR.
9. REINFORCEMENT SHALL BE SUITABLY ADJUSTED WHILE FOULING WITH PRESTRESS CABLE.



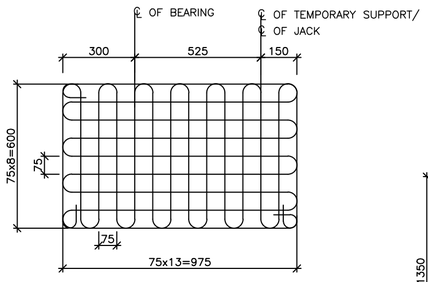
SECTION A-A
(SCALE 1:20)



SECTION B-B
(SCALE 1:20)

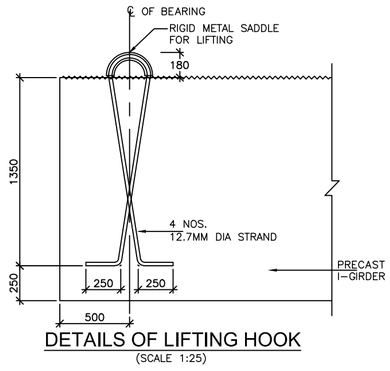


SECTION C-C
(SCALE 1:20)



8㎜ MESH TYPE-'A'
(SCALE 1:15)

REINFORCEMENT FOR CROSS GIRDER SHALL BE LEFT IN PRECAST GIRDER BEFORE CASTING



DETAILS OF LIFTING HOOK
(SCALE 1:25)

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

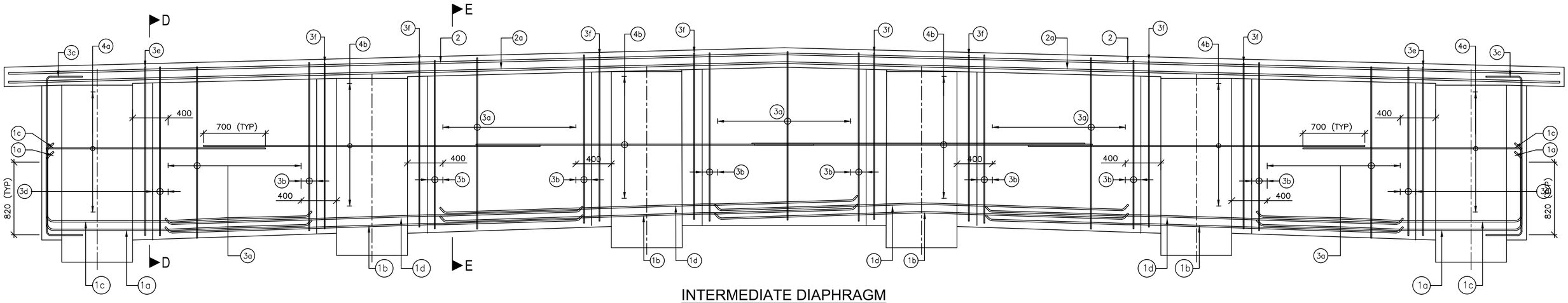
CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:-	REINFORCEMENT DETAIL OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

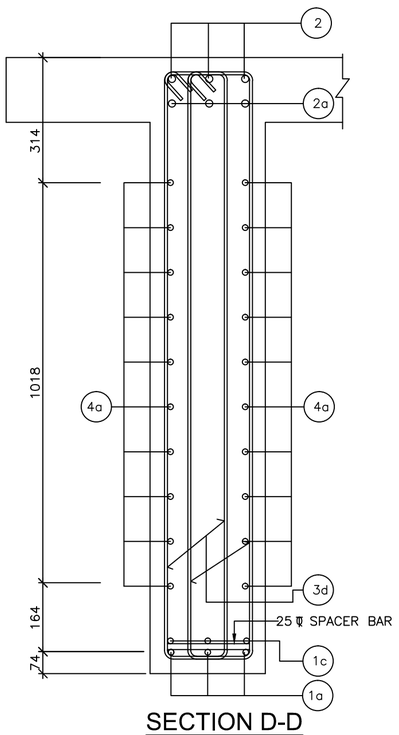
CONSULTANT:-

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



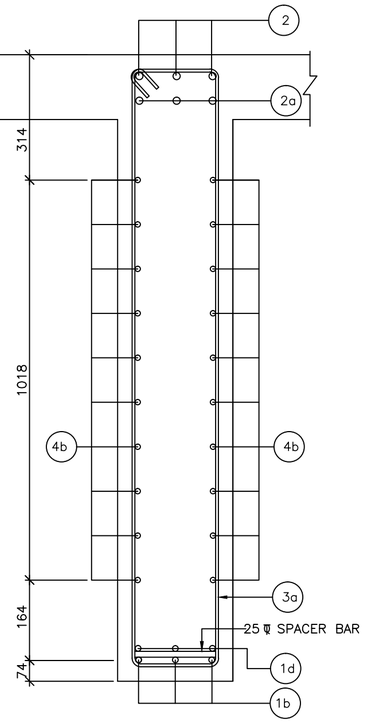
INTERMEDIATE DIAPHRAGM

(SCALE 1:30)



SECTION D-D

(SCALE 1:15



SECTION E-E

(SCALE 1:15)

SCHEDULE OF REINFORCEMENT

BAR MARKED	DIA OF BAR & SPACING/NOS.	BAR SHAPE
1a	25 ϕ 3NOS.	
1b	25 ϕ 3NOS.	
1c	25 ϕ 3NOS.	
1d	25 ϕ 3NOS.	
2	25 ϕ 3NOS.	
2a	25 ϕ 3NOS.	
3a	2L–12ϕ @ 150c/c	
3b	2Nos–2L–12ϕ(EACH LOCATION)	
3c	2Nos.–12ϕ(EACH LOCATION)	400
3d	2Nos.–2L–12ϕ(EACH LOCATION)	
3e	2Nos.–2L–12 ϕ (EACH LOCATION)	
3f	2Nos.–2L–12 ϕ (EACH LOCATION)	
4a	12 ϕ 10NOS.(EACH FACE)	
4b	12 ϕ 10NOS.(EACH FACE)	

NOTES :

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. FIGURED DIMENSIONS SHOULD BE FOLLOWED, DO NOT SCALE THE DIMENSIONS.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. THE REINFORCING STEEL SHALL BE DEFORMED TMT BARS (GRADE DESIGNATION Fe:500D) CONFORMING TO IS:1786.

BAR MARKED (1a) (1b) (1c) (1d) (3c) (3e) (3f) (4a) (4b) SHALL BE PLACED IN PRECAST GIRDER.

Technocrats Advisory Services Private Limited Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAIL OF CAST-IN-SITU END CROSS GIRDER FOR PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

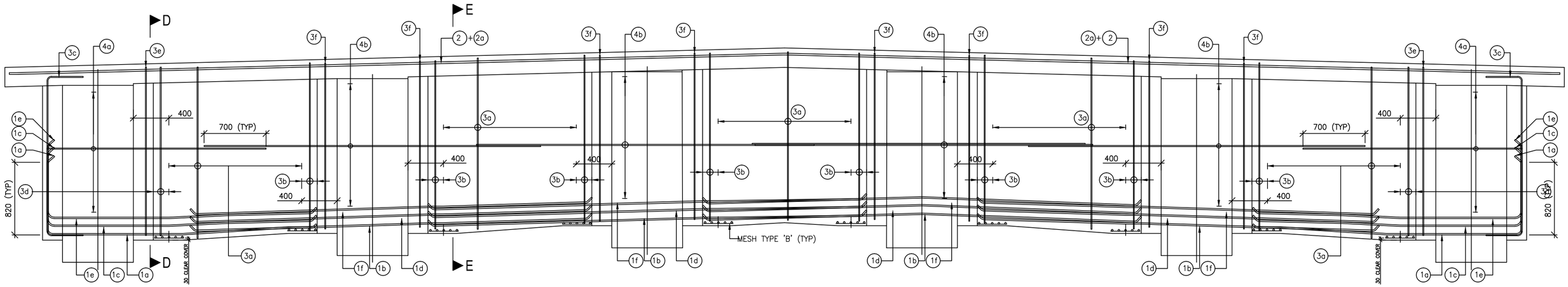
Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

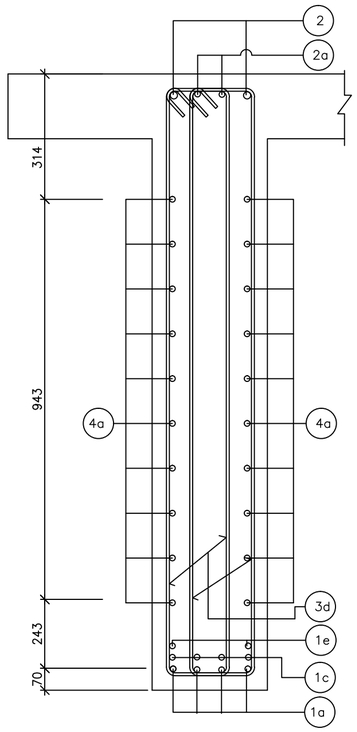
CONSULTANT:-

TASPL

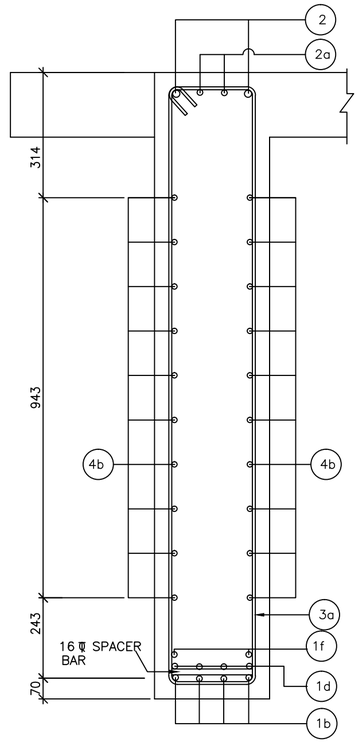
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



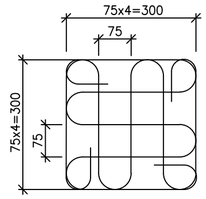
END DIAPHRAGM
(SCALE 1:30)



SECTION D-D
(SCALE 1:15)



SECTION E-E
(SCALE 1:15)



8ϕ MESH TYPE-'B'
(SCALE 1:10)

SCHEDULE OF REINFORCEMENT

BAR MARKED	DIA OF BAR & SPACING/NOS.	BAR SHAPE
1a	16ϕ 4NOS.	
1b	16ϕ 4NOS.	
1c	16ϕ 4NOS.	
1d	16ϕ 4NOS.	
1e	16ϕ 2NOS.	
1f	16ϕ 2NOS.	
2	20ϕ 2NOS.	
2a	20ϕ 2NOS.	
3a	2L–12ϕ @ 150c/c	
3b	2Nos–4L–16ϕ(EACH LOCATION)	
3c	2Nos.–16ϕ(EACH LOCATION)	400
3d	2Nos.–4L–16ϕ(EACH LOCATION)	
3e	2Nos.–4L–16 ϕ (EACH LOCATION)	
3f	2Nos.–4L–16 ϕ (EACH LOCATION)	
4a	12ϕ 10NOS.(EACH FACE)	
4b	12ϕ 10NOS.(EACH FACE)	

NOTES :

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. FIGURED DIMENSIONS SHOULD BE FOLLOWED, DO NOT SCALE THE DIMENSIONS.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. THE REINFORCING STEEL SHALL BE DEFORMED TMT BARS (GRADE DESIGNATION Fe:500D) CONFORMING TO IS:1786.
5. CLEAR COVER TO ANY REINFOEMENT IS 50mm.
6. NO LAPS ARE PERMITTED IN CROSS GIRDER UNLESS SPECIFIED IN DRAWING.

BAR MARKED (1a,) (1b,) (1c,) (1d,) (1e,) (1f,) (3c,) (3e,) (3f,) (4a,) (4b) SHALL BE PLACED IN PRECAST GIRDER.

Technocrats Advisory Services Private Limited ★ Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAIL OF CAST-IN-SITU INTER. CROSS GIRDER FOR PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

CONSULTANT:-

TASPL

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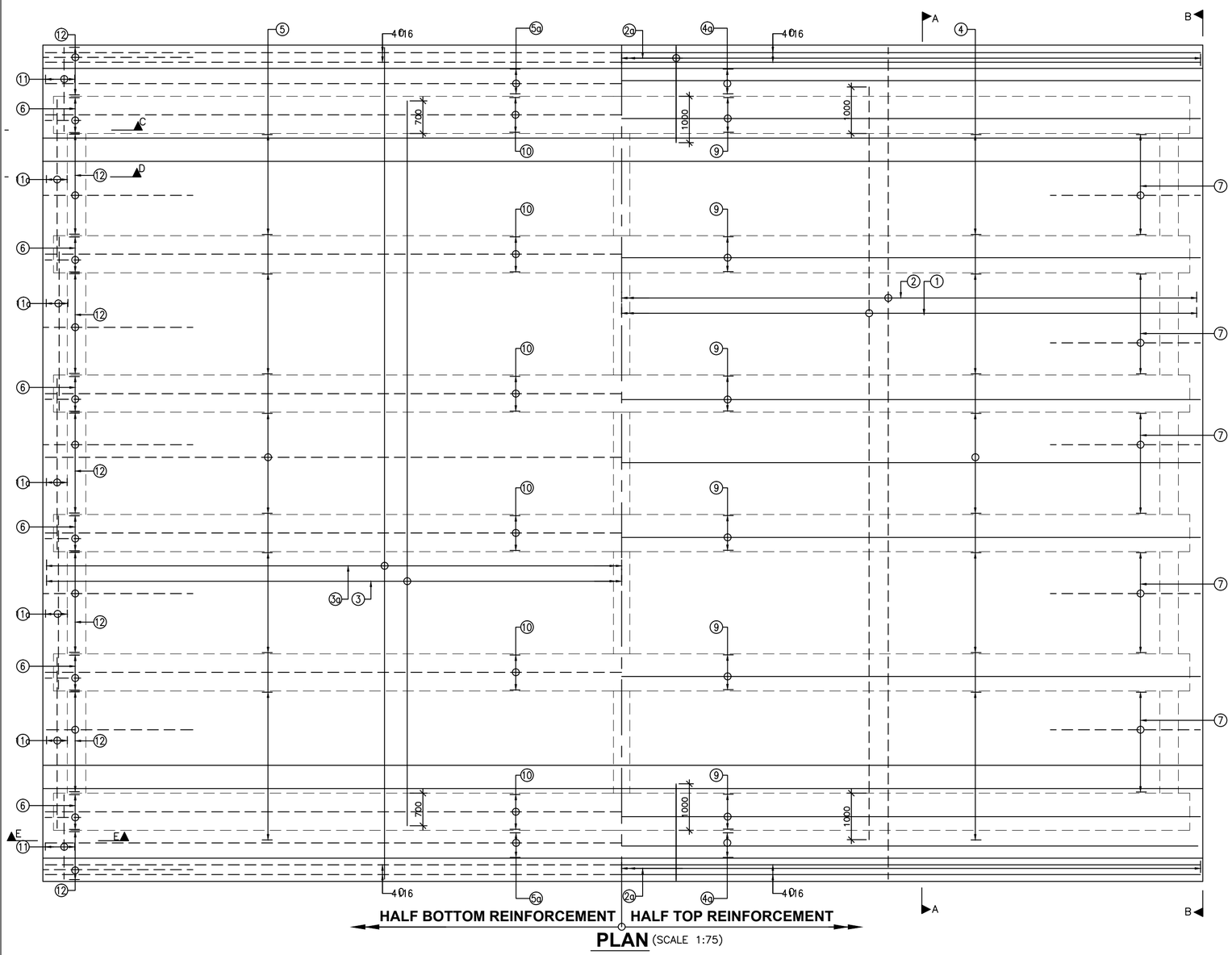
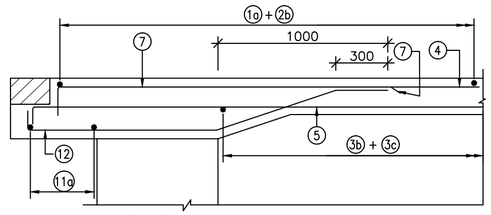
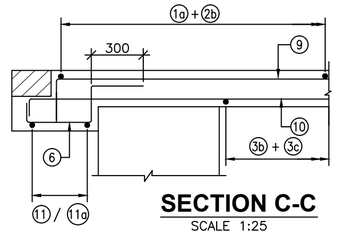


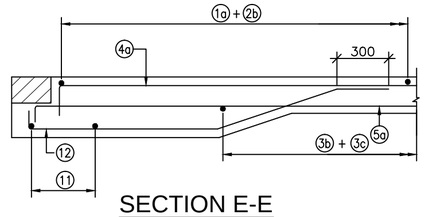
PLAN (SCALE 1:75)



SECTION D-D
(SCALE 1:25)



SECTION C-C
SCALE 1:25



SECTION E-E
(SCALE 1:25)

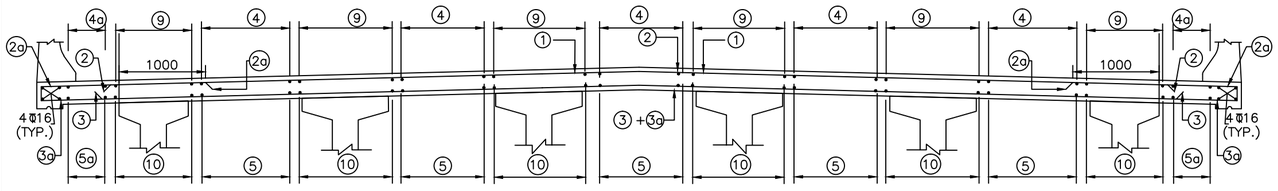
LEGEND	
TOP BAR	———
BOTTOM BAR	— — — — —
V.L.	VARIES LENGTH

SCHEDULE OF REINFORCEMENT

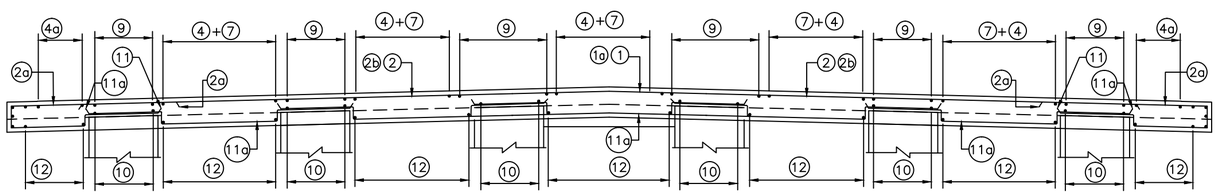
BAR MKD.	DIA OF BAR	SPACING/ NO. OF BAR	BAR SHAPE
1	10	240	
1a	10	240	V.L.
2	12	240	
3	16	240	
3a	12	240	
4	10	10 NOS.	250
4a	10	6 NOS.	250
5	10	10 NOS.	250
5a	10	6 NOS.	250
6	10	4 NOS.	250, 300
7	10	10 NOS.	250
8	NOT USED		
9	10	4 NOS.	250
10	10	4 NOS.	250
11	12	5 NOS.	
11a	12	5 NOS.	
12	10	6 NOS.	250, 300

NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRG.
3. STEEL REINFORCEMENT SHALL BE HYSD TMT BARS OF GRADE DESIGNATION Fe 500D CONFORMING TO IS 1786–2008.
4. CLEAR COVER TO ANY REINFORCEMENT IS 40MM.
5. LAP LENGTH SHALL CONFIRM TO CLAUSE 15.2 IRC–112 2011.
6. LAP SHOULD BE STAGGERED AND NOT MORE THAN 50% BARS SHOULD BE LAPPED AT ANY SECTION & LAP SHOULD BE LOCATED AT POINT ALONG THE SPAN WHERE STRESSES ARE LOW.
7. ANCHORAGE LENGTH OF REINF. BARS SHALL BE 36xDIA OF BAR & SHALL CONFIRM TO CLAUSE 15.2.3 OF IRC–112 2011.
8. 32 DIA SPACER BARS SHALL BE PROVIDED @ 1M C/C BETWEEN TWO TIERS OF LONGITUDINAL BARS OF GIRDERS.
9. CONDITION OF EXPOSURE IS MODERATE.



SECTION A-A
(SCALE 1:50) SCALE 1:50 (BAR NO 5, 5a & 6 NOT SHOWN FOR CLARITY)



SECTION B-B SCALE 1:50 (BAR NO 5, 5a & 6 NOT SHOWN FOR CLARITY)
(SCALE 1:50)

Technocrats Advisory Services Private Limited, Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAIL OF CAST-IN-SITU DECK SLAB FOR PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

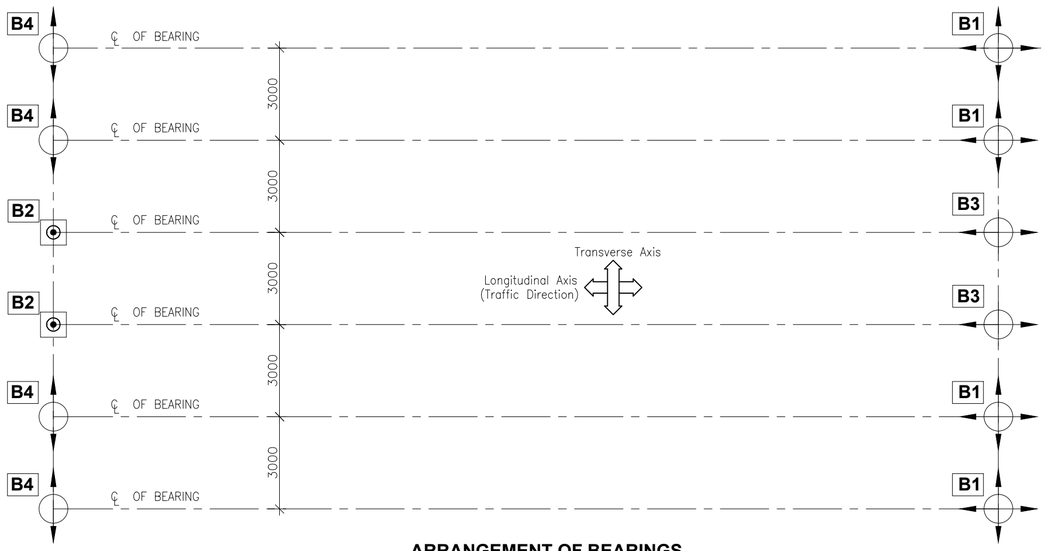
Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 01

CONSULTANT:-

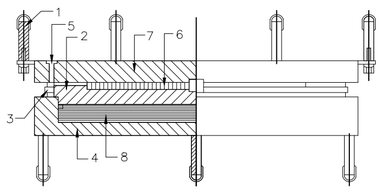
TASPL

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.

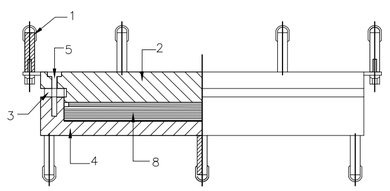


ARRANGEMENT OF BEARINGS

TRAFFIC DIRECTION
SCALE 1:75



POT SLIDING BEARING



POT FIXED BEARING

LEGEND:-

1. ANCHOR BOLT
2. POT COVER
3. METALLIC SEALS
4. POT CYLINDER
5. TEMPORARY BOLTS
6. PTFE
7. TOP SLIDING PLATE
8. CONFINED ELASTOMER

NOTES :-

1. THE CONTRACTOR SHALL SUBMIT DESIGN/DRAWING OF INDIVIDUAL BEARINGS BASED ON FORCES, TRANSLATIONS & ROTATIONS AS GIVEN IN THIS DRAWING FOR APPROVAL OF THE ENGINEER.
2. BEARINGS SHALL BE PROCURED FROM THE LIST OF APPROVED MANUFACTURER'S GIVEN BY MOST.
3. BEARINGS SHALL CONFORM TO LATEST MOST SPECIFICATIONS AND TENDER STIPULATION IF ANY.
4. THE TESTING OF RAW MATERIALS, METALLIC COMPONENTS, ELASTOMER & PTFE AND ACCEPTANCE TEST ON BEARING SHALL CONFORM TO MOST SPECIFICATIONS/ TENDER SPECIFICATIONS.
5. MANUFACTURER SHALL SUBMIT THE CERTIFICATES FOR LOAD TESTING AND DIMENSIONS OF BEARING.
6. SUITABLE ERECTION CLAMPS FOR SAFE TRANSPORTATION AND HANDLING ALONG WITH TEMPLATE FOR ALIGNMENT SHALL BE PROVIDED BY THE MANUFACTURER.
7. PEDESTAL PLAN SIZE GIVEN HERE IN ARE TENTATIVE ONLY. THE PLAN SIZE AND HEIGHT OF PEDESTALS SHALL BE ADJUSTED TO SUIT THE FINALISED SIZE OF BEARING AT THE TIME OF EXECUTION.
8. BEARING DETAILS ARE SCHEMATIC ONLY. DETAILED DESIGN AND DRAWINGS, SPECIFICATION FOR CONSTRUCTION, FABRICATION AND CORROSION PROTECTION, SEALING AGAINST DUST AND WATER, PROVISION FOR REPLACEMENT SHALL BE FURNISHED BY CONTRACTOR / SUPPLIER CONFORMING TO THE RELEVANT SPECIAL SPECFICATION INCLUDED IN CONTRACT. THESE SHALL ALSO INCLUDE THE ANCHORAGE ASSEMBLY AND THE SPECIAL CONCRETE IN ANCHORAGE CUT OUT.
9. MARGINAL MODIFICATION IN THE STRUCTURE DETAILS FOR COMPATIBILITY WITH THE BEARING AND EXPANSION JOINT DETAIL SHALL BE PERMITTED SUBJECT TO APPROVAL OF ENGINEER.
10. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH OTHER RELEVENT DRAWINGS

LEGEND:-

- FREE BEARING
- FIXED BEARING
- GUIDED BEARING ALONG TRANV. AXIS
- GUIDED BEARING ALONG LONG. AXIS

Summary of Forces on Bearing

				Vertical Force (kN)	Horizontal Force (kN)		Rotation (rad)	Movement (mm)	
					Long	Trans		Long	Trans
FREE BEARING (B1)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1680	115	0	0.155	-25/7	8.00
			Min Rn	861	76	0	0.155	-25/7	8.00
			No LL	863	76	0	0.155	-25/7	8.00
		Seismic Long Case	Max Rn	1189	84	0	0.155	-25/7	8.00
			Min Rn	819	76	0	0.155	-25/7	8.00
			No LL	819	76	0	0.155	-25/7	8.00
		Seismic Trans Case	Max Rn	1189	56	0	0.155	-25/7	8.00
			Min Rn	819	51	0	0.155	-25/7	8.00
			No LL	819	76	0	0.155	-25/7	8.00
	SLS	Normal Case	Max Rn	1181	77	0	0.103	-17/5	5.00
			Min Rn	630	51	0	0.103	-17/5	5.00
			No LL	632	51	0	0.103	-17/5	5.00
Fix BEARING (B2)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1680	105	0	0.155		
			Min Rn	861	79	0	0.155		
			No LL	863	79	0	0.155		
		Seismic Long Case	Max Rn	1189	498	245	0.155		
			Min Rn	819	498	219	0.155		
			No LL	819	498	219	0.155		
		Seismic Trans Case	Max Rn	1189	157	816	0.155		
			Min Rn	819	157	730	0.155		
			No LL	819	157	487	0.155		
	SLS	Normal Case	Max Rn	1181	70	0	0.103		
			Min Rn	630	53	0	0.103		
			No LL	632	53	0	0.103		
Longitudinal Guided BEARING (B3)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1680	0	168	0.155	-25/7	
			Min Rn	861	0	86	0.155	-25/7	
			No LL	863	0	86	0.155	-25/7	
		Seismic Long Case	Max Rn	1189	0	245	0.155	-25/7	
			Min Rn	819	0	219	0.155	-25/7	
			No LL	819	0	219	0.155	-25/7	
		Seismic Trans Case	Max Rn	1189	0	816	0.155	-25/7	
			Min Rn	819	0	730	0.155	-25/7	
			No LL	819	0	487	0.155	-25/7	
	SLS	Normal Case	Max Rn	1181	0	118	0.103	-17/5	
			Min Rn	630	0	63	0.103	-17/5	
			No LL	632	0	63	0.103	-17/5	
Transverse Guided BEARING (B4)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1680	105	0	0.155	0	8.00
			Min Rn	861	79	0	0.155	0	8.00
			No LL	863	79	0	0.155	0	8.00
		Seismic Long Case	Max Rn	1189	498	0	0.155	0	8.00
			Min Rn	819	498	0	0.155	0	8.00
			No LL	819	498	0	0.155	0	8.00
		Seismic Trans Case	Max Rn	1189	157	0	0.155	0	8.00
			Min Rn	819	157	0	0.155	0	8.00
			No LL	819	157	0	0.155	0	8.00
	SLS	Normal Case	Max Rn	1181	70	0	0.103	0	5.00
			Min Rn	630	53	0	0.103	0	5.00
			No LL	632	53	0	0.103	0	5.00

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- TYPICAL BEARING LAYOUT FOR 25m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

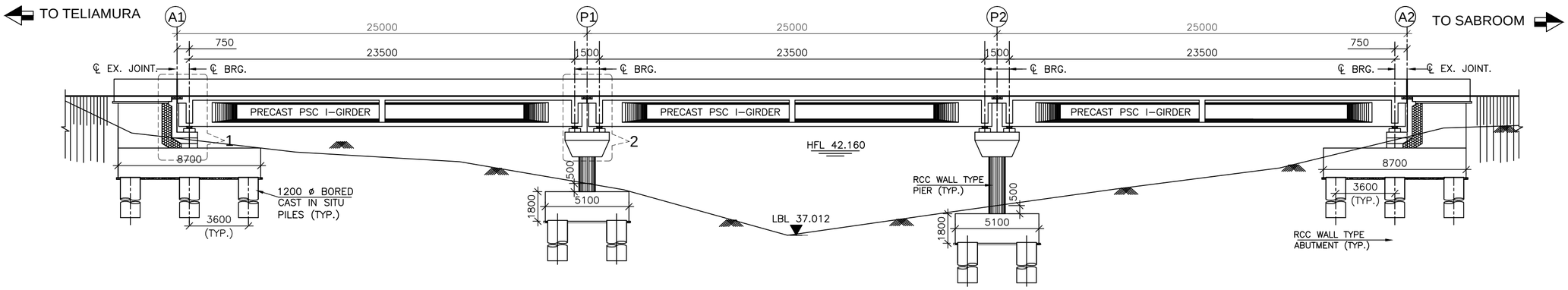
Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 01

CONSULTANT:-

TASPL
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.

MAJOR BRIDGE AT CH. 53+500 (3x25m SPAN)



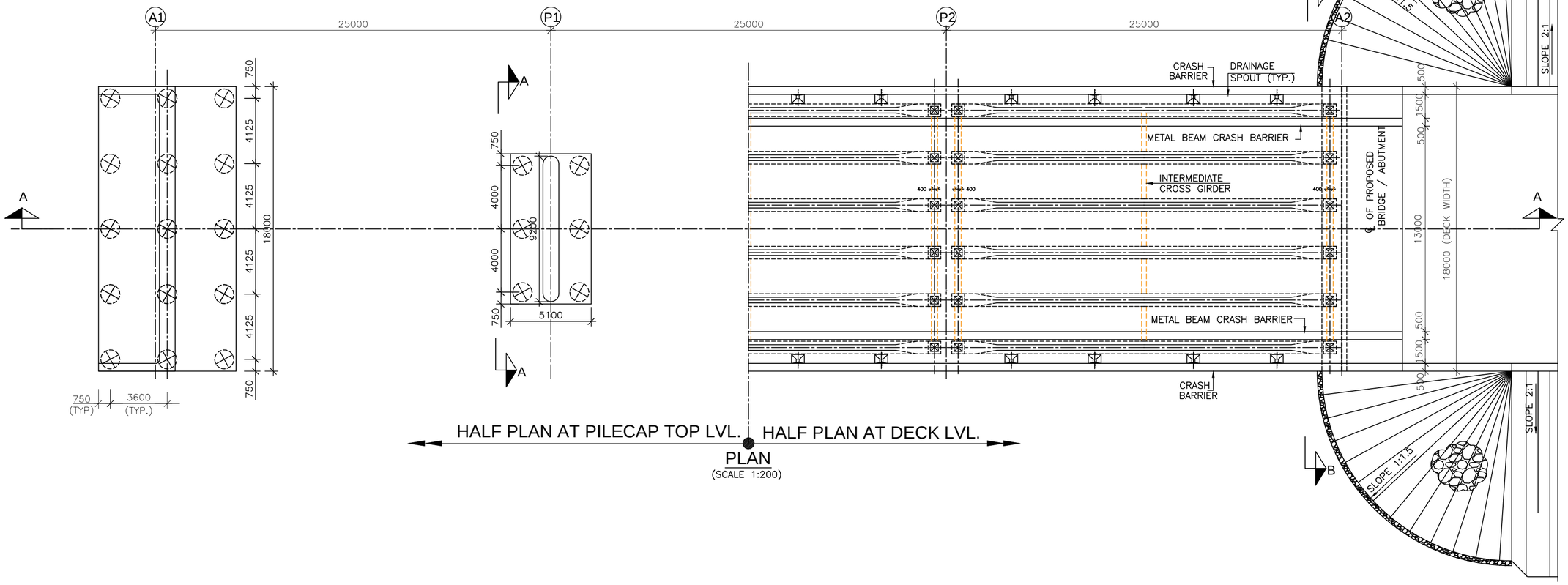
HYDROLOGICAL DETAILS:-

DESIGN DISCHARGE	744.713 CUMECS
HFL	42.160m
DESIGN VELOCITY	3.51 M/sec
MSL AT ABUTMENT	32.28
MSL AT PIER	26.61

PROPOSED FRL (m)	45.535	45.535	45.535	45.535
ABT/PIER CAP LEVEL (m)	43.300	43.300	43.300	43.300
GROUND LEVEL (m)	44.039	40.170	38.825	42.831
PILE CAP TOP LEVEL (m)	42.331	39.670	38.325	42.331
FOUNDING LEVEL (m)	15.531	12.870	11.525	15.531
CHAINAGE (Km)	53+462.5	53+487.5	53+500	53+512.5	53+537.5

LONGITUDNAL SECTION A-A

(SCALE 1:200)



PLAN

(SCALE 1:200)

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- GENERAL ARRANGEMENT DRAWING OF MAJOR BRIDGE AT CH. 53+500

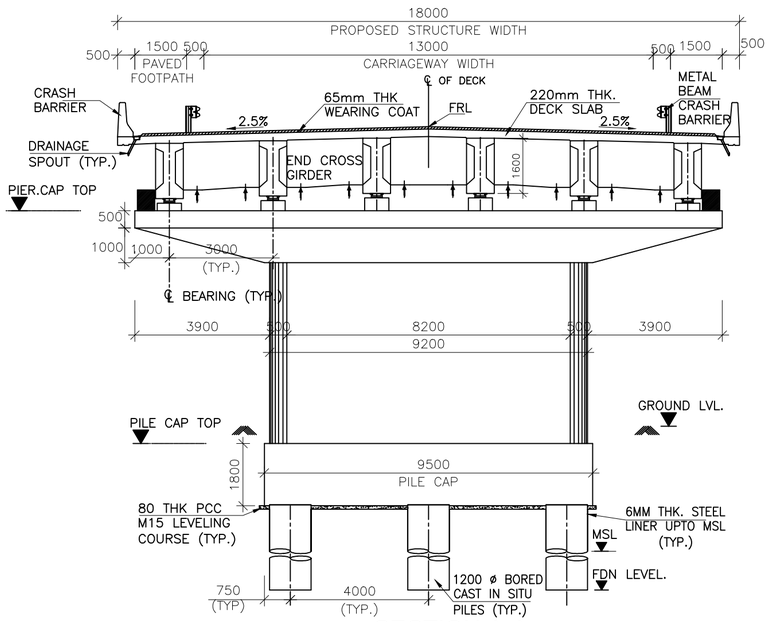
Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

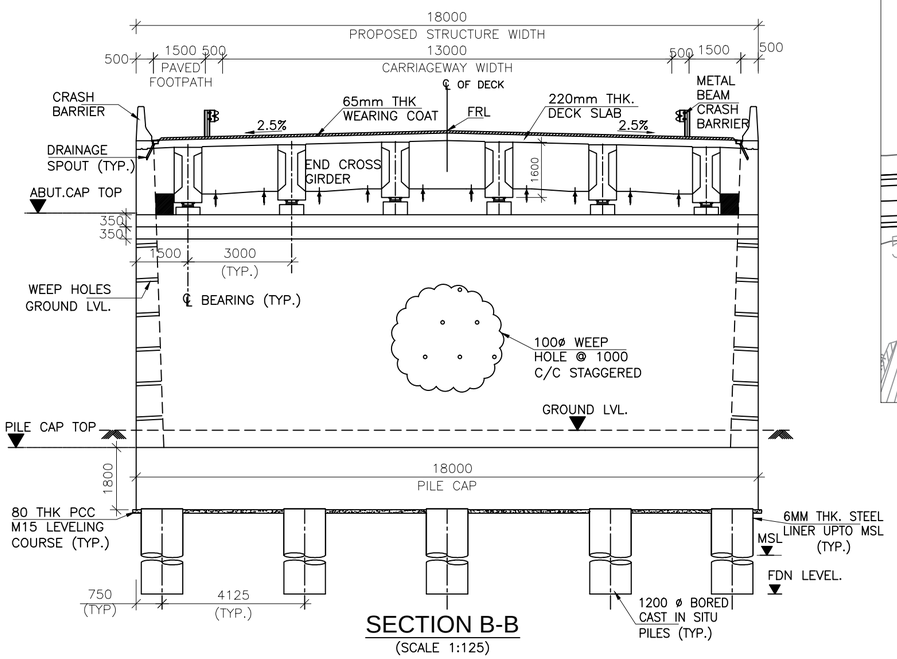
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

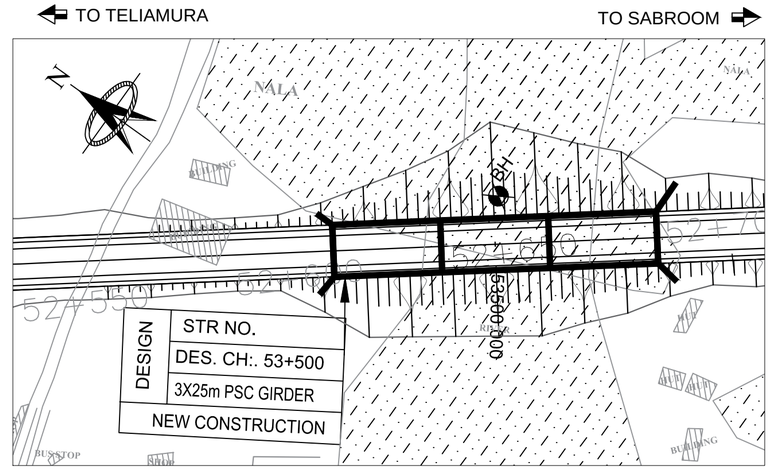
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



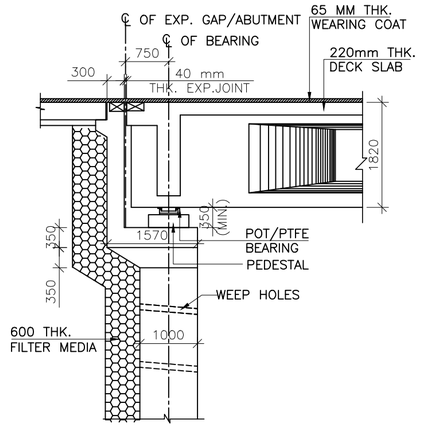
SECTION A-A
(SCALE 1:125)



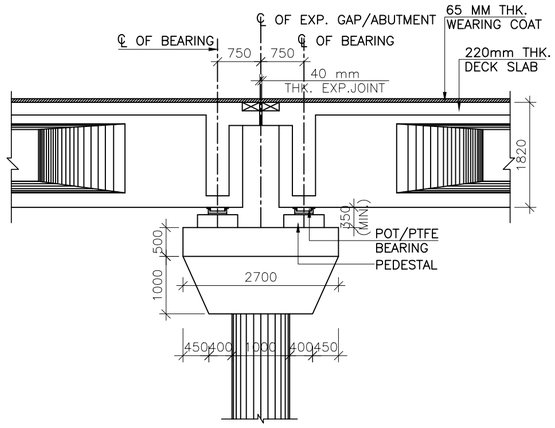
SECTION B-B
(SCALE 1:125)



KEYPLAN
SCALE–1:1



DETAIL-'1'
(SCALE 1:75)



DETAIL-'2'
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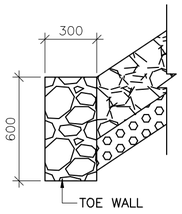
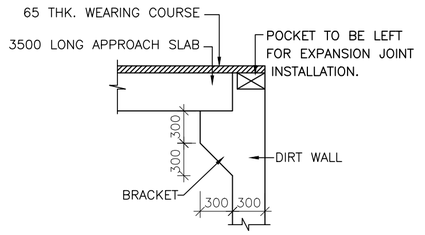


DETAIL-4
(SCALE 1:25)



DETAIL-'3'
(SCALE 1:40)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
2. NO DIMENSION SHALL BE MEASURED FROM THE DRAWINGS. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. CHAINAGE & LEVEL SHALL BE VERIFIED WITH THE RELEVANT PLAN & PROFILE DRAWINGS. VARIATION (IF ANY) SHALL BE REPORTED TO ENGINEER FOR MODIFICATION.
4. CHAINAGE OF THE STRUCTURE IS AT THE CENTER LINE OF THE PROPOSED STRUCTURE.
5. THE REINFORCEMENT SHALL BE HYSD BARS OF GRADE DESIGNATION Fe 500D CONFORMING TO IS 1786–2008.
6. CONCRETE SHALL BE DESIGN MIX WITH WITH A MINIMUM 28 DAYS CHARACTERISTIC CUBE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
   a. PSC–I GIRDER, RCC DECK SLAB & END CROSS GIRDER — M45
   b. ABUT. & ABUT CAP — M35
   c. PILE & PILE CAP — M35
   d. PIER & PIER CAP — M35
   e. RETAINING WALL — M35
   f. CRASH BARRIER — M40
   g. APPROACH SLAB — M30
   h. LEVELING COURSE — M15
   i. PEDESTALS — M40
7. CLEAR COVER TO OUTER STEEL SHALL BE AS FOLLOWS:–
   a. SUPERSTRUCTURE — 40MM
   b. ABUTMENT EARTH FACE — 75MM
   c. ABUTMENT OUTER FACE/PIER — 50MM
   d. FOUNDATION — 75MM
   e. CRASH BARRIER — 40MM
8. BACK FILLING BEHIND WALLS/ABUTMENT SHALL CONSISTS OF SELECTED EARTH CONFORMING TO APPENDIX 6 OF IRC:78–2014 HAVING PROPERTIES C=0, ø>=30°, γ=2.0t/cu.m.
9. 65MM THICK WEARING COURSE COMPRISING OF BITUMINOUS CONCRETE 40MM THICK OVERLAID WITH 25MM THICK BITUMEN MASTIC ASPHALTIC SHALL BE PROVIDED AS PER SECTION 500 OF MORTH SPECIFICATION.
10. ALL SOLID WALLS RETAINING THE EARTH SHALL HAVE WEEP HOLES STARTING 150MM ABOVE THE GROUND LEVEL AND SPACED 1000MM HORIZONTALLY AND VERTICALLY IN STAGGERED MANNER.
11. 600MM THICK FILTER MEDIA SHALL BE PROVIDED BEHIND SOLID ABUTMENT WALLS AND RETURN/RETAINING WALL.
12. CONDITION OF EXPOSURE IS MODERATE.
13. BRIDGE IS DESIGN FOR SEISMIC ZONE V OF SEISMIC MAP OF INDIA.
14. THE STRUCTURE SHALL BE DESIGNED FOR LIVE LOAD COMBINATION CONFORMING TO IRC:6–2017.
15. SINGLE STRIP SEAL TYPE EXPANSION JOINT SHALL BE PROVIDED AS PER MODIFIED INTERIM SPECIFICATION FOR EXPANSION JOINTS ISSUED VIDE "MORTH" CIRCULAR NO. RW/NH–34059/1/98–S&R DATED 30–11–2000 & 25–01–2001.
16. FOR DETAILS OF DRAINAGE SPOUT, CRASH BARRIER, JOINTS,APPROACH SLAB & RETAINING WALL REFER SEPARATE DRAWING.

LOAD CARRYING CAPACITY OF 1.2m DIA PILE AS PER GEOTECH REPORT.

DESCPTION	NORMAL CASE	
	VERTICAL (T)	HORIZONTAL (T)
ABUTMENT (A1)	703.1	15.8
ABUTMENT (A2)	703.1	30

Technocrats Advisory Services Private Limited — Delhi

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- GENERAL ARRANGEMENT DRAWING OF MAJOR BRIDGE AT CH. 53+500

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
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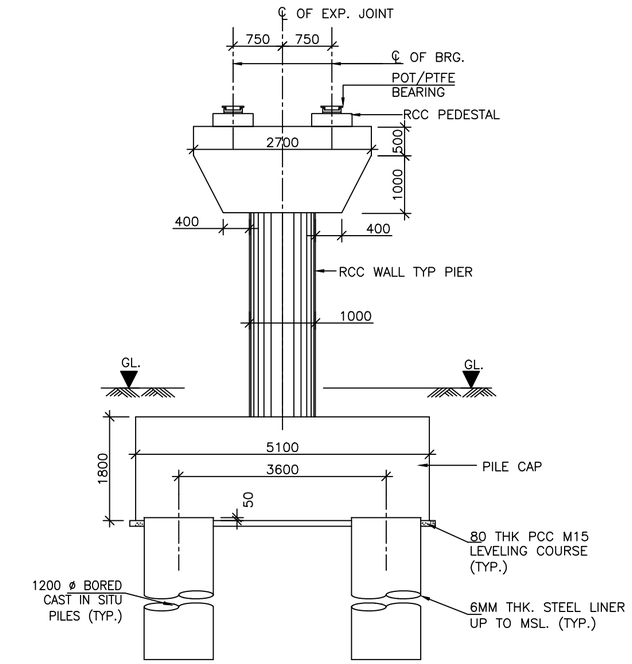
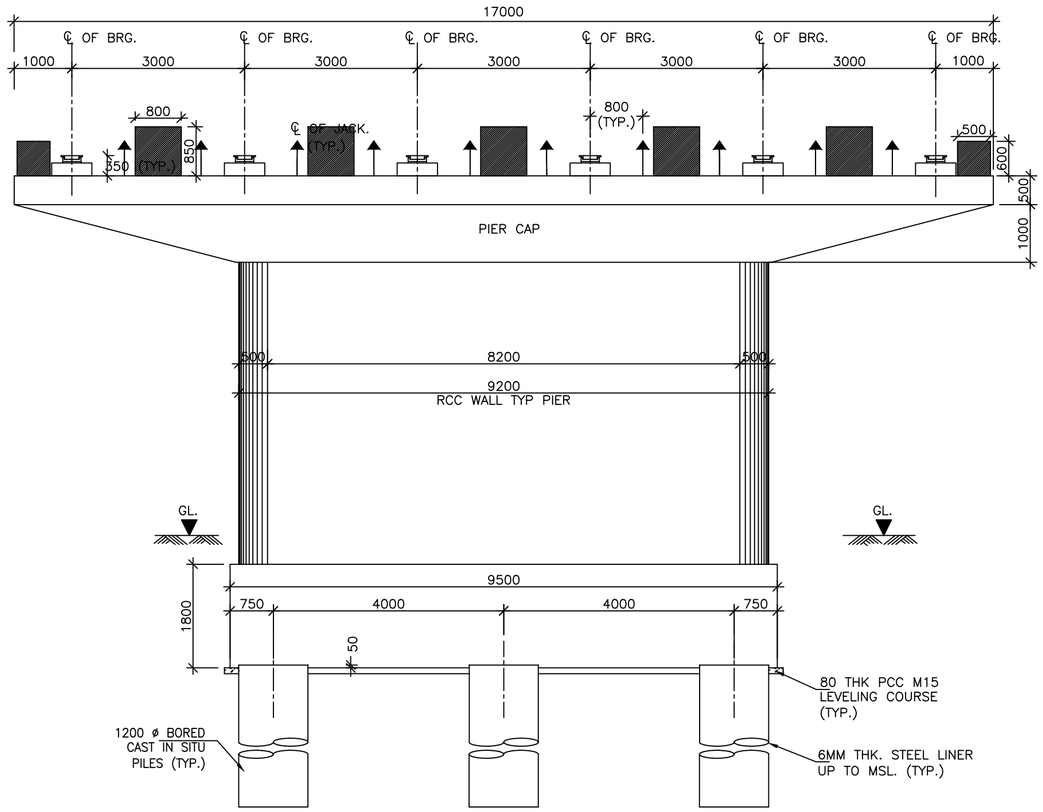
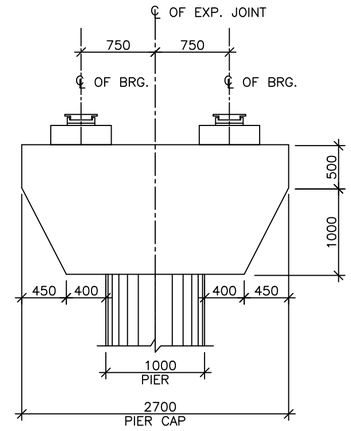


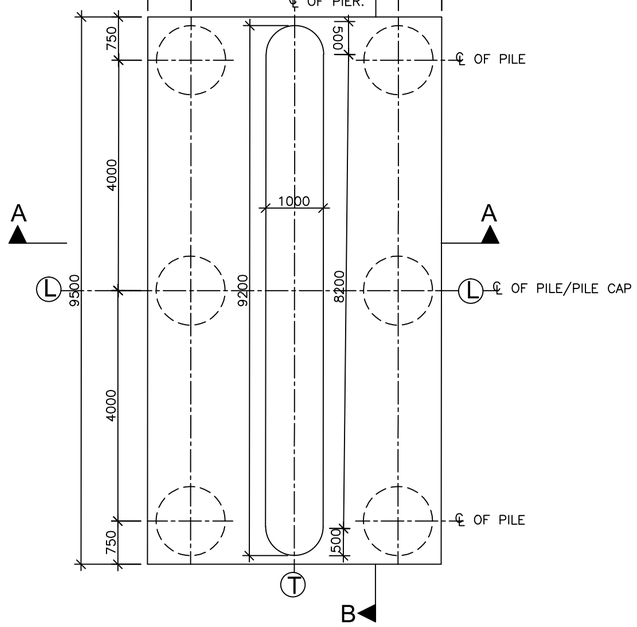
SECTION A-A
(SCALE 1:75)



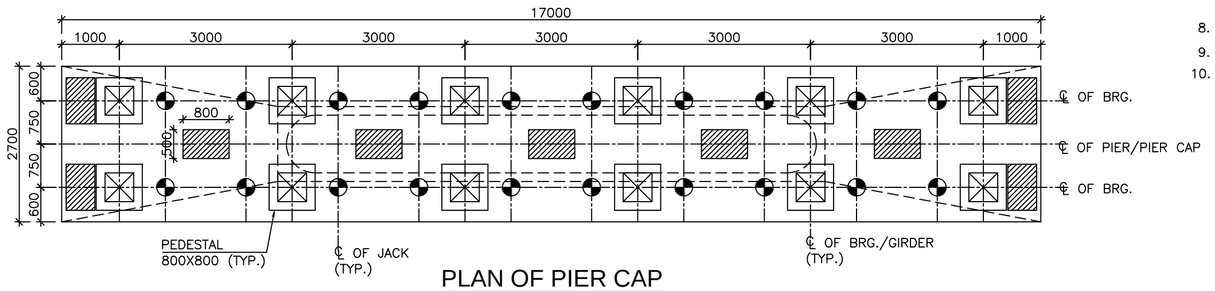
SECTION B-B
(SCALE 1:100)



DETAIL OF PIER CAP
(SCALE 1:50)



PLAN AT PILE CAP
(SCALE 1:75)



PLAN OF PIER CAP
(SCALE 1:75)

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE MENTIONED.ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
2. THE REINFORCING STEEL SHALL BE OF DEFORMED TMT BARS (GRADE DESIGNATION Fe:500) CONFORMING TO IS:1786
3. CLEAR COVER TO OUTER MOST STEEL IS 50mm FOR SUPERSTRUCTURE : 50mm, & FOUNDATION 75mm.
4. THE GRARE OF CONCRETE FOR PIER CAP, PIER WALL SHALL BE M–35 AND PEDESTAL M–40. PILE M–35.
5. LL REPRESENTS LONGITUDINAL AXIS OF BRIDGE AND TT REPRESENTS TRANSVERSE AXIS OF BRIDGE.
6. THE LOCATION OF JACK OR LIFTINGOF THE SUPERSTRUCTURE TO TO REPLACE BEARINGS ETC. IS SHOWN ǀ. THIS SHALL BE DISTINCTLY ETCHED FOR EASY IDENTIFICATION ON THE END CROSS GIRDERS AND PIER CAPS.
8. CAPACITY OF JACKS SHOULD NOT BE LESS THAN 300 TONS.
9. FOR RE WALL DETAILS REFER SEPARATE DRAWINGS FROM MANUFACTURE.
10. THE PIER CAP LEVEL IS CALCULATED ASSUMING BEARING & PEDASTAL HEIGHT 350mm. FOR ANY CHANGE IN THE FINAL OF BEARING PROVIDE MANUFACTURER THE CAP LEVEL SHALL BE CHANGED ACCORDINGLY.

Technocrats Advisory Services Private Limited Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

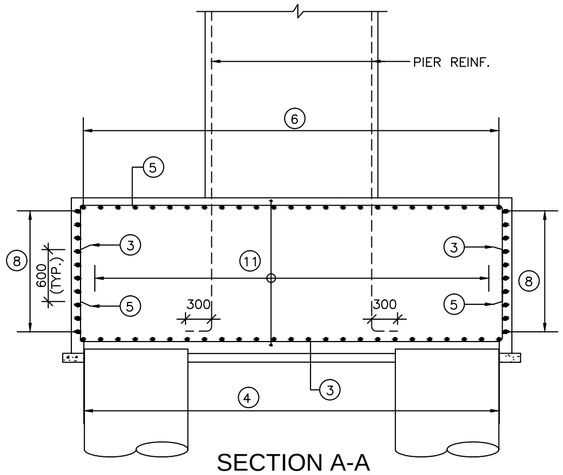
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:-	DIMENSIONAL DETAILS OF PIER, PIER CAP & PIER FOUNDATION (PIER P1 & P2)		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 04

CONSULTANT:-

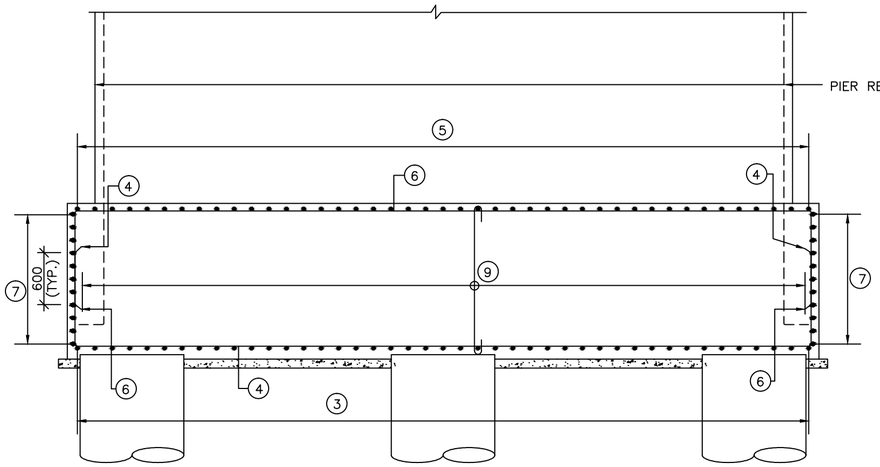
TASPL

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



SECTION A-A

(SCALE 1:50)



SECTION B-B

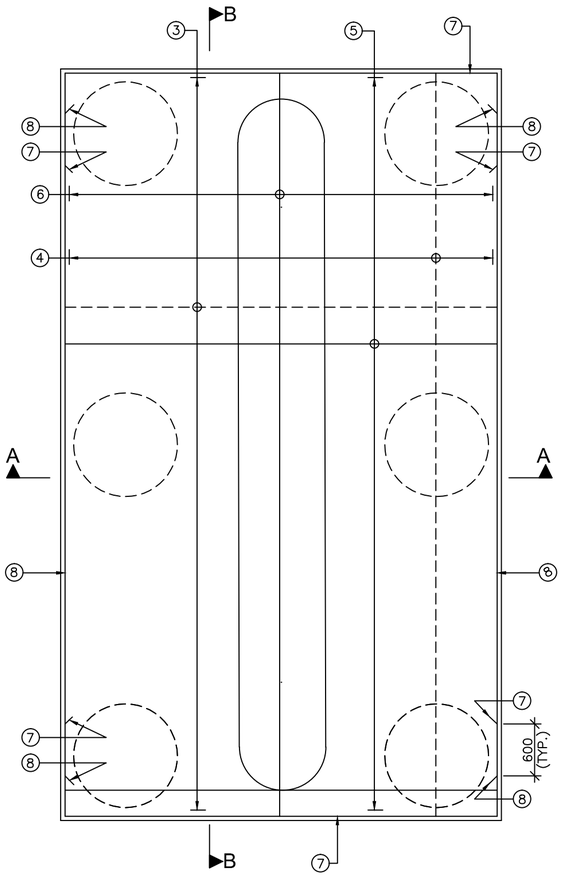
(SCALE 1:50)

SCHEDULE OF PILE & PILE CAP REINFORCEMENT

BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
1	32	17 Nos.	
1a	16	100	
2	32	17 Nos.	
2a	10	150	
3	20	100	
4	20	100	
5	16	100	
6	16	100	
7	16	150	
8	16	150	
9	1L–12	100 both ways	

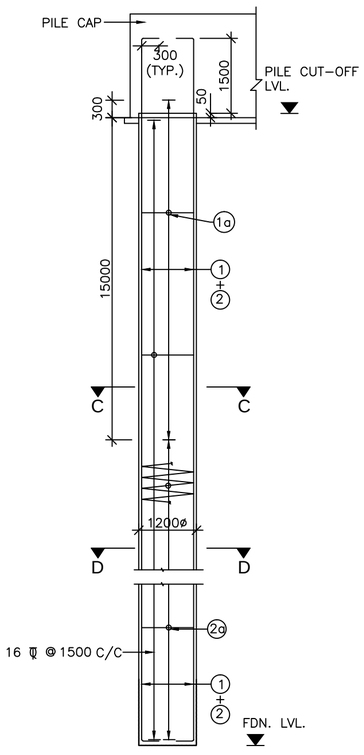
LEGEND:

———	TOP/INNER FACE
– – – – –	BOTTOM/OUTER FACE
B/F	BOTH FACE
V.L	VARYING LENGTH



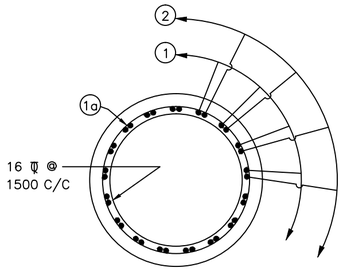
REINF. DETAILS OF PILE CAP

(SCALE 1:50)



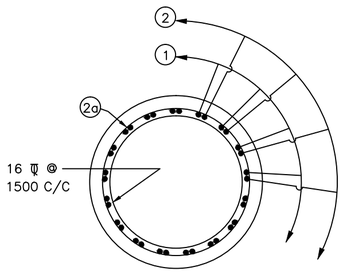
R.C.DETAILS OF PILE

(SCALE 1:75)



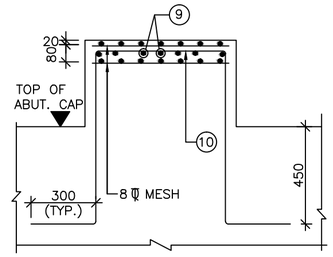
SECTION C-C

(SCALE 1:30)



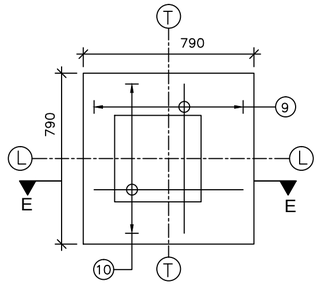
SECTION D-D

(SCALE 1:30)



SECTION E-E

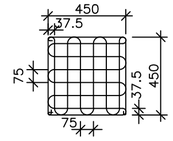
(SCALE 1:20)



PLAN

(DETAILS OF PEDESTAL)

(SCALE 1:20)



8 Ø MESH AT JACK LOCATION IN TWO LAYERS

(SCALE 1:25)

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. L–L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE T–T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
4. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION Fe–500D CONFORMING TO IS: 1786 SHALL ONLY BE USED.
5. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE IT'S CONCRETING.
6. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENTBARS SHALL BE CALCULATED AS FOLLOWS WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50% ONLY (IRC: 112–2011) (CLAUSE:15.2.5.1)

LAP LENGTH ls α_1. lbnet

α_1 = 1.0 FOR p%< 25%

α_1 = 1.15 FOR 25%<p%<25%

α_1 = 1.14 FOR 33%<p%<50%

(IRC:112–2011, CLAUSE:15.2.3.3)

DEVELOPMENT LENGTH (lbnet)

lbnet = α. lb (α = 1.0)

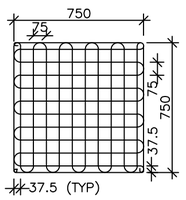
lb = kϕ

k = 40 FOR M30 (Fe500D)

k = 36 FOR M35 (Fe500D)

k = 34 FOR M40 (Fe500D)

FOR UNFAVORABLE BOND CONDITION THE lb SHOULD BE MULTIPLIED BY FACTOR OF 1.43. FOR ø>32mm lb SHOULD BE INCREASED BY MULTIPLYING FACTOR $\left(\frac{100}{132-\phi}\right)$



8 Ø MESH IN 2 LAYERS IN PEDESTALS UNDER BEARING

(SCALE 1:25)

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

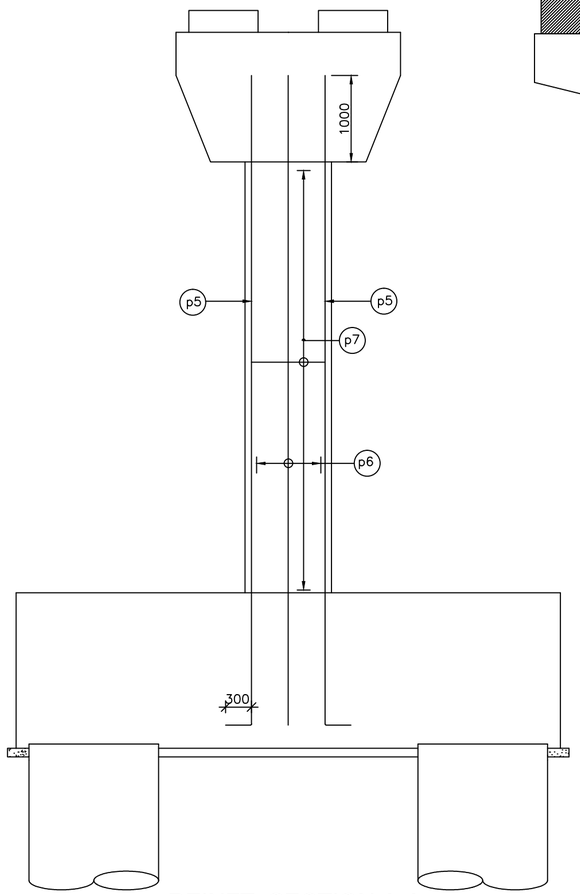
CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

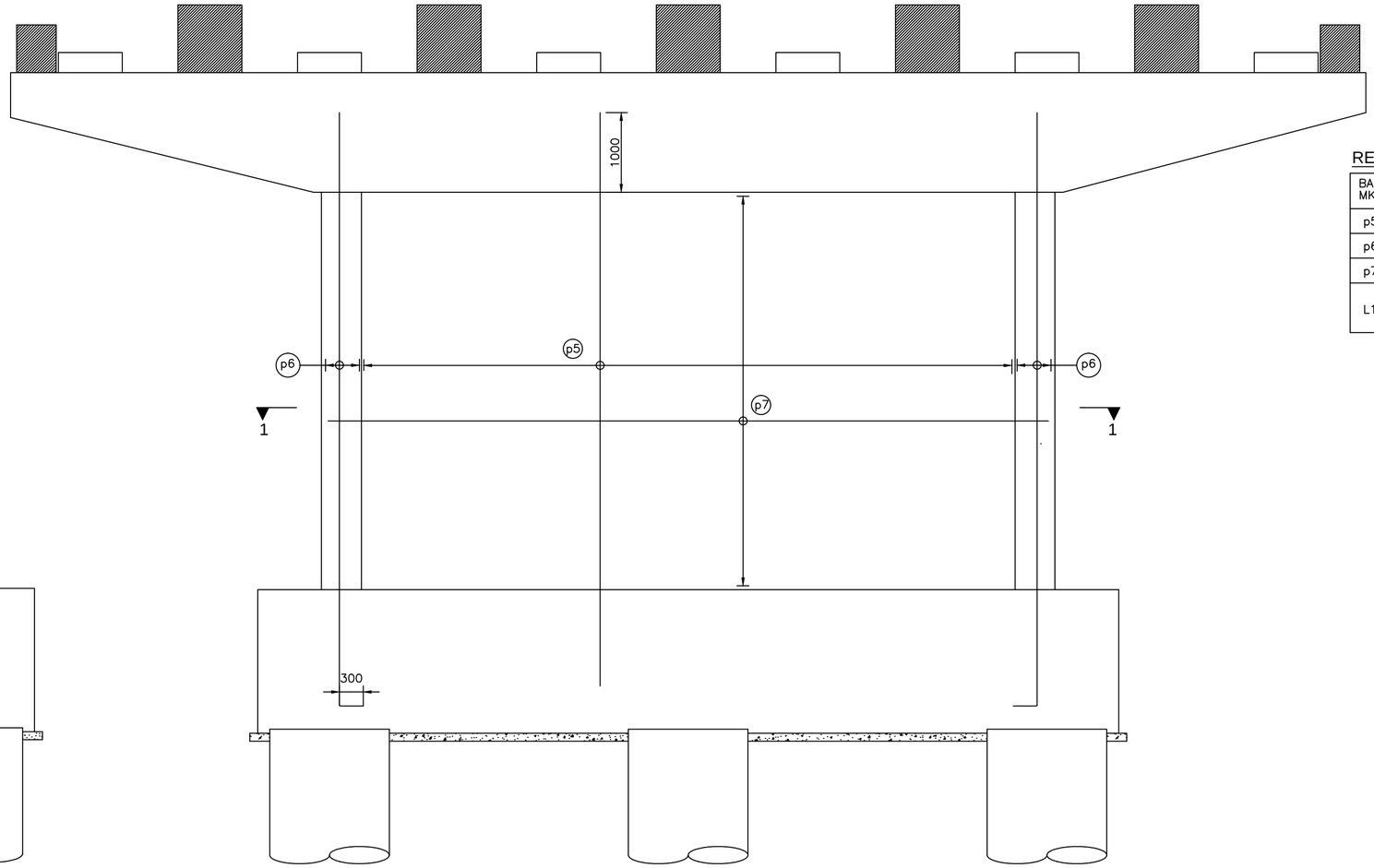
Drawing Title:-	REINFORCEMENT DETAILS OF PILE CAP & PILE (PIER P1 & P2)		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 04

CONSULTANT:-

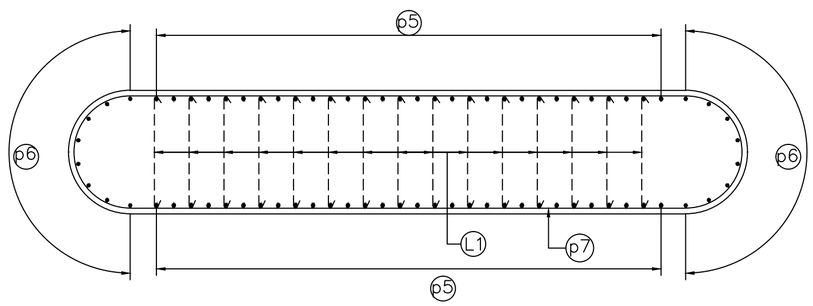
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



REINFT. SECTION A-A
(SCALE 1:50)



SECTION B-B
(SCALE 1:50)



SECTION 1-1
(SCALE 1:50)

REINFORCEMENT DETAIL:

BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
p5	25	2x70 nos	
p6	25	2x8 nos	
p7	12	100	
L1	10	200	EVERY ALT. BAR AND STAGGERED

LEGEND:

———	TOP/EARTH FACE
– – – – –	BOTTOM/OUTER FACE
B/F	BOTH FACE
V.L	VARYING LENGTH

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE MENTIONED.
2. THE REINFORCING STEEL SHALL BE DEFORMED TMT BARS (GRADE DESIGNATION Fe:500) CONFORMING TO IS:1786.
3. L–L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE AND T–T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE.
4. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT DRAWINGS.
5. CLEAR COVER TO ANY REINFORCEMENT SHALL BE 50mm.

Technocrats Advisory Services Private Limited Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAILS OF PIER SHAFT (PIER P1 & P2)

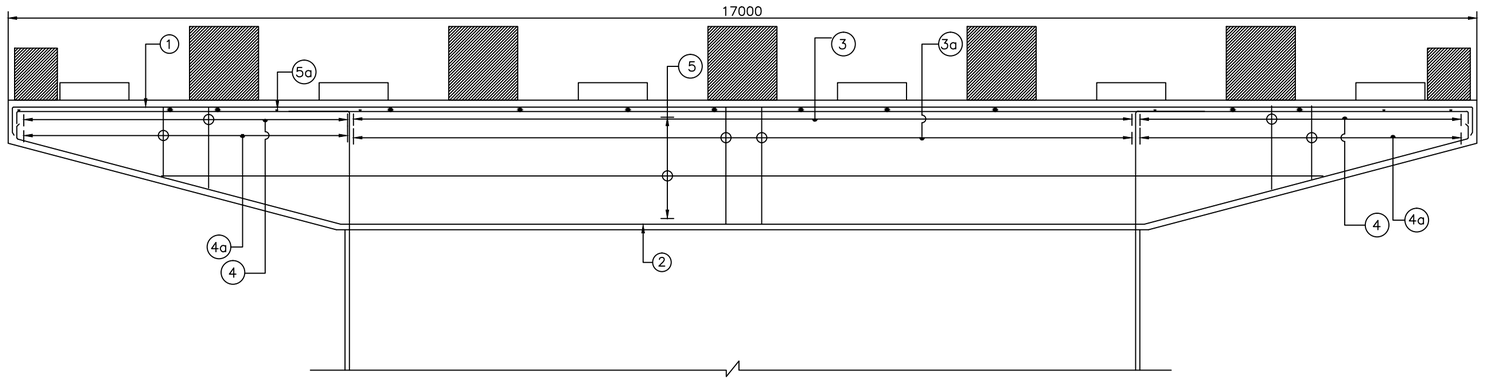
Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

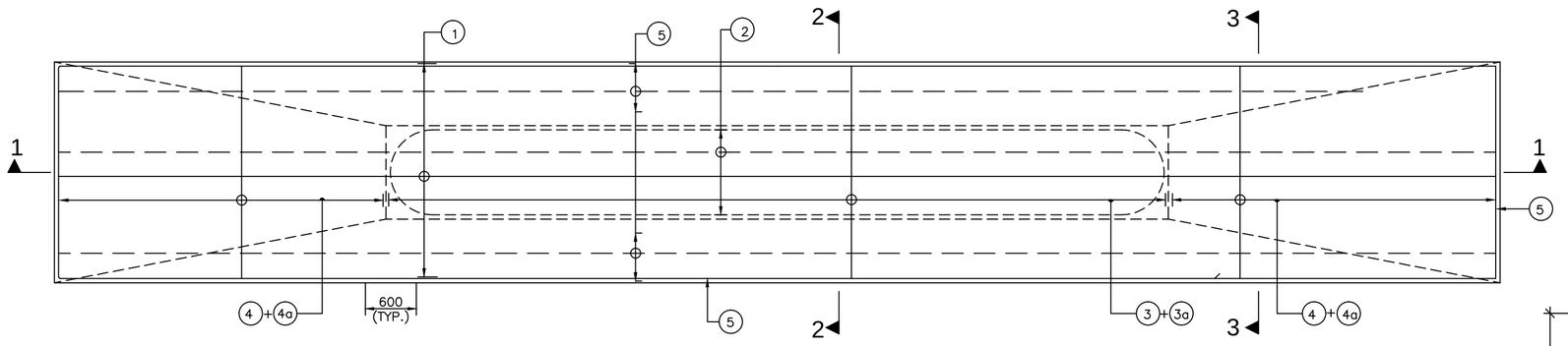
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	03 OF 04

CONSULTANT:-

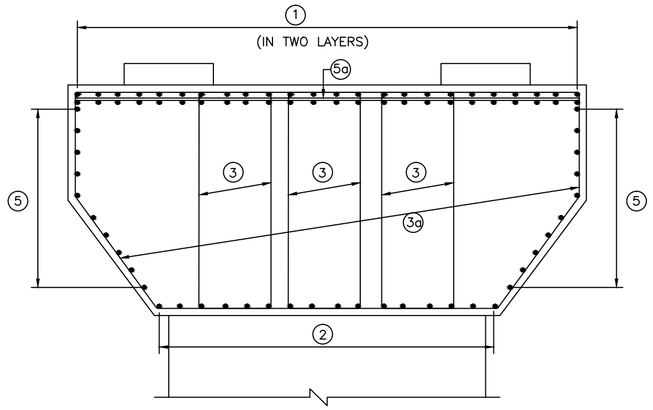
TASPL
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



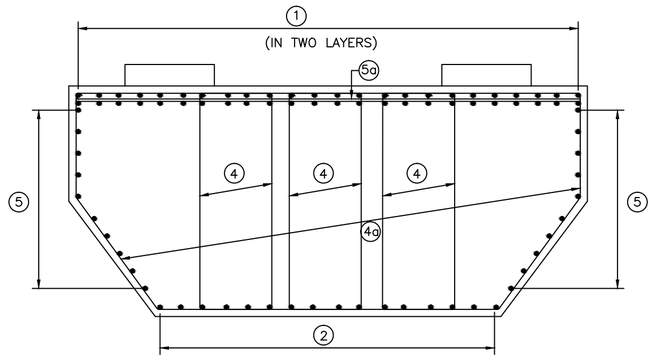
SECTION 1-1
(SCALE 1:50)



REINFORCEMENT IN PLAN AT PIER CAP TOP
(SCALE 1:50)



SECTION 2-2
(MESH REINFORCEMENT NOT SHOWN FOR CLARITY)
(SCALE 1:30)



SECTION 3-3
(MESH REINFORCEMENT NOT SHOWN FOR CLARITY)
(SCALE 1:30)

REINFORCEMENT DETAIL:

BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
1	32	140 (IN TWO LAYERS)	
2	25	140	
3	6L–16	160	STIRR.
3a	2L–16	160	STIRR.
4	6L–12	160	STIRR.
4a	2L–16	160	STIRR.
5	16	100	
5a	32	1000	SPACER BAR

TRANSVERSE SEISMIC STOPPER:-

BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
TS1	25	10 nos	
TS2	12	8 nos	
TS3	12	3x2 nos	
TS4	16	@100 C/C	4 LEGGED STIRRUPS

LONGITUDINAL SEISMIC STOPPER:-

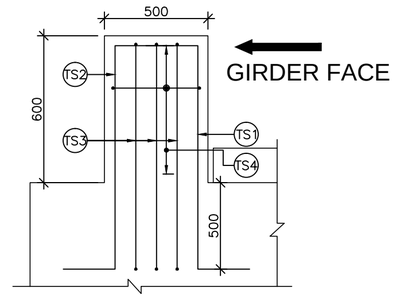
LS1	20	2x6 NOS.	300 300
LS2	16	3x2 NOS.	300 300
LS3	12	@150 C/C	4 LEGGED

LEGEND:

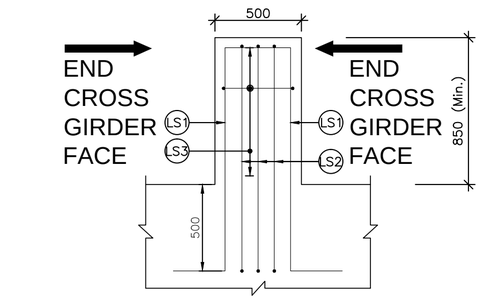
———	TOP/EARTH FACE
– – – –	BOTTOM/OUTER FACE
B/F	BOTH FACE
V.L	VARYING LENGTH

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE MENTIONED.
2. THE REINFORCING STEEL SHALL BE DEFORMED TMT BARS (GRADE DESIGNATION Fe:500) CONFORMING TO IS:1786.
3. L–L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE AND T–T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE.
4. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT DRAWINGS.
5. CLEAR COVER TO ANY REINFORCEMENT SHALL BE 50mm.



SECTION AT G-G
(SCALE 1:25)



SECTION AT H-H
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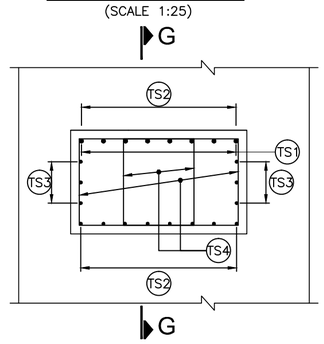
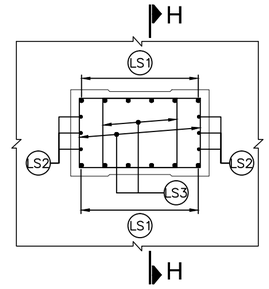


PLAN SHOWING REINF. DETAILS OF SEISMIC TRANSVERSE STOPPER
(SCALE 1:25)



PLAN SHOWING REINF. DETAILS OF LONGITUDINAL STOPPER ON PIER CAP
(SCALE 1:25)

Technocrats Advisory Services Private Limited — Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAILS OF PIER CAP (PIER P1 & P2)

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	04 OF 04

CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
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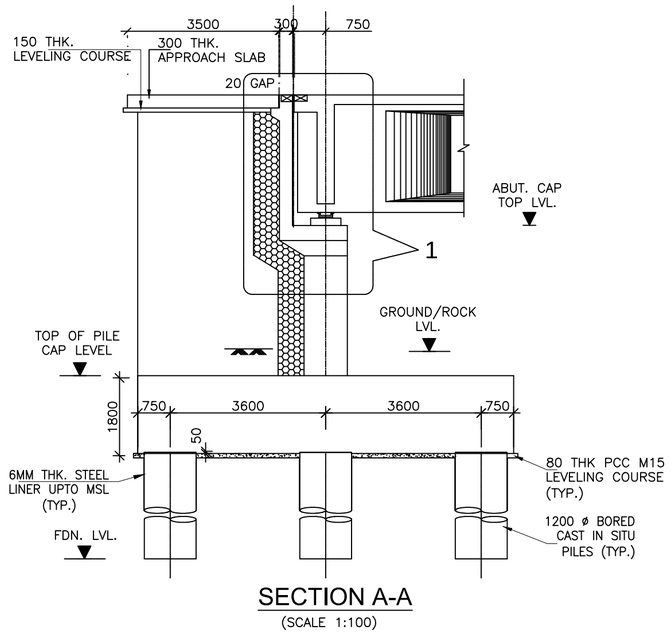
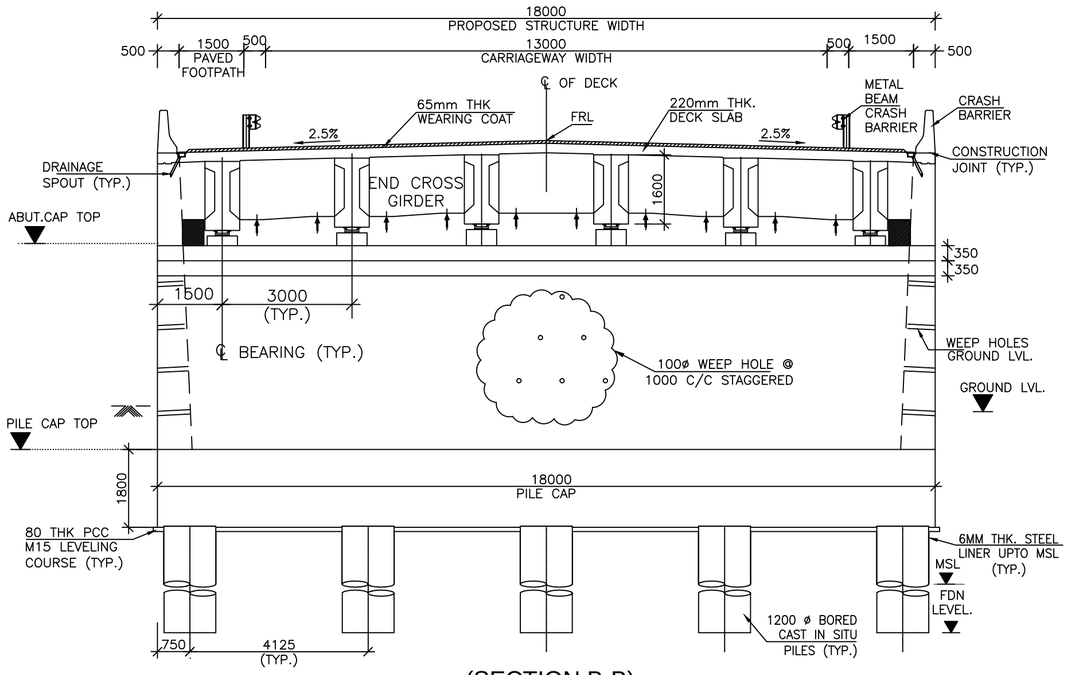


SECTION A-A

(SCALE 1:100)

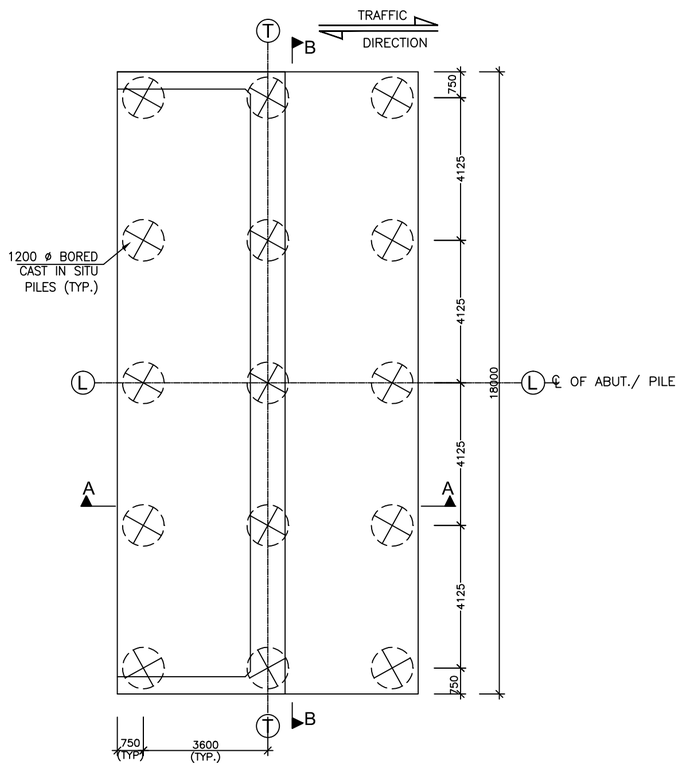


(SECTION B-B)

(SCALE 1:100)

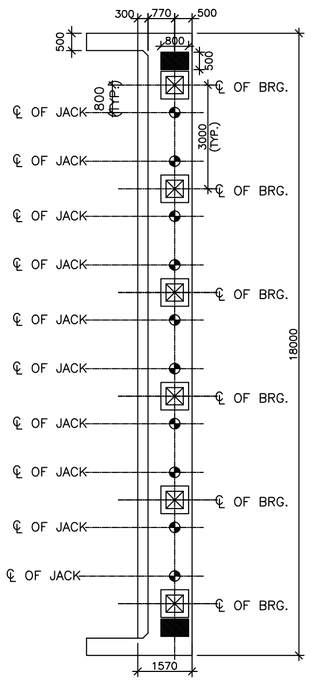
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. L–L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
   T–T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
4. TOP LEVEL OF ABUTMENT CAP HAS BEEN WORKED OUT BY ASSUMING MINIMUIM THICKNESS OF BEARING + PEDESTAL AS 0.35m THIS SHALL BE RECONFIRMED FROM THE BEARING MANUFACTURER BEFORE
5. THE LOCATION OF JACK OR LIFTING OF THE SUPERSTRUCTURE TO REPLACE BEARINGS ETC. IS SHOWN ǀ. THUS THIS SHALL BE DISTINCTLY ETCHED FOR EASY IDENTIFICATION ON THE END CROSS GIRDERS AND ABUTMENT CAPS.
7. CAPACITY OF JACKS SHOULD NOT BE LESS THAN 100 TONS.
8. FOLLOWING DESIGN MIX CONCRETE GRADES SHALL BE USED:–
   i) ABUT. AND ABUT. CAP ---M35
   ii) PILE AND PILE CAP ---M35
   iii) RCC CRASH BARRIER ---M40
   iv) PEDESTAL ---M40
   v) LEVELLING COURSE ---M15



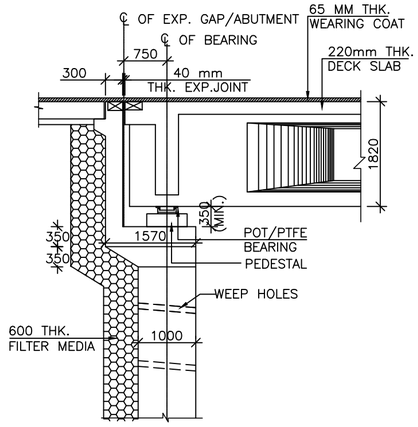
PLAN AT PILE CAP

(SCALE 1:125)



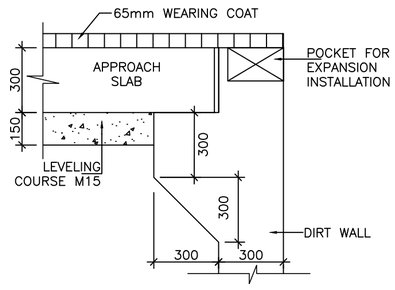
PLAN OF ABUTMENT CAP

(SCALE 1:125)



DETAIL-'1'

(SCALE 1:75)



DETAIL - '2'

TYP. DETAIL OF DIRT WALL BRACKET SUPPORTING APPROACH SLAB
SCALE 1:20

Technocrats Advisory Services Private Limited

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- DIMENSIONAL DETAILS OF ABUTMENT CAP & ABUTMENT FOUNDATION

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 03

CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
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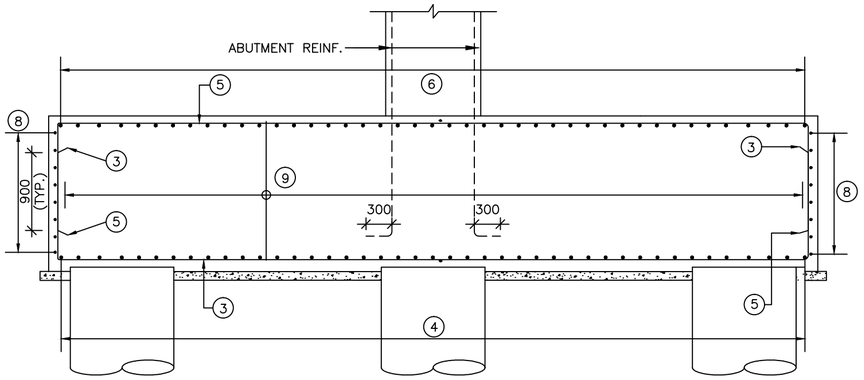
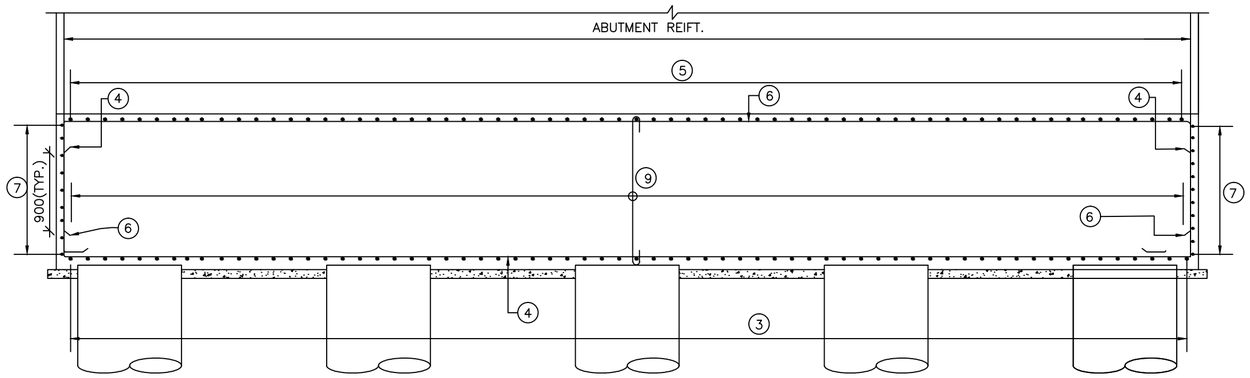
Patparganj Delhi-110092.



SECTION A-A
(SCALE 1:50)



SECTION B-B
(SCALE 1:50)

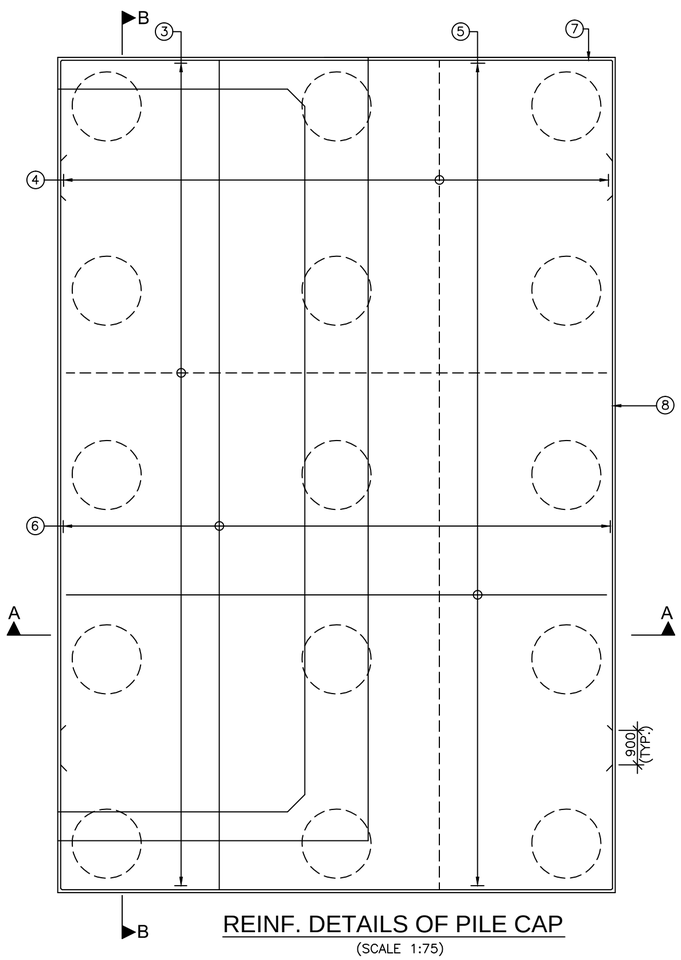
SCHEDULE OF PILE & PILE CAP REINFORCEMENT

BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
1	25	17 Nos.	
1a	16	100	
2	25	17 Nos.	
2a	10	150	
3	20	100	
4	20	100	
5	16	100	
6	16	100	
7	16	150	
8	16	150	
9	1L–12	100 both ways	

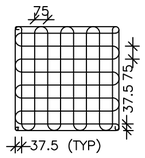
SCHEDULE OF PEDESTAL REINFORCEMENT

BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
Pd1	12	75	
Pd2	12	75	

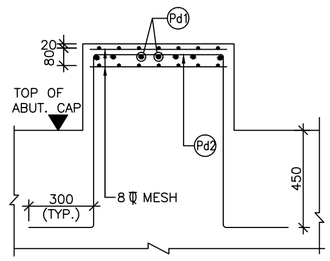
LEGEND:
- ——— TOP/EARTH FACE
- – – – – BOTTOM/OUTER FACE
- B/F BOTH FACE
- V.L VARYING LENGTH



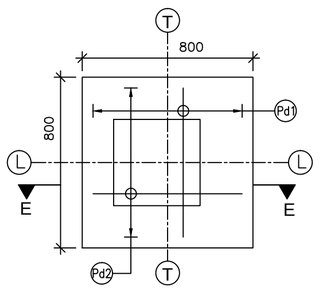
REINF. DETAILS OF PILE CAP
(SCALE 1:75)



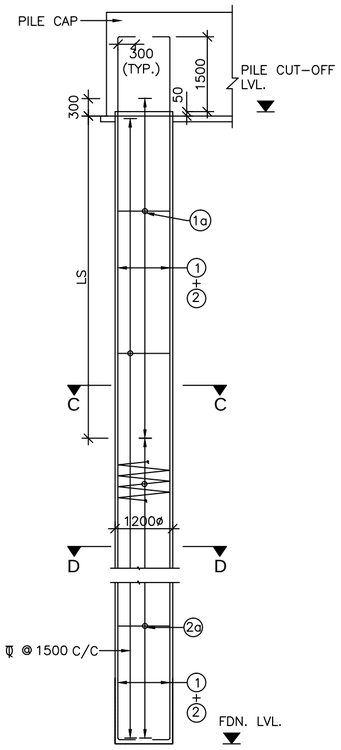
8 Ø MESH IN 2 LAYERS IN PEDESTALS UNDER BEARING
(SCALE 1:25)



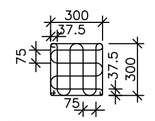
SECTION E-E
(SCALE 1:20)



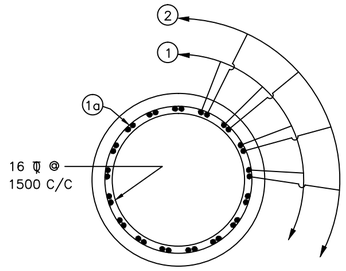
PLAN
(DETAILS OF PEDESTAL)
(SCALE 1:20)



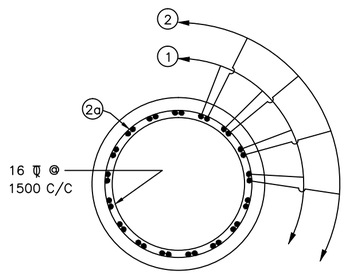
R.C.DETAILS OF PILE
(SCALE 1:75)



8 Ø MESH AT JACK LOCATION IN TWO LAYERS
(SCALE 1:25)



SECTION C-C
(SCALE 1:30)



SECTION D-D
(SCALE 1:30)

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. L–L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE T–T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
4. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION Fe–500D CONFORMING TO IS: 1786 SHALL ONLY BE USED.
5. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE IT'S CONCRETING.
6. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOWS WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50% ONLY (IRC: 112–2011) (CLAUSE:15.2.5.1)

LAP LENGTH ls = α1. lbnet
- α1 = 1.0 FOR p%≤ 25%
- α1 = 1.15 FOR 25%≤p%≤25%
- α1 = 1.14 FOR 33%≤p%≤50%

(IRC:112–2011, CLAUSE:15.2.3.3)

ANCHORAGE LENGTH (lbnet)

lbnet = α. lb (α = 1.0)
- lb = kø
- k = 40 FOR M30 (Fe500D)
- k = 36 FOR M35 (Fe500D)
- k = 34 FOR M40 (Fe500D)

FOR UNFAVORABLE BOND CONDITION THE lb SHOULD BE MULTIPLIED BY FACTOR OF 1.43. FOR ø>32mm lb SHOULD BE INCREASED BY MULTIPLYING FACTOR $\left(\frac{100}{132-ø}\right)$

Technocrats Advisory Services Private Limited Delhi

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAILS OF ABUTMENT CAP & ABUTMENT FOUNDATION

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 03

CONSULTANT:-

TASPL

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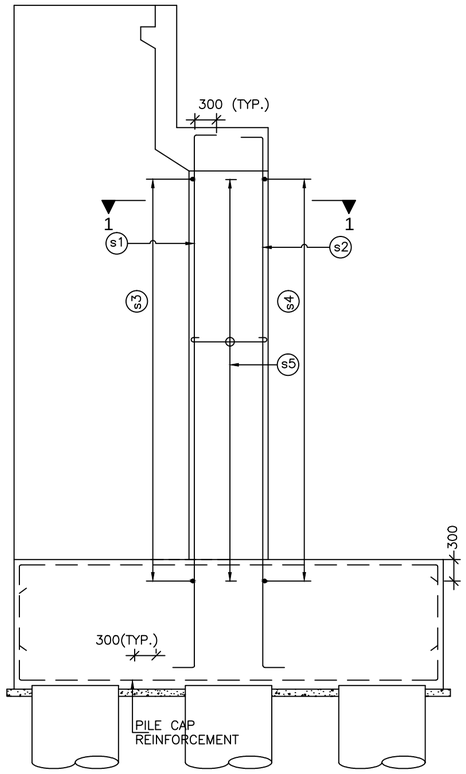
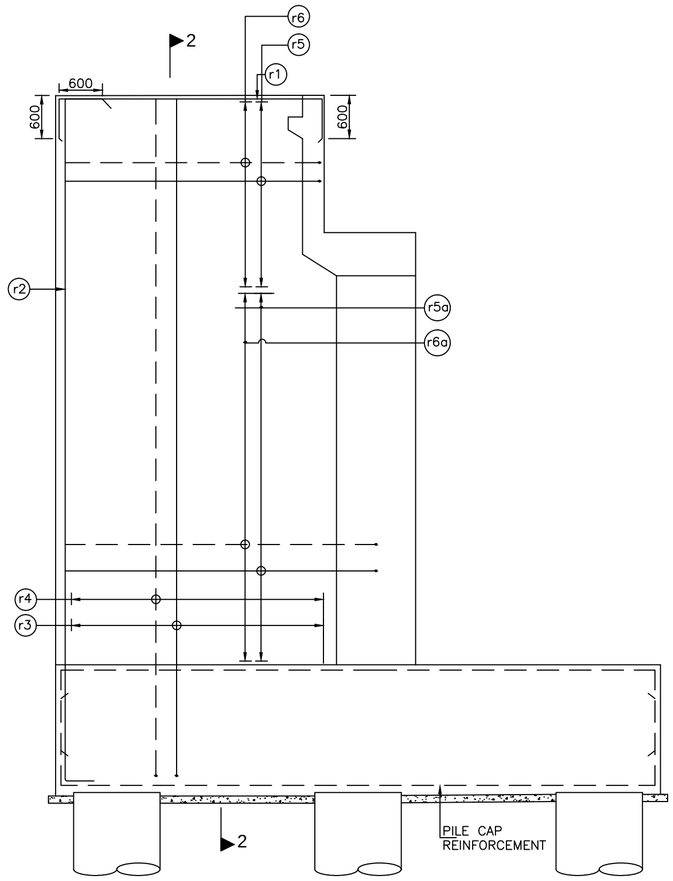
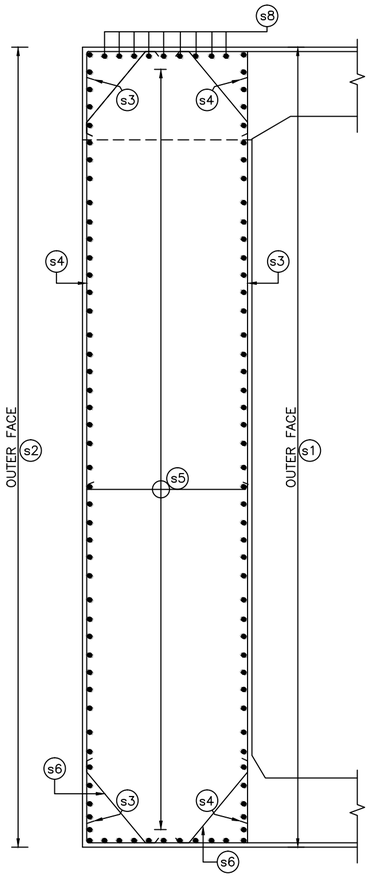
Patparganj Delhi-110092.



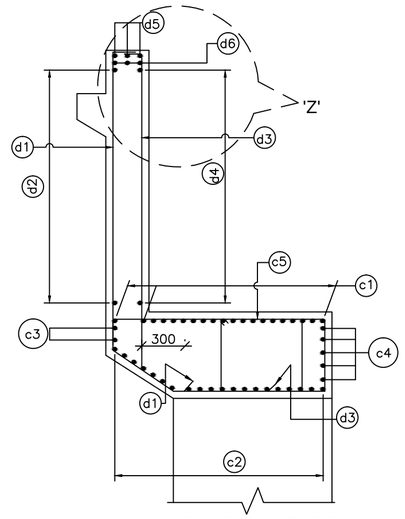
SECTION A-A
(SCALE 1:75)



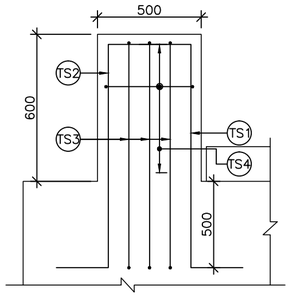
R/F DETAILS OF RETURN WALL
(SCALE 1:60)



SECTION 1-1
(SCALE 1:50)



R/F DETAILS OF DIRT WALL & ABUTMENT CAP
(SCALE 1:30)



SECTION AT G-G
(SCALE 1:25)

ABUT. SHAFT REINFT.

BAR MKD.	DIA (mm)	SPACING/Nos.	SHAPE
s1	16	120 Nos.	
s2	16	120 Nos.	
s3	12	200	
s4	12	200	
s5	12	240	
s6	12	150	
s7		NOT USED	
s8	16	5 Nos	

DIRT WALL. REINFT.

d1	12	150	
d2	10	200	
d3	10	150	
d4	10	200	
d5	12	3 Nos.	
d6	12	3 Nos.	

ABUT.CAP REINFT.

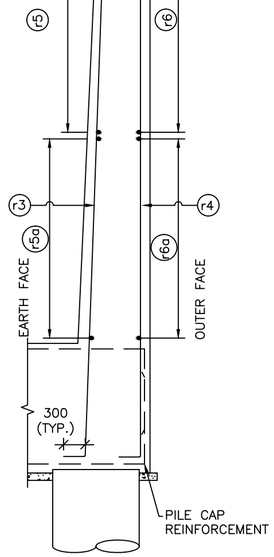
c1	20	10 Nos.	
c2	20	10 Nos.	
c3	16	2 Nos.	
c4	16	5 Nos.	
c5	4L–12	120	

RETURN WALL. REINFT.

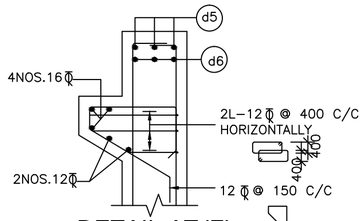
r1	16	4 Nos.	
r2	16	4 Nos.	
r3	16	150	
r4	12	150	
r5	12	200	
r5a	12	200	
r6	12	200	
r6a	10	200	
r8	12	4 Nos.	
r9	16	150	
r10	16	150	

TRANSVERSE SEISMIC STOPPER:-

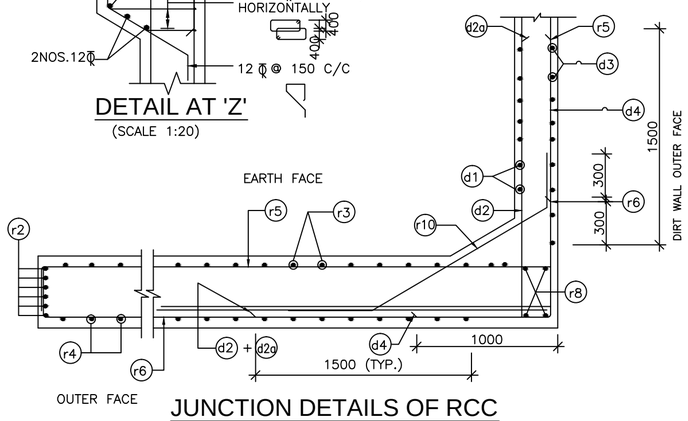
TS1	25	10 Nos.	
TS2	12	8 Nos.	
TS3	12	3x2 Nos.	
TS4	16	100	4 LEGGED



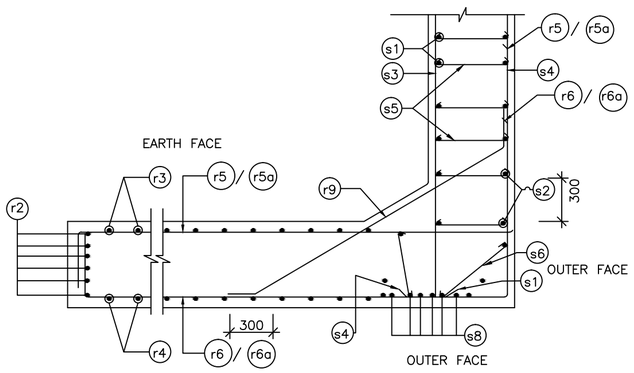
SECTION 2-2
(SCALE 1:60)



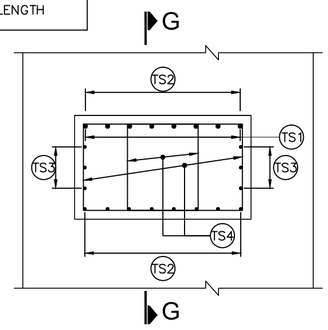
DETAIL AT 'Z'
(SCALE 1:20)



JUNCTION DETAILS OF RCC SOLID RETURN WALL AND DIRT WALL
(SCALE 1:30)



JUNCTION DETAILS OF RCC ABUTMENT AND SOLID RETURN WALL
(SCALE 1:30)



PLAN SHOWING REINF. DETAILS OF SEISMIC TRANSVERSE STOPPER
(SCALE 1:25)

LEGEND:

———	TOP/EARTH FACE
– – – –	BOTTOM/OUTER FACE
B/F	BOTH FACE
V.L	VARYING LENGTH

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAILS OF ABUTMENT CAP & ABUTMENT FOUNDATION

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	03 OF 03

CONSULTANT:-

TASPL

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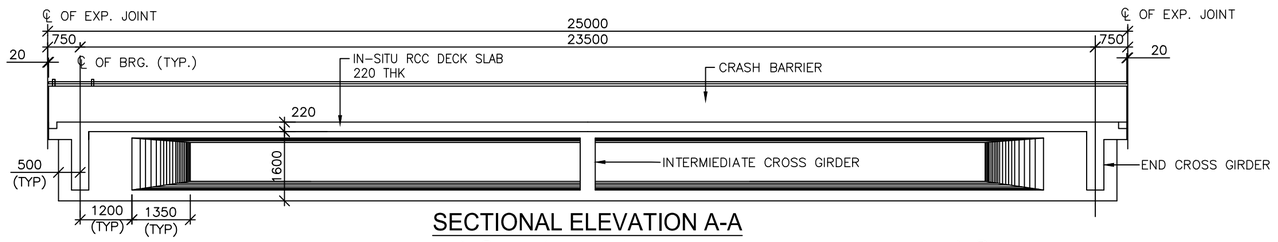
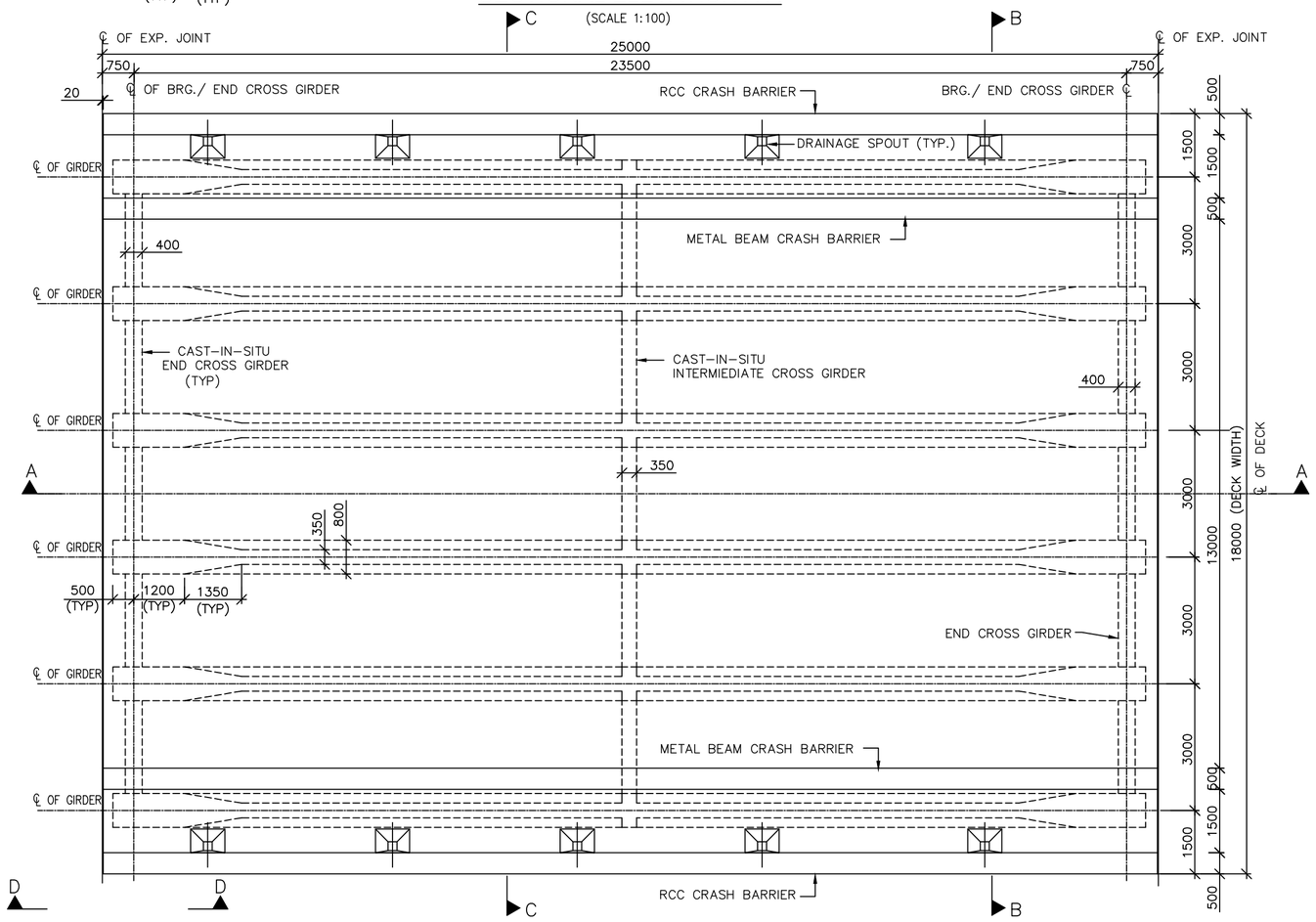


SECTIONAL ELEVATION A-A

(SCALE 1:100)

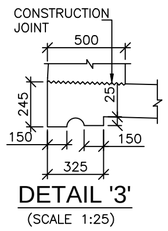


PLAN AT DECK LEVEL

(SCALE 1:100)

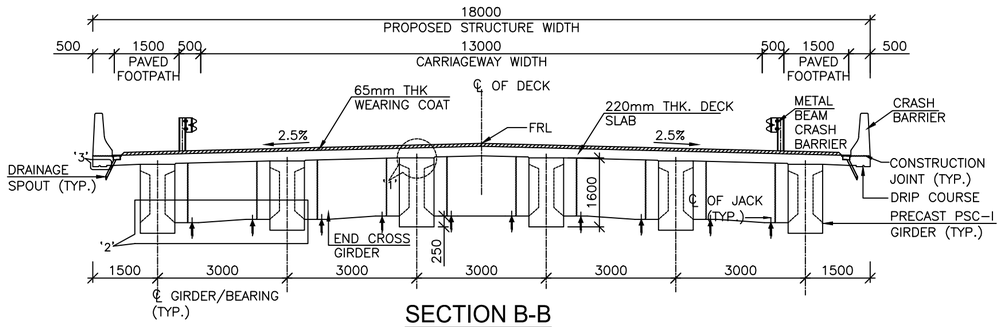
DETAIL '2'

(SCALE 1:25)



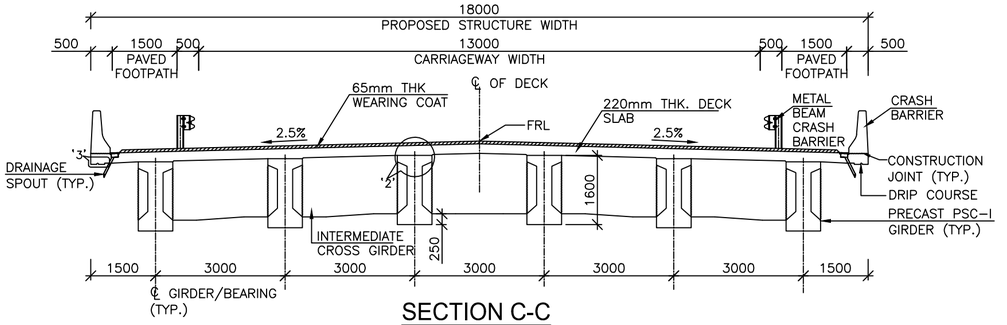
DETAIL '3'

(SCALE 1:25)



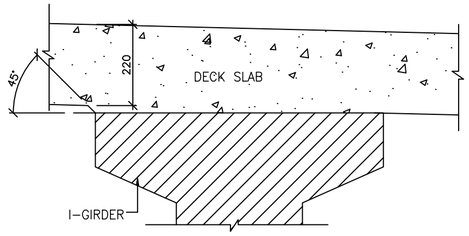
SECTION B-B

(SCALE 1:100)



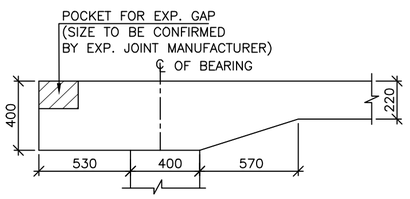
SECTION C-C

(SCALE 1:100)



DETAIL '1'

(SCALE 1:10)



SECTION D-D

(SCALE 1:25)

NOTES:-

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. TOP SURFACE OF GIRDER SHALL BE ROUGHED FOR EFFECTIVE BONDING.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. BEAM SHALL BE KEPT UPRIGHT AT ALL TIMES AND TO BE CLEARLY MARKED INDICATING SPAN, LOCATION, AND RESPECTIVE ENDS BEFORE REMOVAL FROM CASTING BED.
5. CONCRETE FOR SUPERSTRUCTURE SHALL BE DESIGN MIX AND HAVE A MINIMUM 28 DAYS CHARACTERISTIC STRENGTH OF M40.
6. THE JACK FOR LIFTING THE SUPER STRUCTURE DURING BEARING REPLACEMENT SHALL HAVE A MINIMUM CAPACITY OF 200t.

Technocrats Advisory Services Private Limited

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- DIMENSION DETAIL OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

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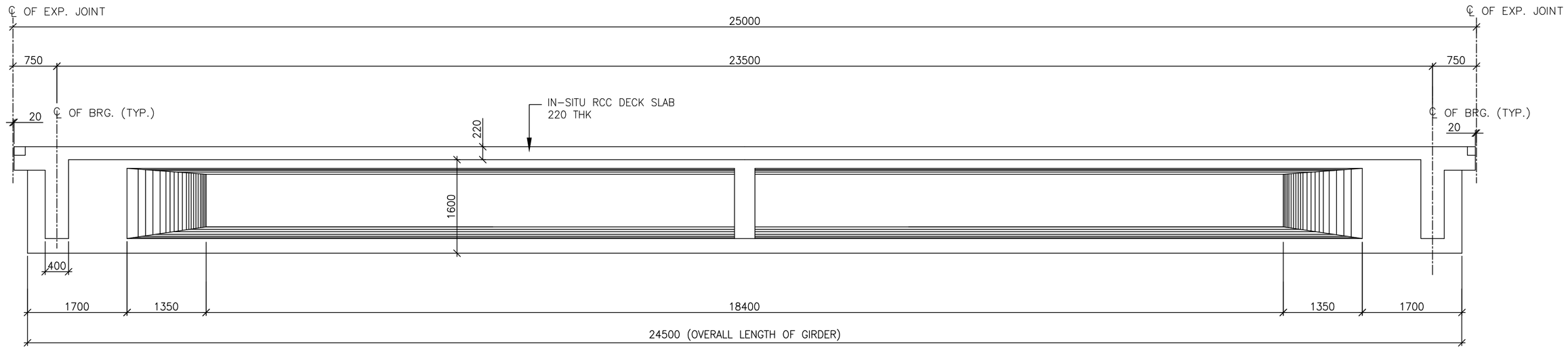
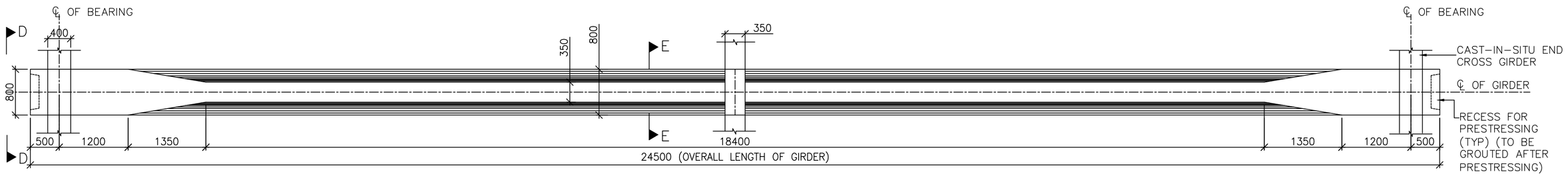


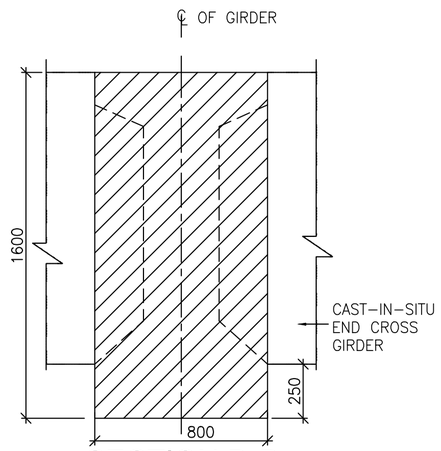
ELEVATION OF PRECAST GIRDER

(SCALE 1:50)



PLAN OF PRECAST GIRDER

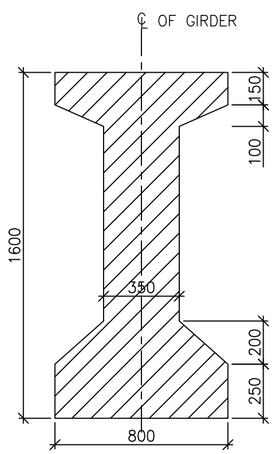
(SCALE 1:50)



SECTION D-D

(SUPPORT SECTION)

(SCALE 1:20)



SECTION E-E

(MID SPAN)

(SCALE 1:20)

NOTES:-

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. TOP SURFACE OF GIRDER SHALL BE ROUGHED FOR EFFECTIVE BONDING.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. BEAM SHALL BE KEPT UPRIGHT AT ALL TIMES AND TO BE CLEARLY MARKED INDICATING SPAN, LOCATION, AND RESPECTIVE ENDS BEFORE REMOVAL FROM CASTING BED.
5. CONCRETE FOR SUPERSTRUCTURE SHALL BE DESIGN MIX AND HAVE A MINIMUM 28 DAYS CHARACTERISTIC STRENGTH OF M40.

Technocrats Advisory Services Private Limited Delhi

Project Title:-

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

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Drawing Title:- DIMENSION DETAIL OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
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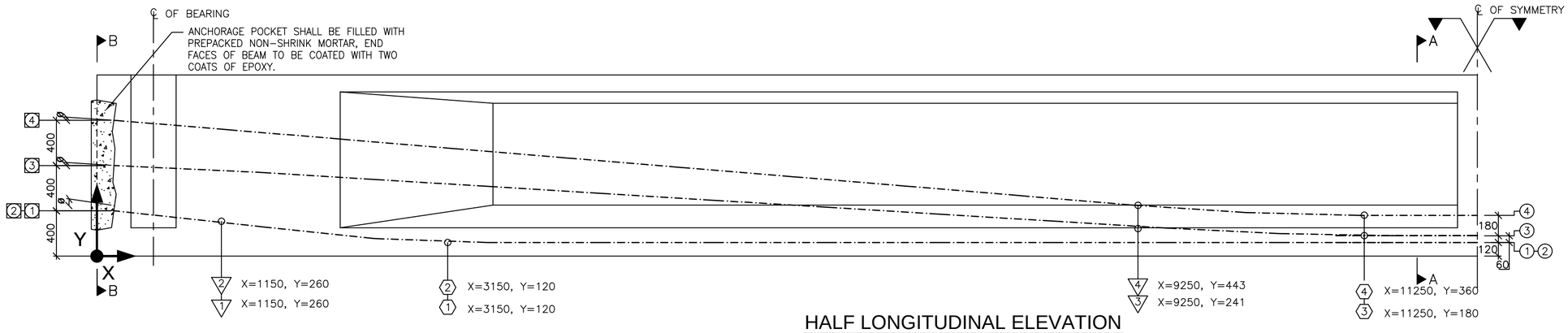
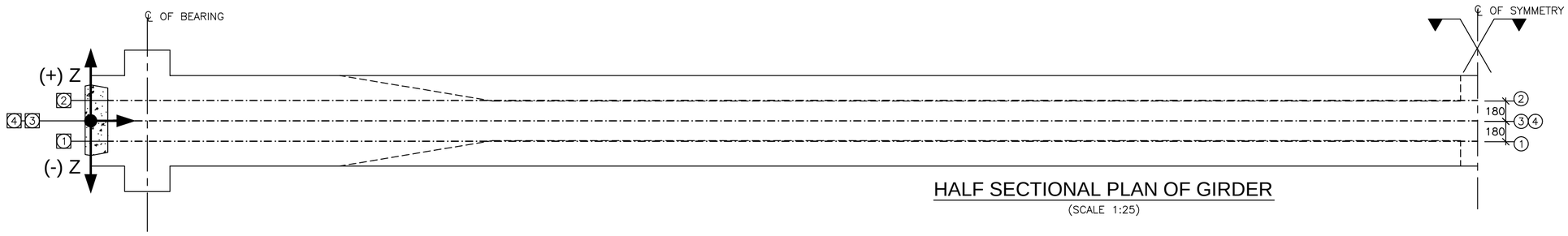


HALF LONGITUDINAL ELEVATION

(SCALE 1:25)



HALF SECTIONAL PLAN OF GIRDER

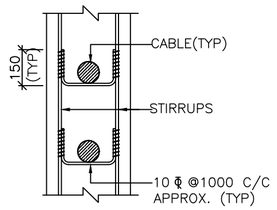
(SCALE 1:25)

TABLE2: DETAILS OF JACKING FORCE & TENDON ELONGATION

CABLE NO.	EXTENSION AT EACH END (mm)	EMERGENCE ANGLE (Ø) (Degree)	GIRDER		
			JACKING FORCE (t)	NOS. OF STRANDS	DUMMY STRANDS
1	88.3	7.970	215.1	11	1
2	88.3	7.970	215.1	11	1
3	89.9	3.513	195.5	10	2
4	89.9	4.754	234.6	12	–

LEGEND :-

- INDICATED START OF CURVE IN ELEVATION
- INDICATED END OF CURVE IN ELEVATION
- INDICATED END OF CABLE
- INDICATED CABLE NUMBER

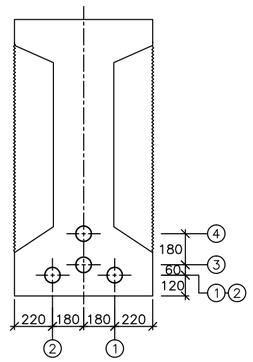


TYPICAL SUPPORTING ARRANGEMENT FOR CABLE

(SCALE 1:15)

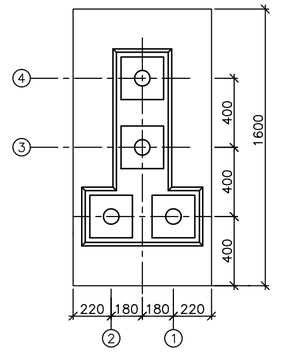
TABLE - 1: DETAILS OF CABLE CO-ORDINATE

CABLE NO.	ORDINATES AT DISTANCE 'X' FROM END OF GIRDER																											
	150		1150		2150		3150		4150		5150		6150		7150		8150		9250		10250		11250		12150		MID OF GIRDER	
	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z	Y	Z
1	400	–180	260	–180	155	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	120	–180	–120	–180
2	400	180	260	180	155	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180	120	180
3	800	0	739	0	677	0	616	0	554	0	493	0	432	0	370	0	309	0	245	0	195	0	180	0	180	0	180	0
4	1200	0	1117	0	1034	0	950	0	867	0	784	0	701	0	618	0	535	0	443	0	381	0	360	0	360	0	360	0



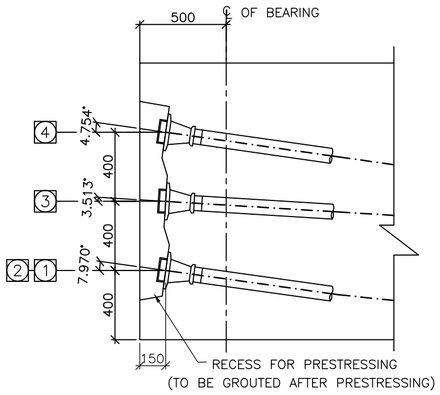
SECTION A-A

(SCALE 1:20)



VIEW B-B (END BLOCK)

(SCALE 1:20)



DIMENSION DETAIL OF END BLOCK

(SCALE 1:20)

Technocrats Advisory Services Private Limited, Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- CABLE LAYOUT OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.

PRESTRESSING NOTES:–

1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.

4. PRESTRESSING SYSTEM

a) ALL PRESTRESSING STRANDS SHALL HAVE 7 PLY UNCOATED STRESS RELIEVED LOW RELAXATION HIGH TENSILE STRANDS OF 15.2mm DIA. CONFORMING TO CLASS 2 OF IS 14268–1995.

b) THE PARAMETERS ADOPTED FOR DESIGN ARE AS FOLLOWS:–

i) ANCHORAGE TYPE ----------12 K 15
ii) SLIP AT EACH END ---------- 6mm
iii) CO–EFFICIENT OF FRICTION(μ) ---------- 0.17/ RADIAN
iv) WOBBLE CO–EFFICIENT (K)---------- 0.0020/m
v) NOMINAL AREA OF EACH STRAND ---------- 140 sq.mm
vi) NOMINAL ULTIMATE BREAKING LOAD OF EACH STRAND ---------- 260.7KN
vii) MODULUS OF ELASTICITY OF HIGH TENSILE STEEL ---------- $1.95X10^5$ MPa
viii) SHEATHING THICKNESS---------- 0.5 mm

c) HDPE SHEATHING DUCT OF 86mm DIA (ID) SHALL BE USED FOR ALL CABLES.

d) ALL THE DESIGN PARAMETERS ADOPTED SHALL BE VERIFIED AT SITE.

5. PRESTRESSING OPERATIONS

a) ALL CABLES SHALL BE LAID IN SMOOTH PROFILE PASSING THROUGH THE GIVEN ORDINATES. FIRM SUPPORT SHALL BE INSTALLED AT EVERY METRE AS SHOWN.

b) CABLE LENGTHS MENTIONED IN THE DRAWING ARE INCLUSIVE OF 1000 MILLIMETRE EXTRA AT EACH END. THE TOTAL LENGTH OF CABLE SHALL BE VERIFIED AT SITE.

c) ABSCISSA (DISTANCE "X") OF CABLE GIVEN IN THE DRAWING ARE EVALUATED WITH REFERENCE TO END OF GIRDER. ORDINATES DISTANCE 'Y' ARE WITH REFERENCE TO SOFFIT OF THE GIRDER.

d) ALL STRANDS OF CABLES SHALL BE STRESSED FROM BOTH ENDS SIMULTANEOUSLY. ONLY MULTIPULL JACKS SHALL BE USED FOR STRESSING.

e) GROUTING OF CABLES SHALL BE DONE IN SAME SEQUENCE AS STRESSING AND SHALL CONFIRM TO TECHNICAL SPECIFICATIONS. ANCHORAGE POCKET SHALL BE FILLED WITH EPOXY MORTAR AFTER STRESSING & GROUTING.

f) TIME LAG BETWEEN STRESSING OF EACH CABLE SHALL BE AVOIDED.

g) EXTENSIONS SHALL BE RECHECKED AT 24 HOURS AFTER ANCHORING TO OBSERVE SLOW SLIPPAGE. INCASE OF EXCESSIVE SLIPPAGE THE MATTER SHALL BE REPORTED TO THE ENGINEER–IN–CHARGE.

h) EXTENSIONS ARE GIVEN FOR HALF CABLE LENGTHS INCLUSIVE OF 600 MILLIMETRE GRIP LENGTH AT EACH END. LOSS UPTO 6mm DUE TO SLIP OF ANCHORAGES ARE NOT TO BE COMPENSATED DURING SITE OPERATIONS. JACK PRESSURE AND EXTENSIONS OF CABLES AT EACH END GIVEN IN THE DRAWING SHALL BE VERIFIED AT SITE.

i) INITIAL SLACKNESS IN CABLES SHALL BE REMOVED BY APPLYING SMALL 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 CL. 12.2.1.3 OF IS:1343–1980.

j) IN CASE THE CALCULATED ELONGATION AND THE JACK PRESSURE ARE NOT ACHIEVED SIMULTANEOUSLY DURING PRESTRESSING OPERATION STRESSING SHALL BE CONTINUED / DISCONTINUED AS PER NOTE NO. 9 GIVEN BELOW.

k) EXCESS STRANDS AS SHOWN IN TABLE–2 SHALL BE STRESSED IF ANY SHORTFALL IN PRESTRESSING.

6. THE EXTENSIONS GIVEN IN TABLE SHALL BE MODIFIED AT SITE IN CASE ACTUAL VALUE OF AREA OF STRANDS 'A' AND MODULUS OF ELASTICITY 'E' VARIES FROM THOSE ASSUMED IN DESIGN, REVISED EXTENSION SHALL BE CALCULATED AS UNDER REVISED EXTENSION = (140 X 195 X 10^5) / (NEW AREA X NEW MODULUS) x ORIGINAL EXTENSION.

7. EXTENSION OF CABLE SHALL BE VERIFIED FOR A FEW CABLES AT SITE. IN CASE OF VALUE OF μ AND K ARE FOUND TO BE DIFFERENT THAN THOSE CONSIDERED FOR DESIGN, EXTENSION SHALL BE SUITABLY MODIFIED AFTER APPROVAL OF DESIGN OFFICE.

8. THE GRIP LENGTH FROM ANCHORAGE FACE UPTO GRIPPING POINT IN JACK ASSUMED IN EXTENSION CALCULATIONS IS 600 mm AND THE ADDITIONAL LENGTH TAKEN FOR CUTTING IS 400 mm. IN CASE GRIP LENGTH VARIES THEN THOSE CONSIDERED, THE EXTENSIONS SHALL BE MODIFIED AS UNDER :

$$E_{x\,(New)} = E_{x\,(Old)} + \frac{\text{JACK FORCE} \times (\text{GRIP LENGTH} - 600)}{\text{AREA} \times E_s}$$

9. SPECIAL NOTE FOR PRESTRESSING

IF THE CALCULATED ELONGATION IS REACHED BEFORE THE CALCULATED GAUGE PRESSURE IS OBTAINED, CONTINUE TENSIONING TILL ATTAINING THE CALCULATED GAUGE PRESSURE PROVIDED THE ELONGATION DOES NOT EXCEED 1.05 TIMES THE CALCULATED ELONGATION. IF THE CALCULATED ELONGATION HAS NOT BEEN REACHED CONTINUE TENSIONING IN INTERVALS OF 5 kg/sqcm UNTIL THE CALCULATED ELONGATION IS REACHED PROVIDED THE GAUGE PRESSURE DOES NOT EXCEED 1.05 TIMES THE CALCULATED GAUGE PRESSURE. IF THE ELONGATION AT 1.05 TIMES THE CALCULATED GAUGE PRESSURE IS LESS THAN 0.95 TIMES THE CALCULATED ELONGATION THE FOLLOWING MEASURES MUST BE TAKEN :

i) RECALIBRATE THE PRESSURE GAUGE
ii) CHECK THE CORRECT FUNCTIONING OF THE JACK PUMP AND LEADS
iii) DE–TENSION THE CABLE SLIDE IT IN ITS DUCT TO CHECK THAT IT IS NOT BLOCKED BY MORTAR WHICH HAS ENTERED THROUGH IN THE SHEATH. RE–TENSION THE CABLE IF FREE. IF THE REQUIRED ELONGATION IS NOT OBTAINED FURTHER FINISHING OPERATION SUCH AS CUTTING OR SEALING SHOULD NOT BE UNDERTAKEN WITHOUT THE APPROVAL THE ENGINEER.

10. THE GAUGE PRESSURE FOR PRESTRESSING SHALL BE WORKED OUT PRIOR TO ANY STRESSING OPERATION DULY TAKING IN TO ACCOUNT THE RAM AREA OF THE JACK AND THE JACK EFFICIENCY. THE STRESSING EQUIPMENTS SHALL BE WELL MAINTAINED AND THE CALIBRATION CHARTS SHALL BE AVAILABLE AT SITE.

11. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.

CONSTRUCTION SEQUENCE OF OUTER GIRDER

1. AT '0'TH DAY GIRDER SHALL BE CASTED ON CASTING BED.
2. CABLE No. ③ & ④ SHALL BE PRESTRESSED AT 5TH DAY OR WHEN CUBE STRENGTH IS 35MPa WHICHEVER IS LATER. AFTER THIS STAGE OF STRESSING THE GIRDER CAN BE LIFTED FROM THE CASTING BED.
3. 4 STRANDS OF CABLE No. ① SHALL BE PRESTRESSED AT 21ST DAY OR WHEN CUBE STRENGTH IS 40MPa.
4. AFTER STRESSING 4 STRANDS OF CABLE NO① , 8 STRANDS OF CABLE No. ② SHALL BE PRESTRESSED.
5. AFTER STRESSING CABLE No. ② REMAINING STRANDS OF CABLE No. ① SHALL BE PRESTRESSED.
6. GIRDERS SHALL BE PLACED ON TEMPORARY SUPPORTS ON PIER CAP.
7. PERMANENT BEARINGS SHALL BE INSTALLED ON PEDESTALS.
8. CAST WEDGE OVER THE BEARING AS PER RELEVANT WEDGE DETAILS.
9. REMOVE TEMPORARY SUPPORT SO THAT GIRDER CAN BE PLACED OVER STEEL WEDGE AND PERMANENT BEARINGS.
10. DECK SLAB SHALL BE CAST AFTER 28 DAYS OF CASTING OF GIRDER.
11. PARAPET, RAIL PLINTH SHALL BE ERECTED/CAST 28 DAYS AFTER CASTING THE DECK SLAB OR AFTER THE DECK SLAB ATTAINS A STRENGTH OF 40MPa, WHICHEVER IS LATER.

NOTES

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Technocrats Advisory Services Private Limited Delhi

Project Title:-

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NHIDCL BUILDING INFRASTRUCTURE - BUILDING THE NATION

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- CABLE LAYOUT OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

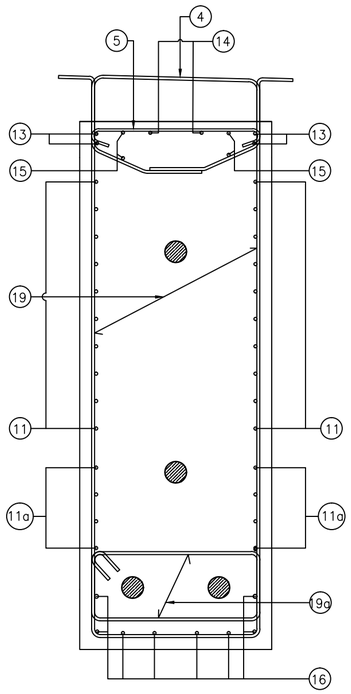
Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

CONSULTANT:-

TASPL

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



SECTION D-D
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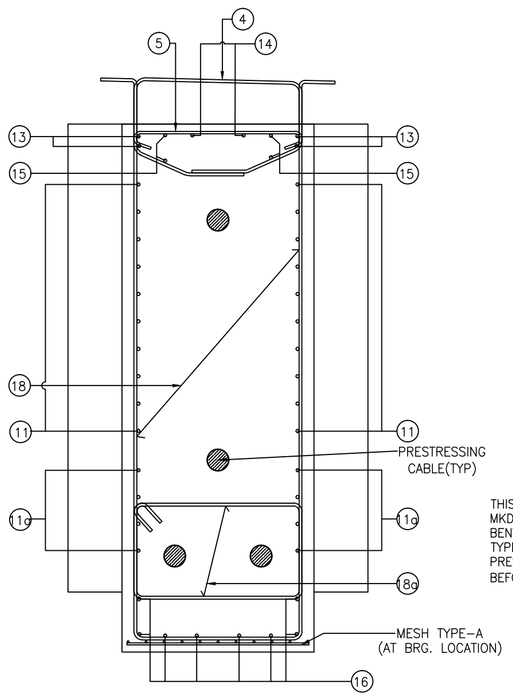

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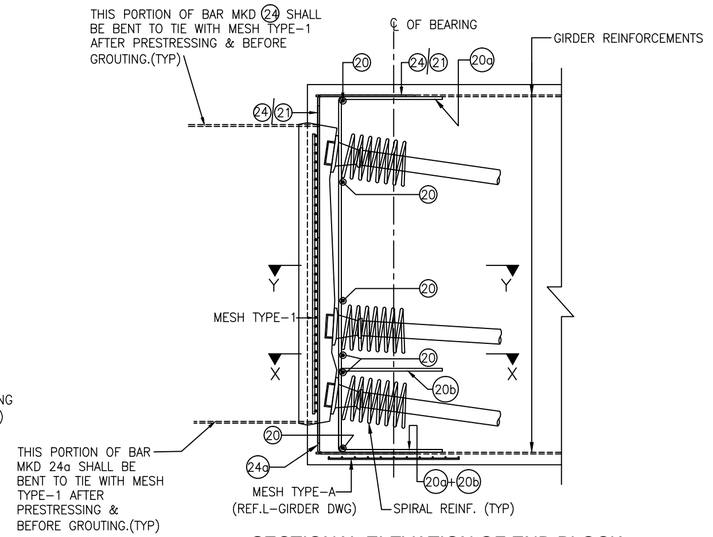
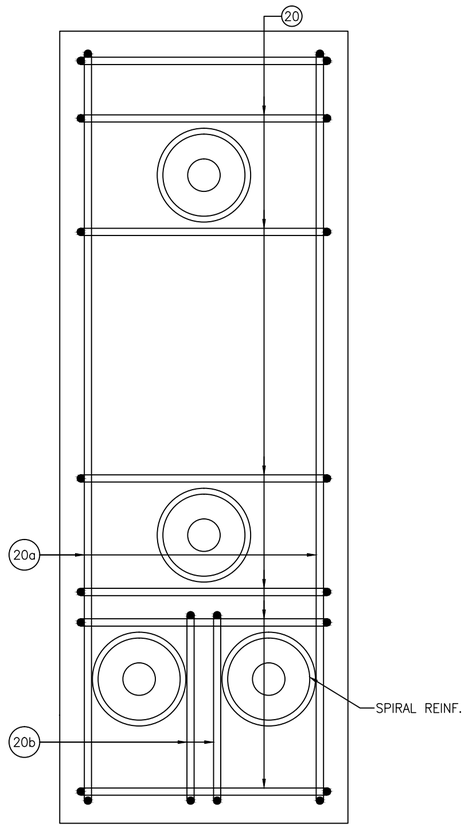


SECTIONAL ELEVATION OF END BLOCK
(SCALE 1:20)



SECTION Z-Z
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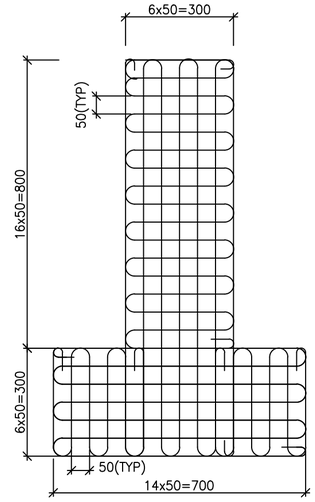
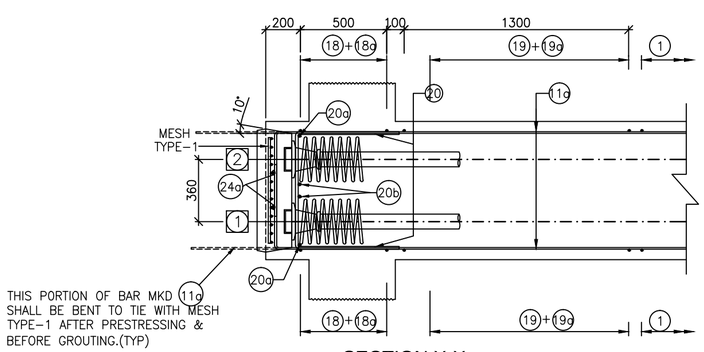


12 ℚ MESH TYPE- 1
(SCALE 1:10)



SECTION X-X
(BAR MKD. 2 NOT SHOWN FOR CLARITY)
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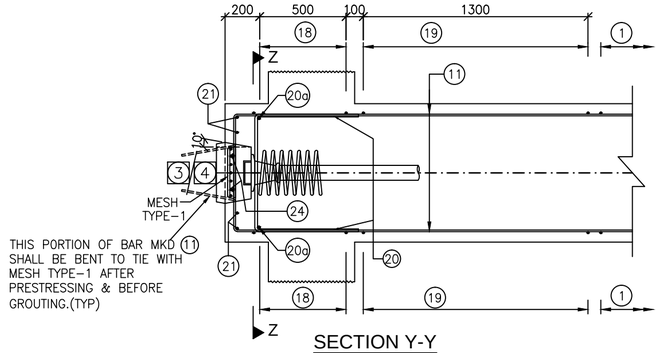

SECTION Y-Y
(BAR MKD. 2 NOT SHOWN FOR CLARITY)
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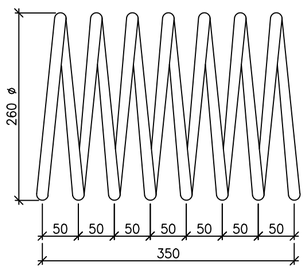

16 ℚ SPIRAL REINFORCEMENT FOR CABLE (TYP)
(SCALE 1:5)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE MENTIONED.
2. DONOT SCALE THE DRAWING, DIMENSIONS SHOWN SHALL BE FOLLOWED.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. ANCHORAGE RECESSES SHALL BE SEALED WITH PREPACKAGED NON–SHRINK MORTAR. END FACES OF GIRDERS TO BE COATED WITH TWO COATES OF EPOXY.

DIAMETER AND DIMENSIONS OF SPIRAL REINFORCEMENT SHALL BE CONFIRMED BY PRESTRESSING SYSTEM SUPPLIER

Technocrats Advisory Services Private Limited

Project Title:-

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAIL OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

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CONSULTANT:-

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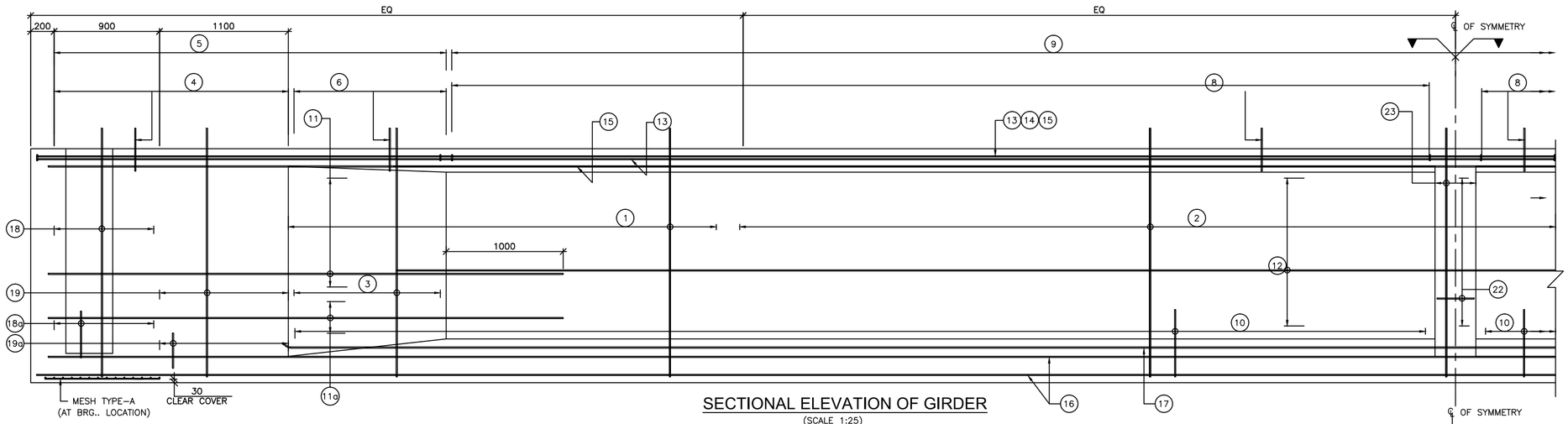
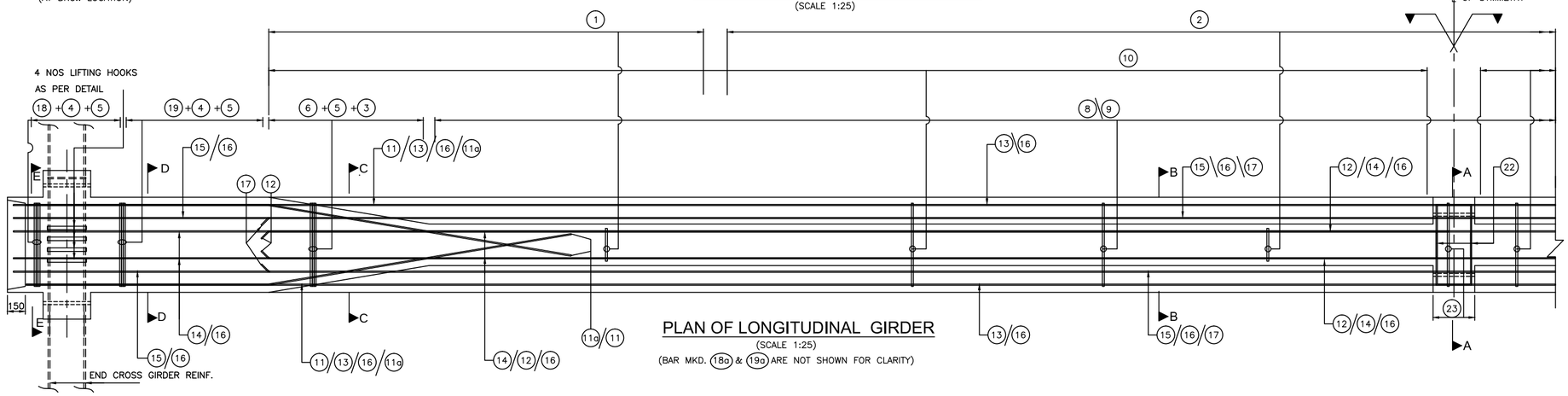
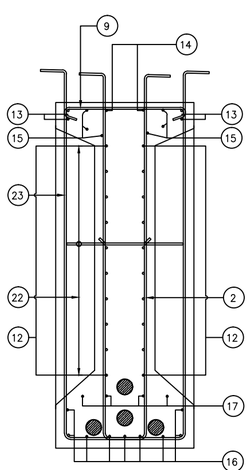


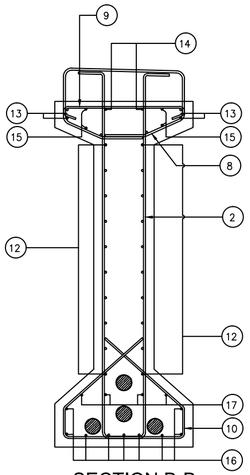
SECTIONAL ELEVATION OF GIRDER
(SCALE 1:25)



PLAN OF LONGITUDINAL GIRDER
(SCALE 1:25)
(BAR MKD. 18a & 19a ARE NOT SHOWN FOR CLARITY)



SECTION A-A
(SCALE 1:20)



SECTION B-B
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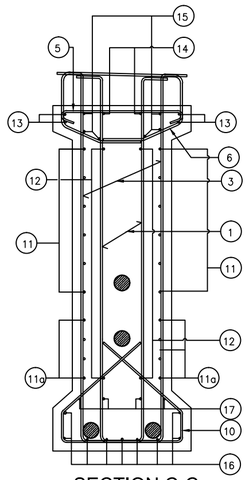

SECTION C-C
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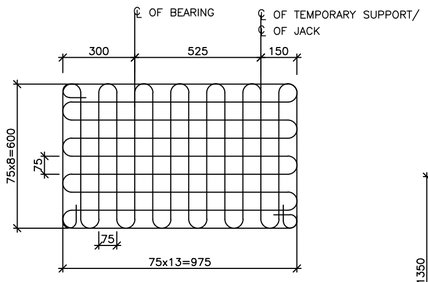
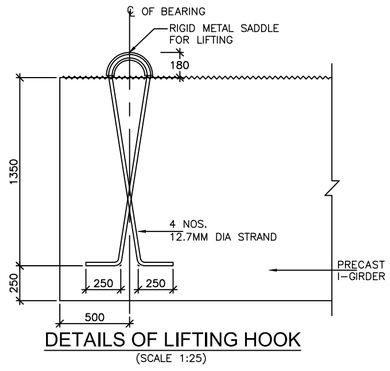


8㎜ MESH TYPE-'A'
(SCALE 1:15)

REINFORCEMENT FOR CROSS GIRDER SHALL BE LEFT IN PRECAST GIRDER BEFORE CASTING



DETAILS OF LIFTING HOOK
(SCALE 1:25)

SCHEDULE OF REINFORCEMENT

BAR MARKED	DIA OF BAR & SPACING/NOS.	BAR SHAPE	REMARKS
1	2L–12 @200c/c	150	
2	2L–12 @200c/c	150	
3	2L–16 @ 200c/c	150	
4	2L–12 @ 200c/c		
5	10 @ 200 c/c		
6	2L–12 @ 200 c/c		
7	NOT USED		
8	2L–12 @ 200 c/c		
9	10 @ 200 c/c		
10	10 @ 200 c/c		
11	10 ㎜– 6 NOS (ON EACH FACE)		EACH END OF GIRDER
11a	10 ㎜– 4 NOS (ON EACH FACE)		EACH END OF GIRDER
12	10 ㎜– 10 NOS (ON EACH FACE)		
13	10 ㎜– 4 NOS		
14	10 ㎜– 2 NOS		
15	10 ㎜– 4 NOS		
16	10 ㎜– 9 NOS		
17	10 ㎜– 4 NOS		
18	2L–16 @ 100 c/c	150	EACH END OF GIRDER
18a	2L–16 @ 100 c/c	400	EACH END OF GIRDER
19	2L–16 @ 100 c/c	150	EACH END OF GIRDER
19a	2L–16 @ 100 c/c	300	EACH END OF GIRDER
20	16 ㎜7 NOS	600 / 705	EACH END OF GIRDER
20a	16 ㎜2 NOS	1495 / 600	EACH END OF GIRDER
20b	16 ㎜2 NOS	600 / 585	EACH END OF GIRDER
21	12 ㎜4 NOS	800 / 600	EACH END OF GIRDER
22	12 ㎜12X2 NOS	450 / 250	
23	2L–12 ㎜ NOS	150	
24	10 ㎜2 NOS		EACH END OF GIRDER/ BENT AFTER PRESTRESS
24a	10 ㎜2 NOS		

NOTES :

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. FIGURED DIMENSIONS SHOULD BE FOLLOWED, DO NO SCALE THE DIMENSIONS.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. THE REINFORCING STEEL SHALL BE DEFORMED TMT BARS (GRADE DESIGNATION Fe:500D) CONFORMING TO IS:1786.
5. CLEAR COVER TO ANY REINFORCEMENT IS 50mm.
6. LAP LENGTH SHALL NOT BE LESS THAN 41D (WHERE D IS THE DIA OF THE SMALLER BAR TO BE LAPPED AT A SECTION.)
7. LAPS SHOULD BE STAGGERED & NOT MORE THAN 50% BARS SHOULD BE LAPPED AT A SECTION.
8. ANCHORAGE LENGTH SHALL NOT BE LESS THAN 41 X DIA OF BAR.
9. REINFORCEMENT SHALL BE SUITABLY ADJUSTED WHILE FOULING WITH PRESTRESS CABLE.

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TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAIL OF PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

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CONSULTANT:-

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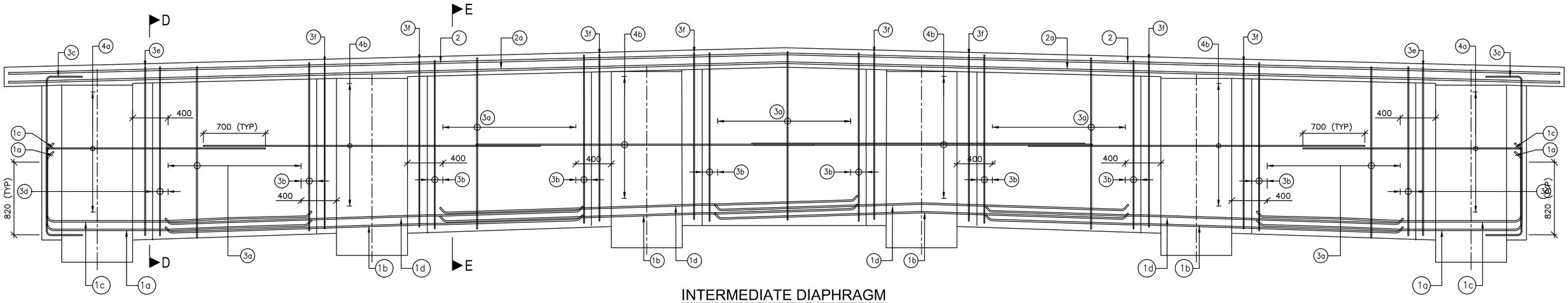
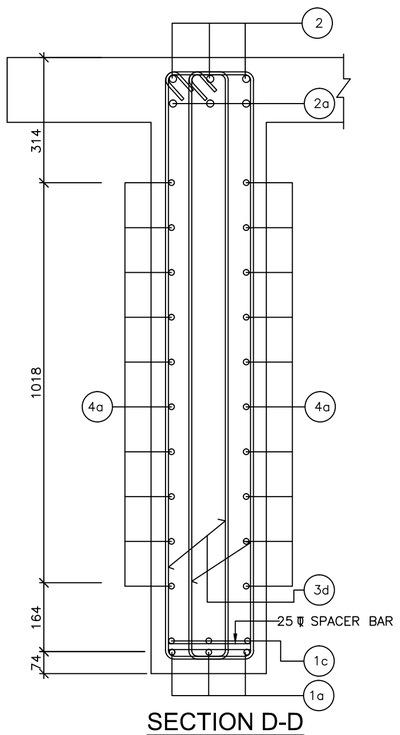


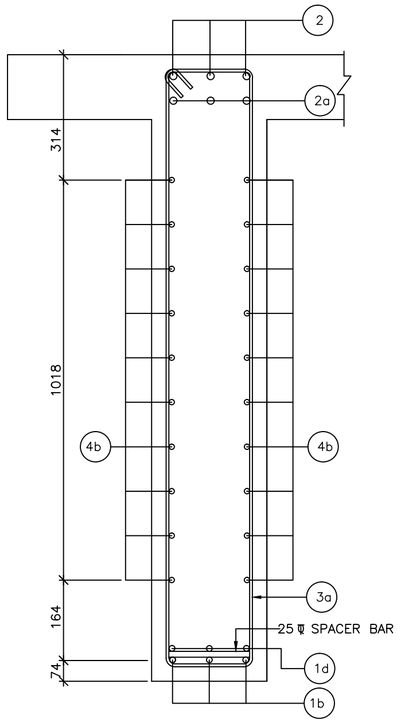
INTERMEDIATE DIAPHRAGM

(SCALE 1:30)



SECTION D-D

(SCALE 1:15



SECTION E-E

(SCALE 1:15)

SCHEDULE OF REINFORCEMENT

BAR MARKED	DIA OF BAR & SPACING/NOS.	BAR SHAPE
1a	25 ϕ 3NOS.	
1b	25 ϕ 3NOS.	
1c	25 ϕ 3NOS.	
1d	25 ϕ 3NOS.	
2	25 ϕ 3NOS.	
2a	25 ϕ 3NOS.	
3a	2L–12ϕ @ 150c/c	
3b	2Nos–2L–12ϕ(EACH LOCATION)	
3c	2Nos.–12ϕ(EACH LOCATION)	400
3d	2Nos.–2L–12ϕ(EACH LOCATION)	
3e	2Nos.–2L–12 ϕ (EACH LOCATION)	
3f	2Nos.–2L–12 ϕ (EACH LOCATION)	
4a	12 ϕ 10NOS.(EACH FACE)	
4b	12 ϕ 10NOS.(EACH FACE)	

NOTES :

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. FIGURED DIMENSIONS SHOULD BE FOLLOWED, DO NOT SCALE THE DIMENSIONS.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. THE REINFORCING STEEL SHALL BE DEFORMED TMT BARS (GRADE DESIGNATION Fe:500D) CONFORMING TO IS:1786.

BAR MARKED (1a) (1b) (1c) (1d) (3c) (3e) (3f) (4a) (4b) SHALL BE PLACED IN PRECAST GIRDER.

Technocrats Advisory Services Private Limited Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAIL OF CAST-IN-SITU END CROSS GIRDER FOR PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

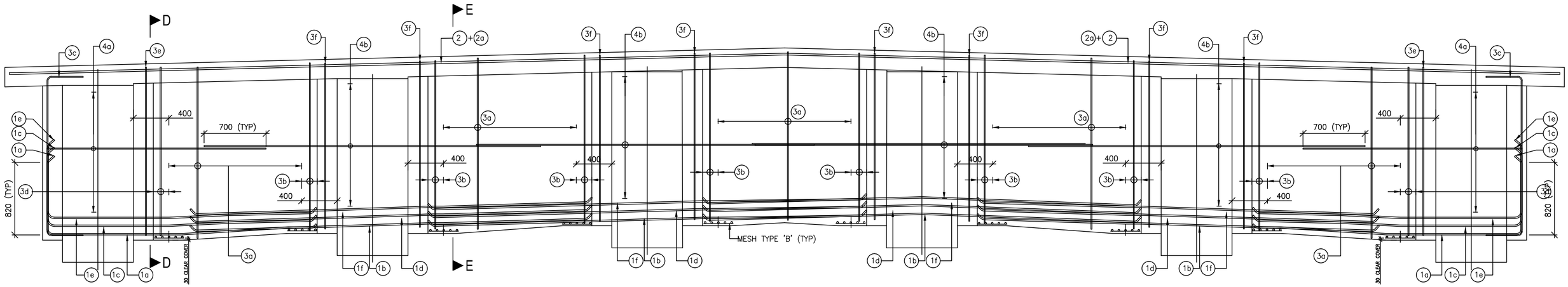
Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

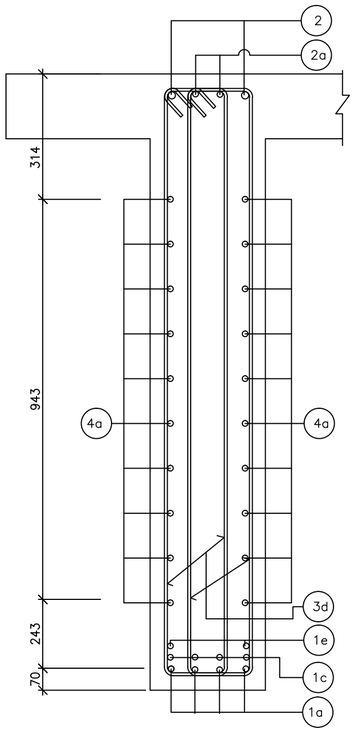
CONSULTANT:-

TASPL

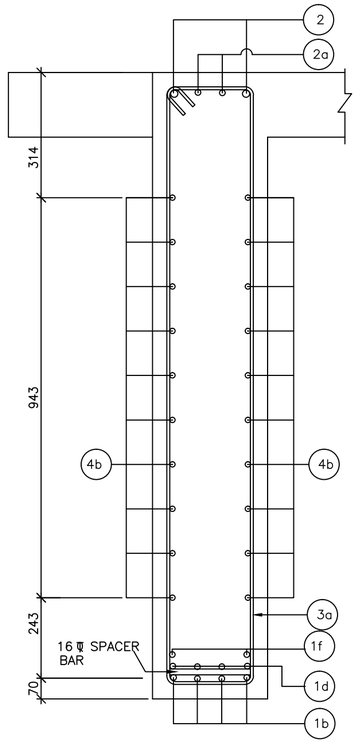
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



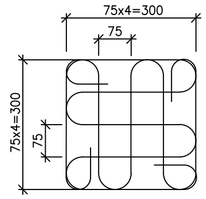
END DIAPHRAGM
(SCALE 1:30)



SECTION D-D
(SCALE 1:15)



SECTION E-E
(SCALE 1:15)



8ϕ MESH TYPE-'B'
(SCALE 1:10)

SCHEDULE OF REINFORCEMENT

BAR MARKED	DIA OF BAR & SPACING/NOS.	BAR SHAPE
1a	16ϕ 4NOS.	
1b	16ϕ 4NOS.	
1c	16ϕ 4NOS.	
1d	16ϕ 4NOS.	
1e	16ϕ 2NOS.	
1f	16ϕ 2NOS.	
2	20ϕ 2NOS.	
2a	20ϕ 2NOS.	
3a	2L–12ϕ @ 150c/c	
3b	2Nos–4L–16ϕ(EACH LOCATION)	
3c	2Nos.–16ϕ(EACH LOCATION)	400
3d	2Nos.–4L–16ϕ(EACH LOCATION)	
3e	2Nos.–4L–16 ϕ (EACH LOCATION)	
3f	2Nos.–4L–16 ϕ (EACH LOCATION)	
4a	12ϕ 10NOS.(EACH FACE)	
4b	12ϕ 10NOS.(EACH FACE)	

NOTES :

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. FIGURED DIMENSIONS SHOULD BE FOLLOWED, DO NOT SCALE THE DIMENSIONS.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE EXECUTION OF WORK AT SITE.
4. THE REINFORCING STEEL SHALL BE DEFORMED TMT BARS (GRADE DESIGNATION Fe:500D) CONFORMING TO IS:1786.
5. CLEAR COVER TO ANY REINFOEMENT IS 50mm.
6. NO LAPS ARE PERMITTED IN CROSS GIRDER UNLESS SPECIFIED IN DRAWING.

BAR MARKED (1a, 1b, 1c, 1d, 1e, 1f, 3c, 3e, 3f, 4a, 4b) SHALL BE PLACED IN PRECAST GIRDER.

Technocrats Advisory Services Private Limited Delhi

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAIL OF CAST-IN-SITU INTER. CROSS GIRDER FOR PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

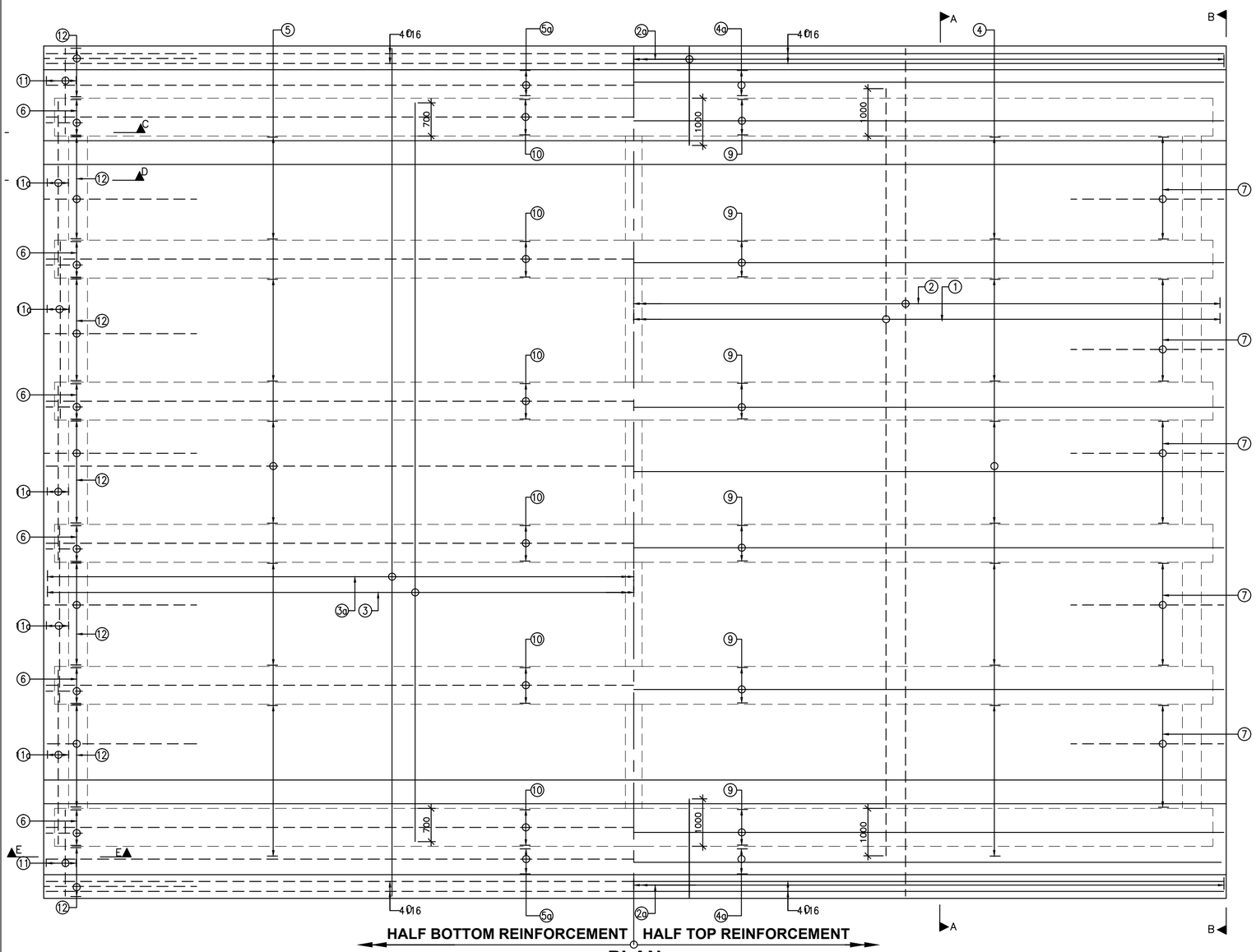
Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

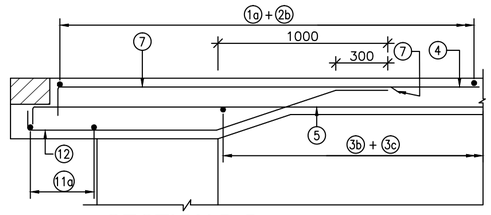
CONSULTANT:-

TASPL

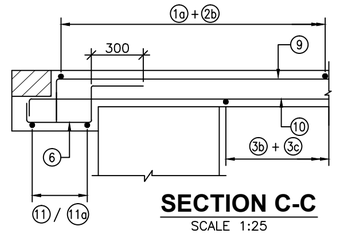
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



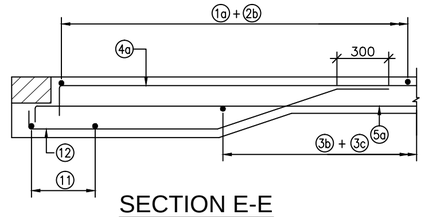
PLAN (SCALE 1:75)



SECTION D-D
(SCALE 1:25)



SECTION C-C
SCALE 1:25



SECTION E-E
(SCALE 1:25)

SCHEDULE OF REINFORCEMENT

BAR MKD.	DIA OF BAR	SPACING/ NO. OF BAR	BAR SHAPE
1	10	240	
1a	10	240	V.L.
2	12	240	
3	16	240	
3a	12	240	
4	10	10 NOS.	250
4a	10	6 NOS.	250
5	10	10 NOS.	250
5a	10	6 NOS.	250
6	10	4 NOS.	250, 300
7	10	10 NOS.	250
8	NOT USED		
9	10	4 NOS.	250
10	10	4 NOS.	250
11	12	5 NOS.	
11a	12	5 NOS.	
12	10	6 NOS.	250, 300

LEGEND

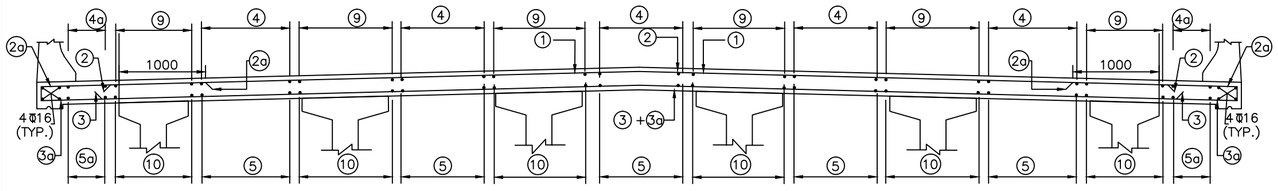
TOP BAR ———————

BOTTOM BAR — — — — — —

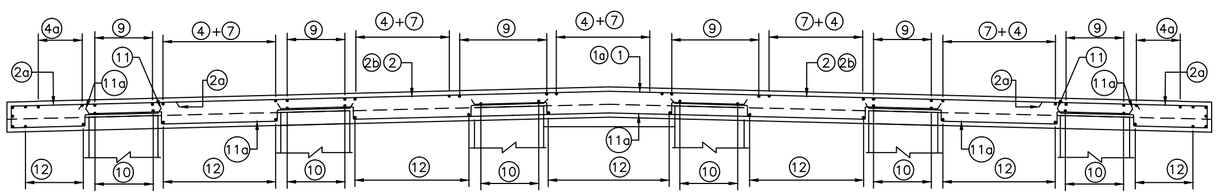
V.L. VARIES LENGTH

NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS SHOWN OTHERWISE.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRG.
3. STEEL REINFORCEMENT SHALL BE HYSD TMT BARS OF GRADE DESIGNATION Fe 500D CONFORMING TO IS 1786–2008.
4. CLEAR COVER TO ANY REINFORCEMENT IS 40MM.
5. LAP LENGTH SHALL CONFIRM TO CLAUSE 15.2 IRC–112 2011.
6. LAP SHOULD BE STAGGERED AND NOT MORE THAN 50% BARS SHOULD BE LAPPED AT ANY SECTION & LAP SHOULD BE LOCATED AT POINT ALONG THE SPAN WHERE STRESSES ARE LOW.
7. ANCHORAGE LENGTH OF REINF. BARS SHALL BE 36xDIA OF BAR & SHALL CONFIRM TO CLAUSE 15.2.3 OF IRC–112 2011.
8. 32 DIA SPACER BARS SHALL BE PROVIDED @ 1M C/C BETWEEN TWO TIERS OF LONGITUDINAL BARS OF GIRDERS.
9. CONDITION OF EXPOSURE IS MODERATE.



SECTION A-A
(SCALE 1:50) SCALE 1:50 (BAR NO 5, 5a & 6 NOT SHOWN FOR CLARITY)



SECTION B-B SCALE 1:50 (BAR NO 5, 5a & 6 NOT SHOWN FOR CLARITY)
(SCALE 1:50)

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

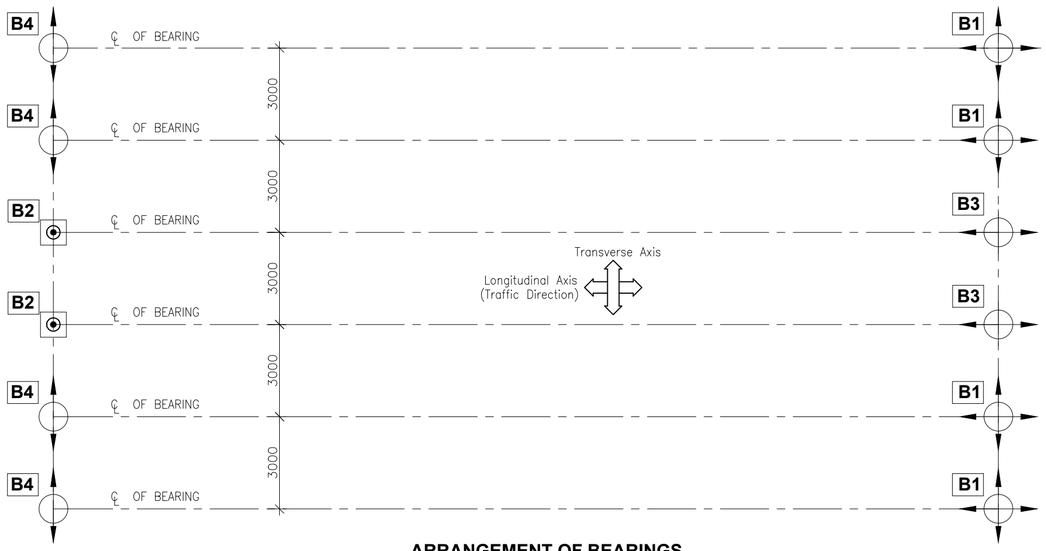
CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:-	REINFORCEMENT DETAIL OF CAST-IN-SITU DECK SLAB FOR PRECAST PSC I-GIRDER SUPERSTRUCTURE FOR 25.0m SPAN		
Drawing No. :-	TASPL/NHIDCL/FDPR/GAD/09		
Scale :-	AS SHOWN		
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 01

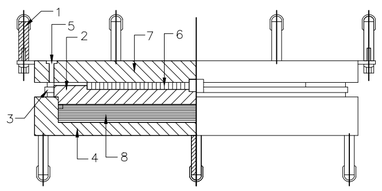
CONSULTANT:-

Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.

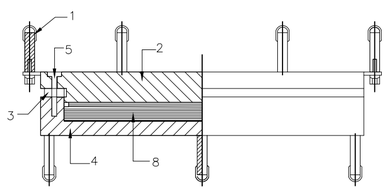


ARRANGEMENT OF BEARINGS

TRAFFIC DIRECTION
SCALE 1:75



POT SLIDING BEARING



POT FIXED BEARING

LEGEND:-

1. ANCHOR BOLT
2. POT COVER
3. METALLIC SEALS
4. POT CYLINDER
5. TEMPORARY BOLTS
6. PTFE
7. TOP SLIDING PLATE
8. CONFINED ELASTOMER

NOTES :-

1. THE CONTRACTOR SHALL SUBMIT DESIGN/DRAWING OF INDIVIDUAL BEARINGS BASED ON FORCES, TRANSLATIONS & ROTATIONS AS GIVEN IN THIS DRAWING FOR APPROVAL OF THE ENGINEER.
2. BEARINGS SHALL BE PROCURED FROM THE LIST OF APPROVED MANUFACTURER'S GIVEN BY MOST.
3. BEARINGS SHALL CONFORM TO LATEST MOST SPECIFICATIONS AND TENDER STIPULATION IF ANY.
4. THE TESTING OF RAW MATERIALS, METALLIC COMPONENTS, ELASTOMER & PTFE AND ACCEPTANCE TEST ON BEARING SHALL CONFORM TO MOST SPECIFICATIONS/ TENDER SPECIFICATIONS.
5. MANUFACTURER SHALL SUBMIT THE CERTIFICATES FOR LOAD TESTING AND DIMENSIONS OF BEARING.
6. SUITABLE ERECTION CLAMPS FOR SAFE TRANSPORTATION AND HANDLING ALONG WITH TEMPLATE FOR ALIGNMENT SHALL BE PROVIDED BY THE MANUFACTURER.
7. PEDESTAL PLAN SIZE GIVEN HERE IN ARE TENTATIVE ONLY. THE PLAN SIZE AND HEIGHT OF PEDESTALS SHALL BE ADJUSTED TO SUIT THE FINALISED SIZE OF BEARING AT THE TIME OF EXECUTION.
8. BEARING DETAILS ARE SCHEMATIC ONLY. DETAILED DESIGN AND DRAWINGS, SPECIFICATION FOR CONSTRUCTION, FABRICATION AND CORROSION PROTECTION, SEALING AGAINST DUST AND WATER, PROVISION FOR REPLACEMENT SHALL BE FURNISHED BY CONTRACTOR / SUPPLIER CONFORMING TO THE RELEVANT SPECIAL SPECFICATION INCLUDED IN CONTRACT. THESE SHALL ALSO INCLUDE THE ANCHORAGE ASSEMBLY AND THE SPECIAL CONCRETE IN ANCHORAGE CUT OUT.
9. MARGINAL MODIFICATION IN THE STRUCTURE DETAILS FOR COMPATIBILITY WITH THE BEARING AND EXPANSION JOINT DETAIL SHALL BE PERMITTED SUBJECT TO APPROVAL OF ENGINEER.
10. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH OTHER RELEVENT DRAWINGS

LEGEND:-

- FREE BEARING
- FIXED BEARING
- GUIDED BEARING ALONG TRANV. AXIS
- GUIDED BEARING ALONG LONG. AXIS

Summary of Forces on Bearing

				Vertical Force (kN)	Horizontal Force (kN)		Rotation (rad)	Movement (mm)	
					Long	Trans		Long	Trans
FREE BEARING (B1)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1680	115	0	0.155	-25/7	8.00
			Min Rn	861	76	0	0.155	-25/7	8.00
			No LL	863	76	0	0.155	-25/7	8.00
		Seismic Long Case	Max Rn	1189	84	0	0.155	-25/7	8.00
			Min Rn	819	76	0	0.155	-25/7	8.00
			No LL	819	76	0	0.155	-25/7	8.00
		Seismic Trans Case	Max Rn	1189	56	0	0.155	-25/7	8.00
			Min Rn	819	51	0	0.155	-25/7	8.00
			No LL	819	76	0	0.155	-25/7	8.00
	SLS	Normal Case	Max Rn	1181	77	0	0.103	-17/5	5.00
			Min Rn	630	51	0	0.103	-17/5	5.00
			No LL	632	51	0	0.103	-17/5	5.00
Fix BEARING (B2)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1680	105	0	0.155		
			Min Rn	861	79	0	0.155		
			No LL	863	79	0	0.155		
		Seismic Long Case	Max Rn	1189	498	245	0.155		
			Min Rn	819	498	219	0.155		
			No LL	819	498	219	0.155		
		Seismic Trans Case	Max Rn	1189	157	816	0.155		
			Min Rn	819	157	730	0.155		
			No LL	819	157	487	0.155		
	SLS	Normal Case	Max Rn	1181	70	0	0.103		
			Min Rn	630	53	0	0.103		
			No LL	632	53	0	0.103		
Longitudinal Guided BEARING (B3)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1680	0	168	0.155	-25/7	
			Min Rn	861	0	86	0.155	-25/7	
			No LL	863	0	86	0.155	-25/7	
		Seismic Long Case	Max Rn	1189	0	245	0.155	-25/7	
			Min Rn	819	0	219	0.155	-25/7	
			No LL	819	0	219	0.155	-25/7	
		Seismic Trans Case	Max Rn	1189	0	816	0.155	-25/7	
			Min Rn	819	0	730	0.155	-25/7	
			No LL	819	0	487	0.155	-25/7	
	SLS	Normal Case	Max Rn	1181	0	118	0.103	-17/5	
			Min Rn	630	0	63	0.103	-17/5	
			No LL	632	0	63	0.103	-17/5	
Transverse Guided BEARING (B4)	Ultimate Limit State (ULS)	Normal Case	Max Rn	1680	105	0	0.155	0	8.00
			Min Rn	861	79	0	0.155	0	8.00
			No LL	863	79	0	0.155	0	8.00
		Seismic Long Case	Max Rn	1189	498	0	0.155	0	8.00
			Min Rn	819	498	0	0.155	0	8.00
			No LL	819	498	0	0.155	0	8.00
		Seismic Trans Case	Max Rn	1189	157	0	0.155	0	8.00
			Min Rn	819	157	0	0.155	0	8.00
			No LL	819	157	0	0.155	0	8.00
	SLS	Normal Case	Max Rn	1181	70	0	0.103	0	5.00
			Min Rn	630	53	0	0.103	0	5.00
			No LL	632	53	0	0.103	0	5.00

Project Title:-

CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES FOR UP-GRADATION OF SELECTED ROAD STRETCHES / CORRIDORS TO TWO LANE WITH PAVED SHOULDER NH CONFIGURATION UNDER BHARAT MALA PROJECT AND NATIONAL HIGHWAYS CONNECTIVITY TO BACKWARD AREAS/RELIGIOUS/TOURIST PLACES OF THE COUNTRY IN THE STATE OF TRIPURA.

TELIAMURA - SABROOM SECTION-3

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- TYPICAL BEARING LAYOUT FOR 25m SPAN

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

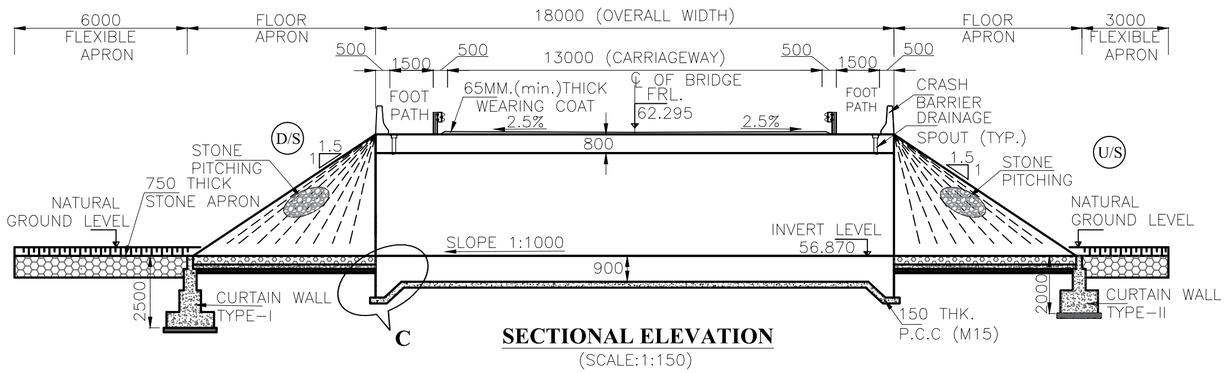
Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 01

CONSULTANT:-

TASPL

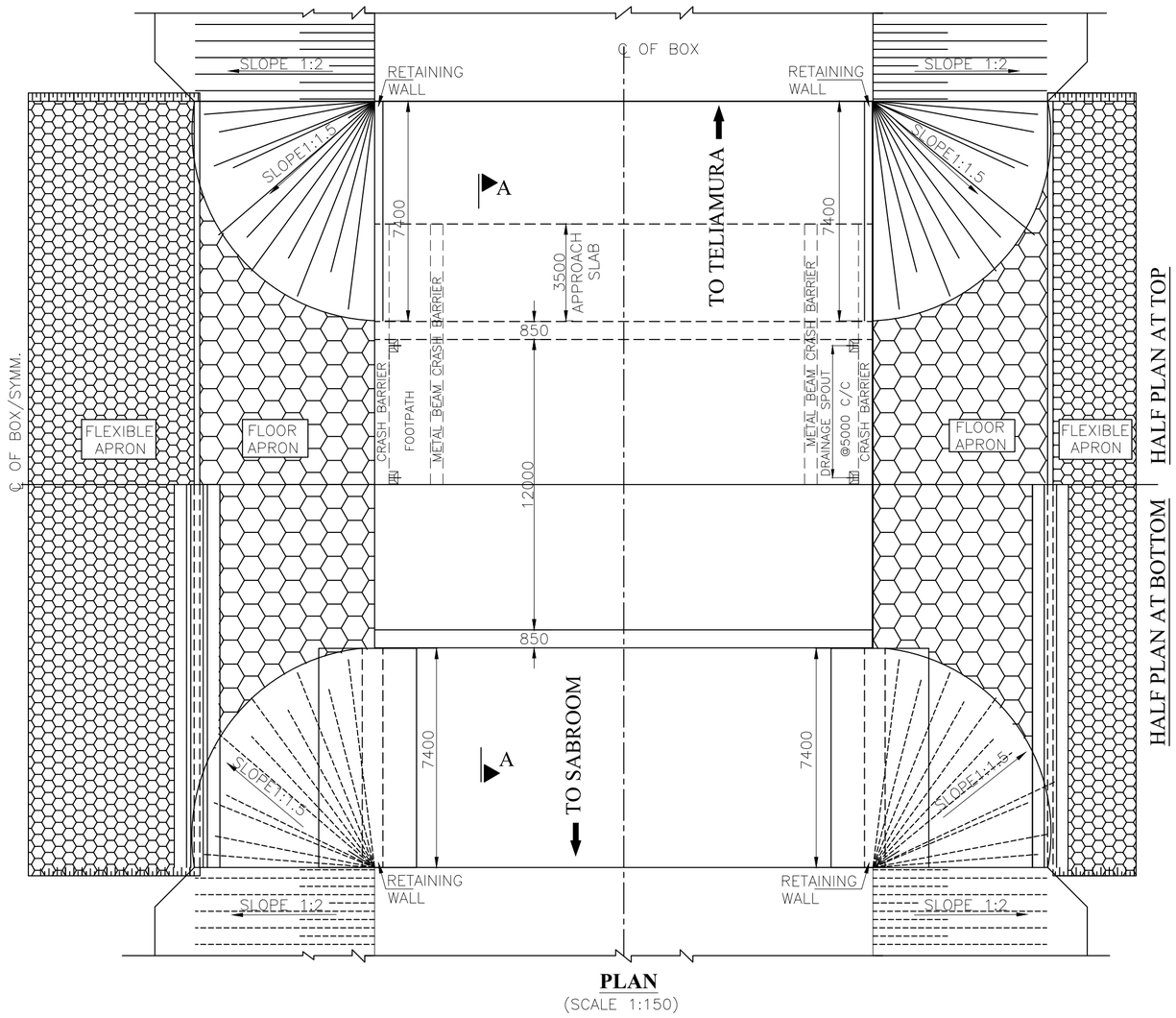
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.

MINOR BRIDGE AT CH. 58+987 (1x12m SPAN)



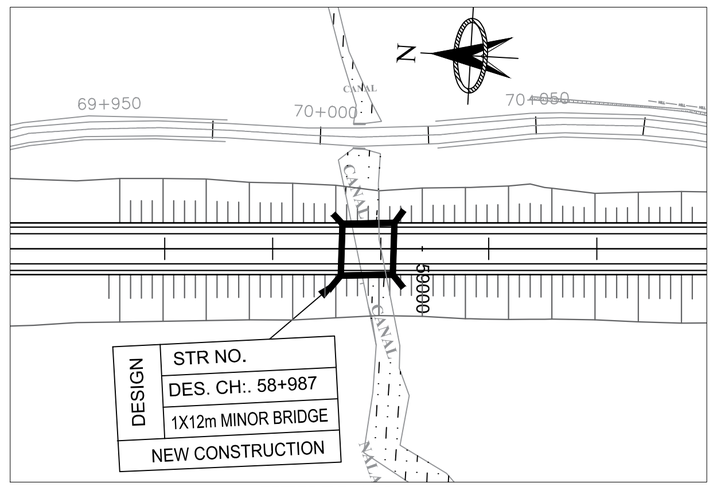
SECTIONAL ELEVATION

(SCALE:1:150)



PLAN

(SCALE 1:150)



KEY PLAN

SCALE–1:1

NOTES:-

1. ALL DIMENSION ARE IN MM, LEVEL ARE IN METER & CHAINAGE IN KILOMETER UNLESS SPECIFIED OTHERWISE.
2. DO NOT MEASURE THE DRAWING FOLLOW WRITTEN DIMENSION ONLY.
3. THIS DRAWING TO BE READ IN CONJUCTION TO THE HIGHWAY DRAWINGS. IF THERE IS ANY DIFFERENCE IN CHAINAGE OR LEVELS H/W DRAWINGS WILL PREVAIL.
4. BACKFILL GRANULAR SOIL MATERIAL BEHIND ABUTMENT SHALL HAVE THE FOLLOWING PROPERTIES = 2.0 T/m,³C = 0,&ø = 30˚, CONFORMING TO IRC: 78–2014.
5. THE NEW STRUCTURE IS DESIGNED FOR FOUR LANE LOADING AS PER IRC 6:2017.
6. CONCRETE GARDE :–
   - M40 –– FOR CRASH BARRIER
   - M35 –– RCC BOX.
   - M15 –– FOR PCC LEVELLING COURSE

   UNTENSIONED REINFORCEMENT :– FE.500D (T.M.T. DEFORMED BARS) CONFIRMING TO IS:1786.
7. TYPE OF STRUCTURE & CONSTRUCTION METHODOLOGY CONSIDERED IN DESIGN IS
   - RCC BOX STRUCTURE
   - WEARING COAT 65mm THK. C.C.
   - EXPANSION JOINTS – FILLER TYPE.
   - APPROACH SLAB–M30 GRADE.
8. ALL STRUCTURAL DIMENSIONS SHOWN ARE BASED ON PRELIMINARY DESIGNS.
9. 600MM THICK FILTER MATERIAL BEHIND PCC ABUTMENT/RETAINING WALL SHALL BE AS PER APPENDIX 6 OF IRC:78–2014.
10. APPROACH SLAB, DRAINAGE SPOUT, CRASH BARRIER, RAILING & FOOTPATH DETAIL REFER MISCELLANEOUS DRAWING.
11. 100MM DIA P.V.C. PIPE AT SPACING 1000 C/C IN HORIZONTAL/VERTICAL DIRECTION SHALL BE PROVIDED UP TO 150MM ABOVE LOW WATER LEVEL FOR WEEP HOLES IN VERTICAL WALL.
12. ALL CONSTRUCTION SHALL CONFIRM TO CONTRACT SPECIFICATIONS.
13. COMPACTED EARTH SHOULD CONFIRM TO CLAUSE 305.2.1.5 OF MORTH SPECIFICATIONS.
14. HYDROLOGICAL DATA.

DISCHARGE	41.43 CUMEC
HFL	59.502 m
VELOCITY	2.488 m/sec
MIN.VERTICAL CLEARANCE	0.9 m (AS PER IRC:78:2014)

15. CLEAR COVER TO REINFORCEMENT FOR FOOTING & EARTH FACE OF BOX SHALL BE 75 mm & FOR NON EARTH FACE OF BOX & TOP SLAB SHALL BE 50mm.
16. NET BEARING CAPCITY OF SOIL REQUIRED FOR FOUNDATION IS 15T/m², WHICH SHOULD BE CONFIRMED AND VERIFY AT SITE BEFORE EXECUTION.
17. BRIDGE IS DESIGN FOR SEISMIC ZONE V OF SEISMIC MAP OF INDIA.

Project Title:-

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TELIAMURA - SABROOM SECTION-4

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- GENERAL ARRANGEMENT DRAWING OF MINOR BRIDGE AT CH. 58+987

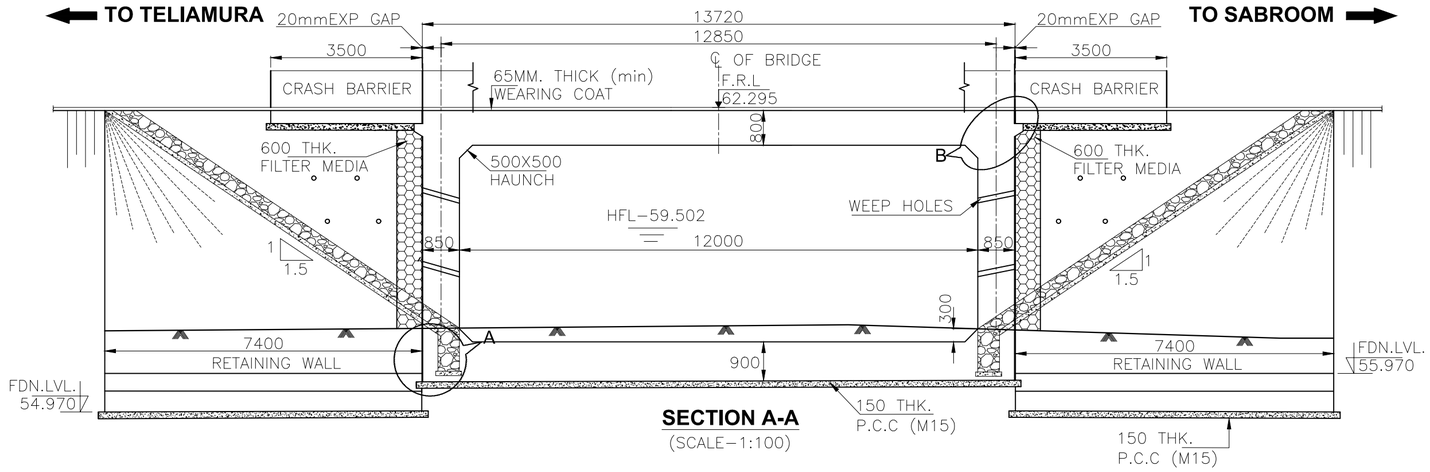
Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	01 OF 02

CONSULTANT:-

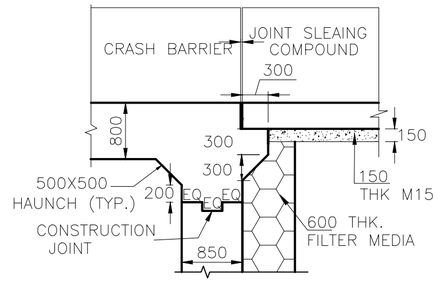
Technocrats Advisory Services Private Limited
in association with Vaishnavi Infratech Services Pvt. Ltd
68,Ajanta Apartsments, 36, I.P. Extension
Patparganj Delhi-110092.



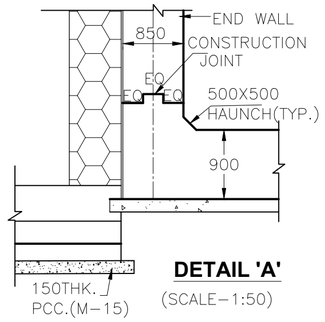
SECTION A-A
(SCALE-1:100)

FRL LEVEL	62.295	62.295	62.295
GROUND (M.)	57.184	57.138	57.156
CHAINAGE (M.)	58+980.575	58+987	58+993.425

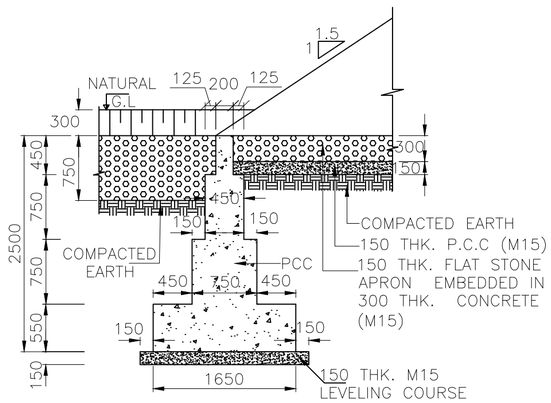
LEGENDS:-
FRL:-FINISH ROAD LEVEL
HFL:-HIGHEST FLOOD LEVEL
FDN:-FOUNDATION LEVEL
LBL:-LOWEST BED LEVEL



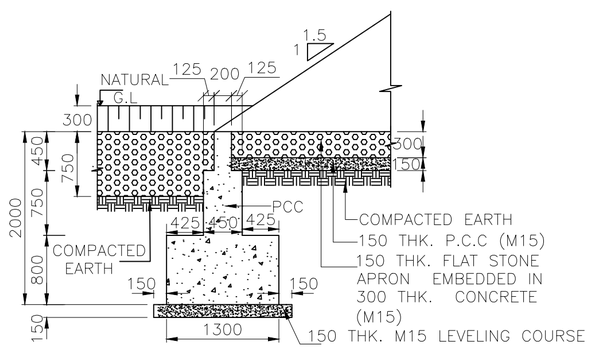
DETAIL B
(SCALE1:50)



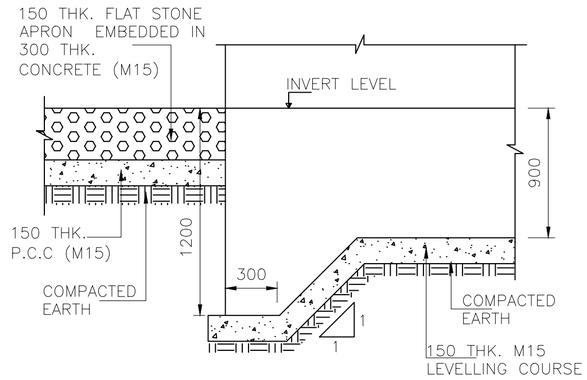
DETAIL 'A'
(SCALE-1:50)



DETAIL OF CURTAIN WALL-I
(DOWN STREAM SIDE)
(SCALE 1:50)



DETAIL OF CURTAIN WALL-II
(UP STREAM SIDE)
(SCALE 1:50)



DETAIL-'C'
(SCALE 1:25)

Technocrats Advisory Services Private Limited Delhi

Project Title:-

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TELIAMURA - SABROOM SECTION-4

CLIENT:-

NHIDCL BUILDING INFRASTRUCTURE - BUILDING THE NATION

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- GENERAL ARRANGEMENT DRAWING OF MINOR BRIDGE AT CH. 58+987

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

Drn	Dgn.	Appd	Sheet :
D.S	D.P.S	B.Ram	02 OF 02

CONSULTANT:-

TASPL

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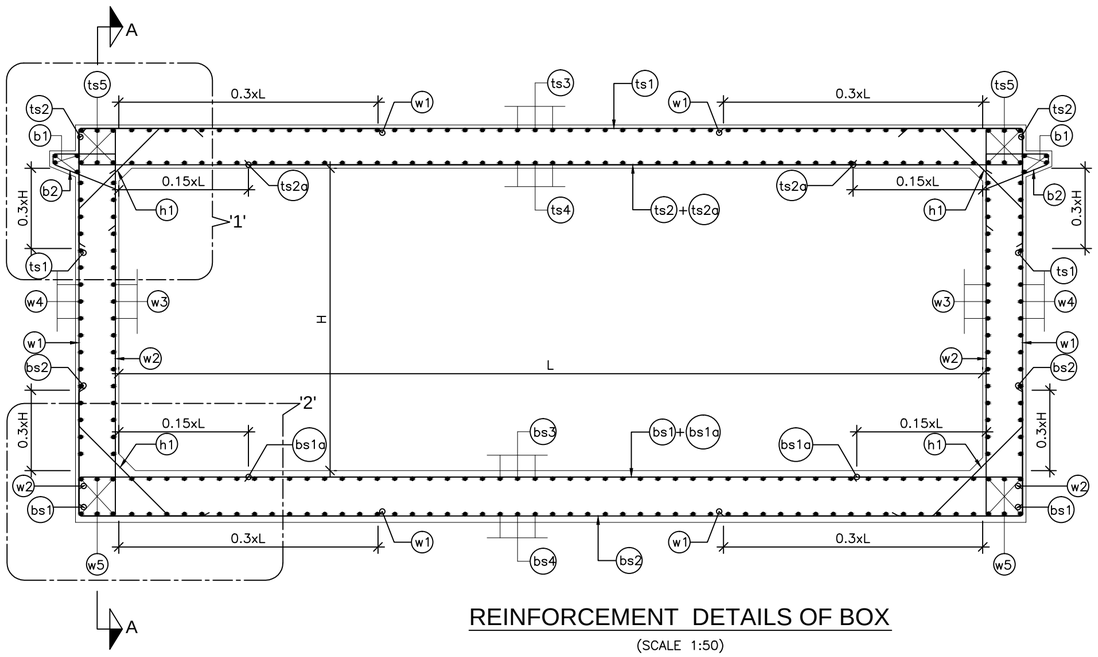
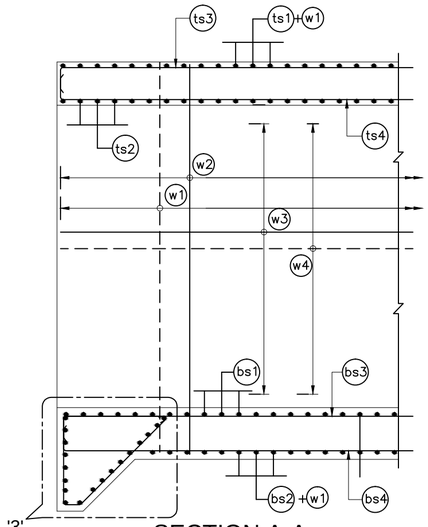


REINFORCEMENT DETAILS OF BOX

(SCALE 1:50)



SECTION A-A

(SCALE 1:50)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. CONCRETE GRADE SHALL BE OF GRADE M25.
4. ALL REINFORCING STEEL SHALL BE HIGH YIELD STRENGTH DEFORMED(TMT) BARS (GRADE–Fe 500D).
5. CLEAR COVER TO OUTERMOST REINF. SHALL BE
   a) TOP SLAB –40mm
   b) SIDE WALL (EARTH SIDE) –75mm
   c) SIDE WALL (INNER SIDE) –40mm
   d) BOTTOM SLAB –75mm
6. BOND CONDITION

   (AS PER CL 15.2.3,IRC:112–2011)
   BASIC ANCHORAGE LENGTH SHALL BE 65XDIAMETER OF THE BAR.
   LAP LENGTH SHALL BE PROVIDED AS PER THE TABLE GIVEN BELOW:–
   (FOR GRADE OF CONC.M30)

LAP LENGTH	% LAP AT ANY SECTIONS IS
58 D	<25%
66 D	BETWEEN 25–33%
80 D	BETWEEN 33–50%
86 D	<50%

7. LAPS SHALL BE STAGGERED AND SUITABLY PLACED.

REFERENCE DRAWINGS

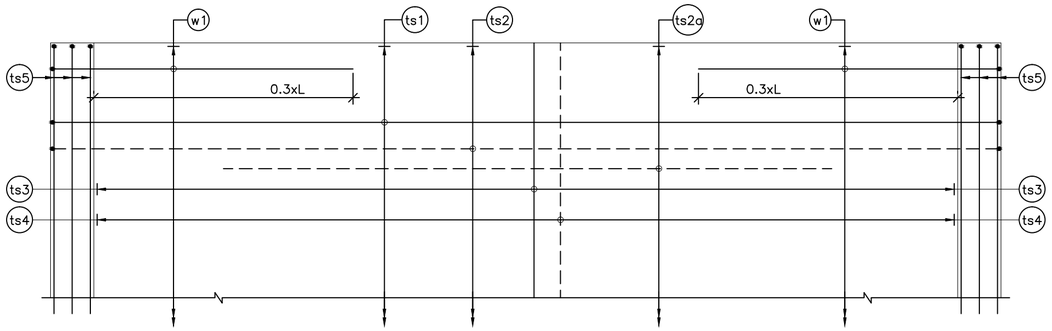
1. GAD FOR MINOR BRIDGE AT DESIGN CH.58+987 TASPL–NHIDCL–FDPR–58+987–101 (2 SHEET)

LEGEND:

TOP/NON EARTH FACE BAR SHOWN THUS ————

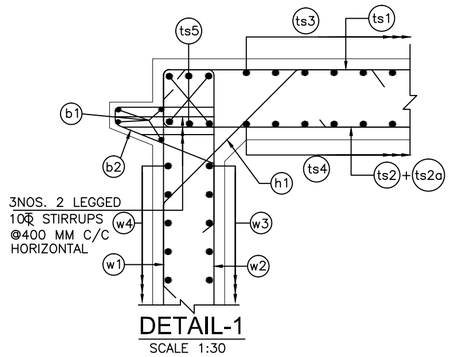
BOTTOM/EARTH FACE BAR SHOWN THUS — — — —

b/f – BOTH FACE



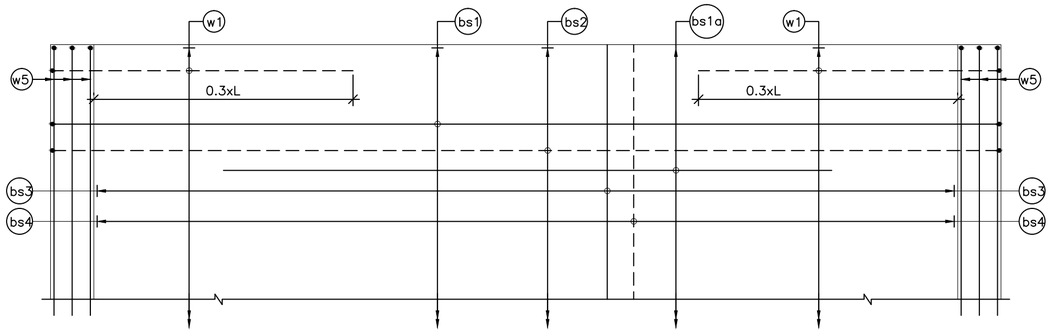
REINFORCEMENT DETAILS OF TOP SLAB

(SCALE 1:50)



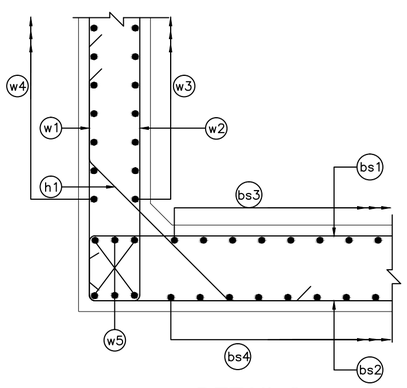
DETAIL-1

SCALE 1:30



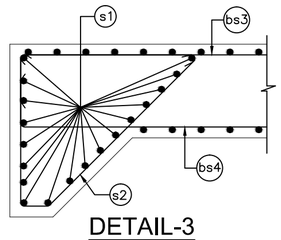
REINFORCEMENT DETAILS OF BOTTOM SLAB

(SCALE 1:50)



DETAIL-2

SCALE 1:30



DETAIL-3

SCALE 1:30

SCHEDULE OF REINFORCEMENT

BAR MARK	SHAPE OF BARS (NOT TO SCALE)	BAR IN DIA IN MM	SPACING OR NO. OF BAR
ts1		16	200
ts2		16	200
ts2a		16	200
ts3		12	200
ts4		12	200
ts5		16	6 Nos.x2
bs1		20	200
bs1a		20	200
bs2		20	200
bs3		10	200
bs4		10	200
w1		12	200
w2		20	100
w3		12	150
w4		10	150
w5		16	6 Nos.x2
h1		12	200
s1		12	200
s2		10	200
b1		12	4 Nos.
b2		12	200

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TELIAMURA - SABROOM SECTION-4

CLIENT:-

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD

Drawing Title:- REINFORCEMENT DETAILS DRAWING OF MINOR BRIDGE AT CH. 58+987

Drawing No. :- TASPL/NHIDCL/FDPR/GAD/09

Scale :- AS SHOWN

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MINOR BRIDGE AT CH. 59+970 (2x7.5m SPAN)