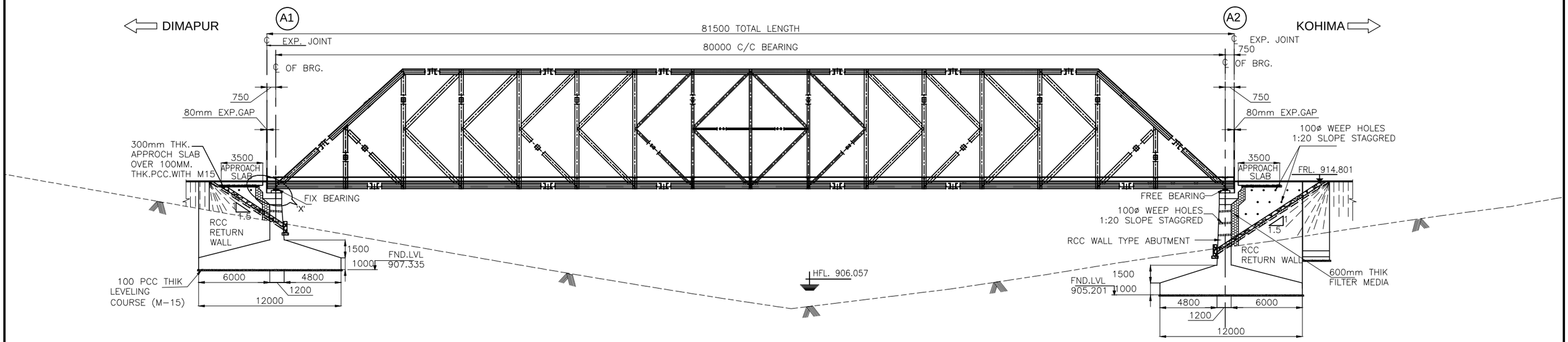
DRAWING INDEX

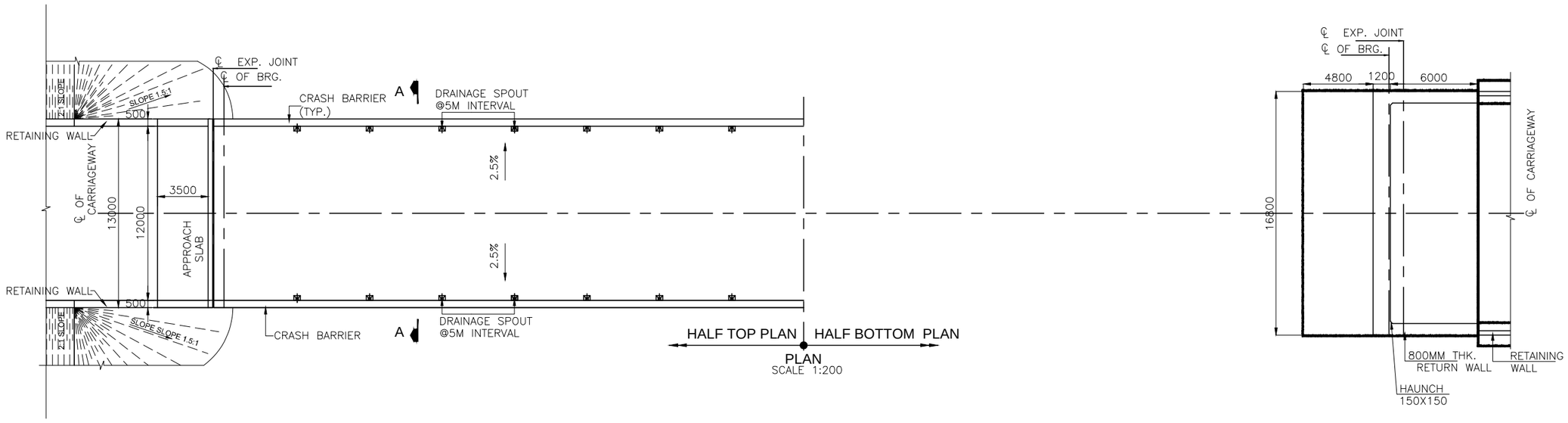
BRIDGE AT DESIGN CH-21+415				
SL.No.	DRAWING TITLE	DRAWING No.	SHEET	Rev.
1.	GENERAL ARRANGEMENT DRAWING	HEC-AIPPL/NHIDCL/KB/GAD/CH.21+415/S-101	02	R0
2.	DIMENSION & REINFORCEMENT DETAILS OF ABUTMENT & FOUNDATION	HEC-AIPPL/NHIDCL/KB/GAD/CH.21+415/S-201	02	R0
3.	DIMENSION DETAILS OF CROSS SECTION	HEC-AIPPL/NHIDCL/KB/GAD/CH.21+415/S-301	01	R0
4.	REINFORCEMENT DETAILS OF DECK SLAB	HEC-AIPPL/NHIDCL/KB/GAD/CH.21+415/S-401	01	R0
5.	BEARING DRAWING	HEC-AIPPL/NHIDCL/KB/GAD/CH.21+415/S-501	01	R0
6.	MISCELLANEOUS DRAWING	HEC-AIPPL/NHIDCL/KB/GAD/CH.21+415/S-601	01	R0
7.	RETAINING WALL	HEC-AIPPL/NHIDCL/KB/GAD/CH.21+415/S-701	01	R0



SECTIONAL ELEVATION

SCALE 1:200

FRL.(m)	914.801	914.801	914.801
GROUND LVL.(m)	911.335	904.267	909.201
CH.(Km)	21+375	21+415	21+455



Revision no.	Details	Chk / By	Date

Project Title

Consultancy Services for carrying out Feasibility Study, Preparation of Detailed Project Report (DPR) and providing pre-construction services in respect of 2 Laning of **Kohima Bypass** connecting NH-39 (New NH-02) ,NH-150 (New NH-02), NH-61 (New NH-29) and NH-39 (New NH-02) on Engineering, Procurement and Construction (EPC) mode in the state of Nagaland

Original Size: A2

Path -

Plotting Scale:

Client

National Highways & Infrastructure Development Corporation Ltd

Drawing Title: GENERAL ARRANGEMENT DRAWING
BRIDGE AT DESIGN CH.Km. 21+415 (1x81.5M)

Drawing No.: HEC-AIPPL/NHIDCL/KB/GAD/ S-101

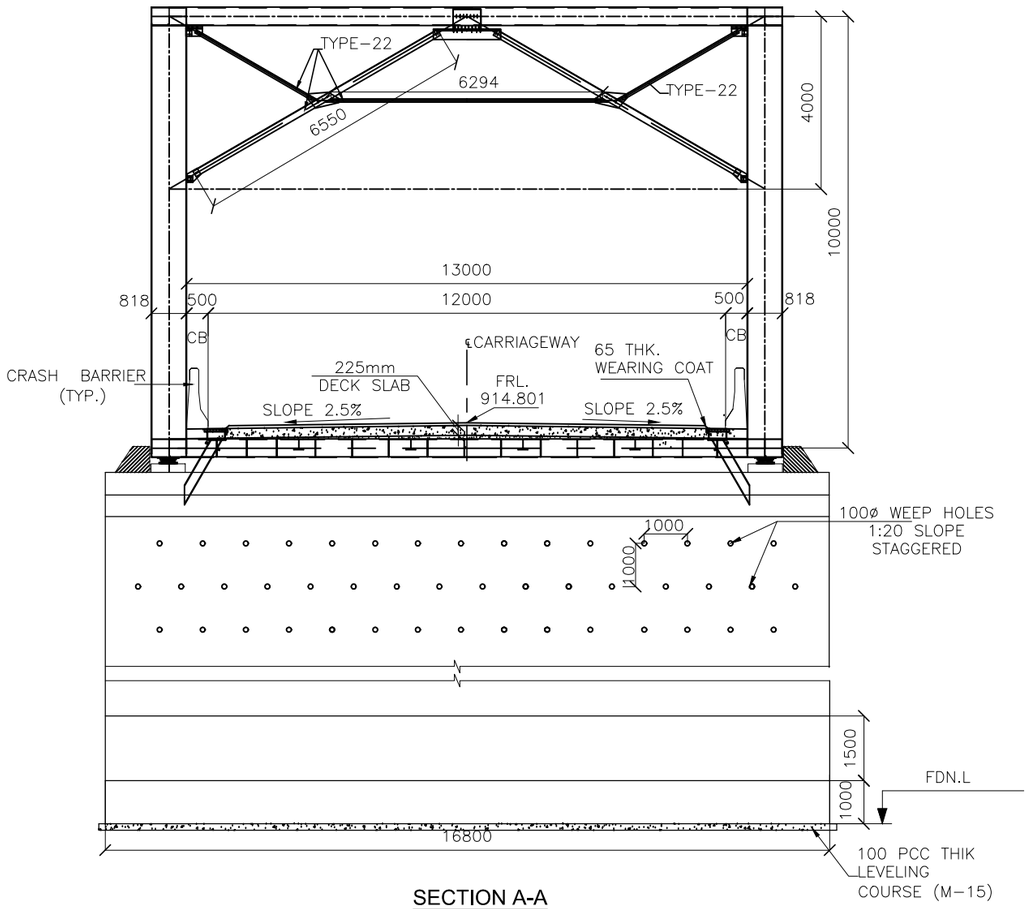
Sheet : 01 OF 02

Scale :- NTS

Drn	Dgn.	Appd	Date
D.N	GAURAV SINGH	R.K.JAIN	JAN.-2020

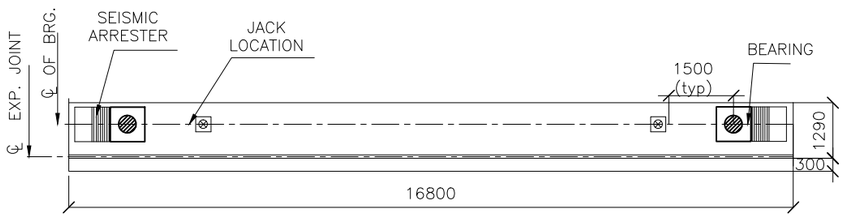
CONSULTANT

HIGHWAY ENGINEERING CONSULTANT
IN ASSOCIATION WITH
AGNITIO INFRASTRUCTURE PROJECTS PVT LTD



SECTION A-A

(SCALE 1:100)

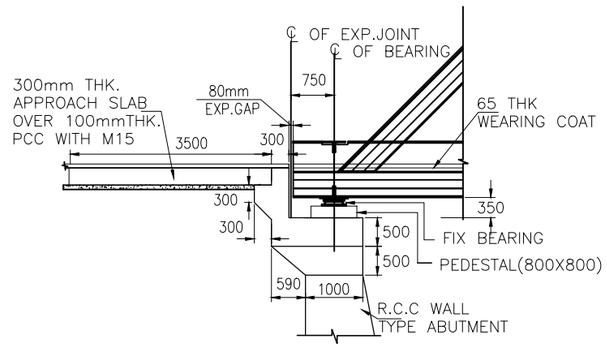


DETAIL OF ABUTMENT CAP PLAN

(SCALE:1:100)

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. THE BRIDGE IS DESIGNED FOR ONE LANE OF ONE LANE OF 70R WHEEL LOADING+ONE LANE OF CLASS A OR 2 LANE OF CLASS A LOADING WHICHEVER PRODUCES THE WORST EFFECT.
4. GRADE OF CONCRETE FOR VARIOUS COMPONENTS SHALL BE AS MENTIONED UNDER:–
   - a SUBSTRUCTRUE ---------- M35
   - b FOUNDATION ---------- M35
   - c RCC CRASH BARRIER ------M40
   - d RCC DECK SLAB ----------M35
   - e RCC RETAINING WALL ------M35
   - f PEDESTAL BELOW BEARING ---M40
   - g APPROACH SLAB ----------M30
   - h SEISMIC ARRESTOR ---------M35
   - i LEVELLING COURSE --------- M15
5. STEEL REINFORCEMENT SHALL CONFORM TO IS:1786 (GRADE DESIGNATION Fe–500D)
6. ALL STRUCTURAL ROLLED SECTIONS SHALL CONFORM TO IS: 2062 (GRADE E–410)
7. STRIP SEAL TYPE EXPANSION JOINTS OF PROVEN QUALITY SHALL BE PROVIDED.
8. BACK FILLING BEHIND ABUTMENTS SHALL CONSIST OF SELECTED EARTH CONFIRMING TO APPENDIX 6 OF IRC: 78–2000 HAVING PROPERTIES ø=30° (MINIMUM),&=20° ϑ=2.0 t/m³
9. WEEP HOLES SPACED AT 1000 c/c BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN A STAGGERED MANNER IN ABUTMENTS AND RETURN WALLS FROM 150mm ABOVE GL TO ABUTMENT CAP BOTTOM.
10. **ALL WELDING SHALL CONFORM TO IS: 816–1969 AND IS:1323–1982.**
11. **ALL HIGH STRENGTH FRICTION GRIP BOLTS,NUTS & WASHERS SHALL CONFORM TO IS: 4000–1992, IS: 3757–1985,IS: 6623–1985 & IS: 6649–1985.**
12. FABRICATION DRAWING SHOULD BE PREPARED & GET APPROVED FROM ENGINEER–IN–CHARGE BEFORE CONSTRUCTION.
13. HIGH STRENGTH ORDINARY PORTLAND CEMENT CONFORMING TO IS : 12269 AND IS : 8112 OR OORDINARY PORTLAND CEMENT CONFORMING TO IS:269 CAPABLE OF ACHIEVING THE REQUIRED DESIGN STRENGTH SHALL ONLY BE USED.
14. 65mm TH. WEARING COURSE COMPRISING OF 40MM BITUMINOUS CONCRETE OVERLAID WITH 25MM THICK BITUMEN MASTIC LAYER SHALL BE PROVIDED IN CONFORMITY WITH MORTH SPECIFICATIONS.REV–5
15. MINIMUM 600 mm EMBEDMENT OF FOUNDATION IN HARD ROCK AND IN CASE OF ROCK OTHER THAN HARD ROCK MINIMUM 1500 mm EMBEDMENT OF FOUNDATION SHALL BE PROVIDED AS PER SECTION 700 OF IRC 78: 2014
16. IN CASE OF FOUNDATION IN ROCK, TENCHES AROUND THE FOOTING SHALL BE FILLED UP WITH M15 GRADE CONCRETE UP TO THE TOP OF ROCK
17. THIS STRUCTURE IS ON SEISMIC ZONE V
18. ALL DIMENSIONS AND FOUNDATION DETAILS SHOWN IN DRAWING ARE TENTATIVE SUBJECT TO CHANGE DURING DETAIL DESIGN.
19. FOUNDATION DETAILS SHOWN IN THE DRAWING ARE INDICATIVE ONLY. THIS MAY UNDERGO CHANGE DURING DETAIL DESIGN.
20. SLOPE PROTECTION TO BE DONE AS PER SITE CONDITION WITH STONE IN GABION OVER 200 THK FILTER MATERIAL.
21. STONE PITCHING AND FILTER MATERIAL UNDER STONE PITCHING SHALL BE AS PER MORTH SPECIFUCATION SECTION 2500 AND IRC: 89. WEIGHT OF SINGLE STONE SHOULD NOT BE LESS THAN 40KG



DETAIL 'X'

(SCALE:1:75)

REFERENCE SUPPER STRUCTURAL DRAWINGS FOR STEEL (CH: 4+020) :-

1. **DIMENSION & REINFORCEMENT DETAILS OF ABUTMENT & FOUNDATION HEC–AIPPL/NHIDCL/KB/GAD/UP/S–201–SHETT(01/02 OF 02)**
2. **DIMENSION DETAILS OF CROSS SECTION HEC–AIPPL/NHIDCL/KB/GAD/UP/S–301–SHETT(01 OF 01)**
3. **REINFORCEMENT DETAILS OF DECK SLAB DRAWING HEC–AIPPL/NHIDCL/KB/GAD/UP/S–401–SHETT(01 OF 01)**
4. **BEARING LAYOUT DRAWING HEC–AIPPL/NHIDCL/KB/GAD/UP/S–701–SHETT(01 OF 01)**
5. **MISCELANEOUS DETAILS DRAWING HEC–AIPPL/NHIDCL/KB/GAD/UP/S–801–SHETT(01/02 OF 02)**
6. **RETAINING WALL DRAWING HEC–AIPPL/NHIDCL/KB/GAD/UP/S–901–SHETT(01 OF 01)**

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Drawing Title: GENERAL ARRANGEMENT DRAWING
BRIDGE AT DESIGN CH.Km. 21+415 (1x81.5M)

Drawing No.: HEC–AIPPL/NHIDCL/KB/GAD/ S-101 | Sheet : 02 OF 02

Scale :– NTS

Drn	Dgn.	Appd	Date
D.N	GAURAV SINGH	R.K.JAIN	JAN.–2020

CONSULTANT

HIGHWAY ENGINEERING CONSULTANT
IN ASSOCIATION WITH
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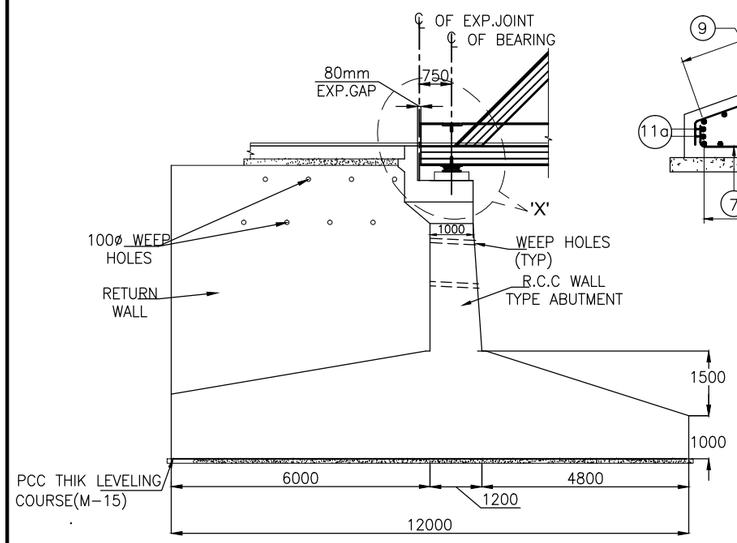
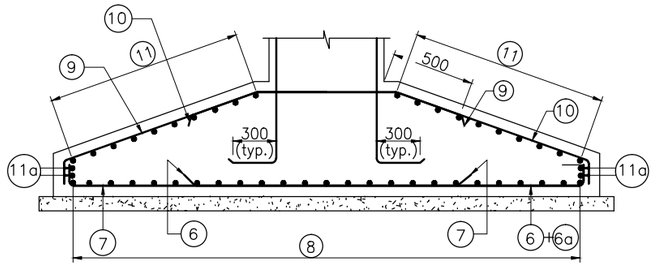
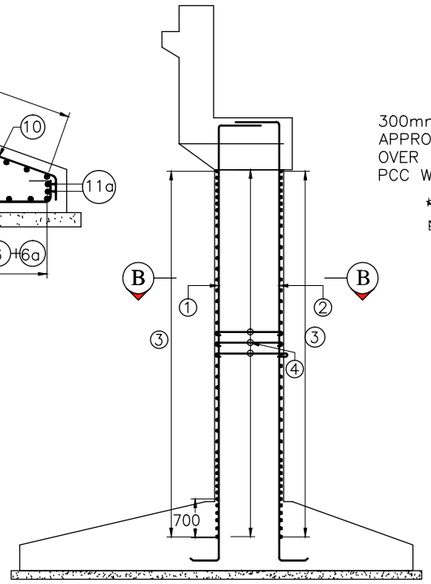


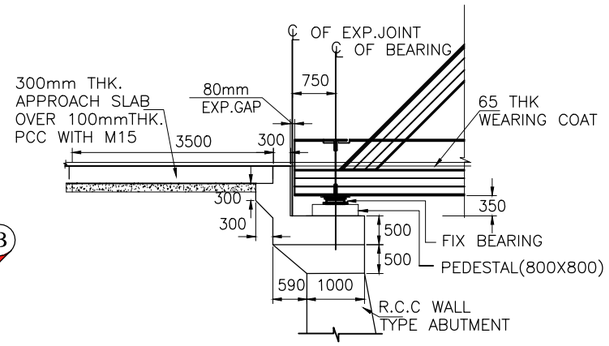
ELEVATION
(SCALE:1:100)



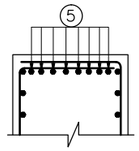
SECTION AT A-A
(SCALE:1:30)



ELEVATION RC DETAIL
ABUTMENT
(SCALE:1:50)



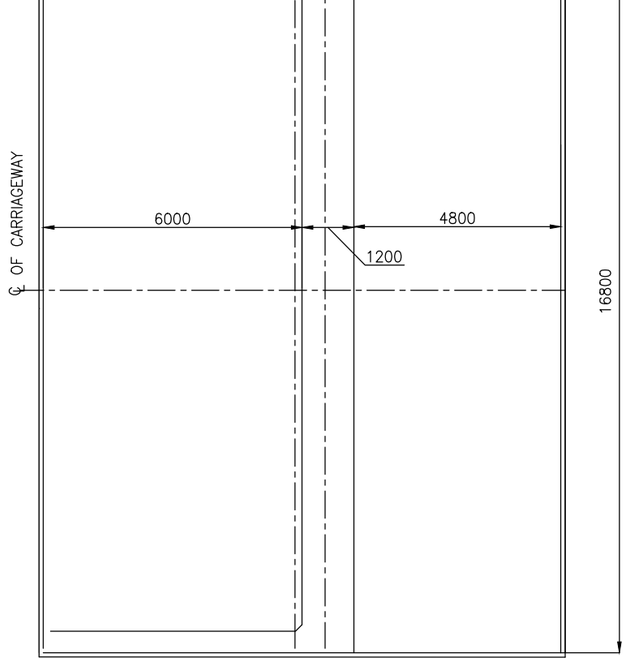
DETAIL 'X'
(SCALE:1:50)



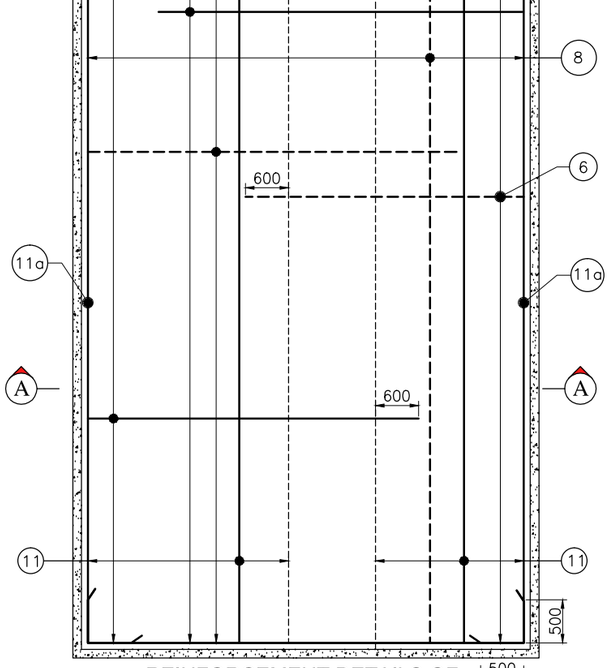
DETAIL 'Z'
(SCALE:1:30)

SCHEDULE OF REINFORCEMENT:-

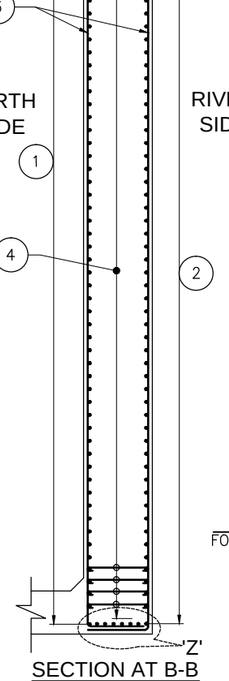
BAR MARK	SHAPE OF BARS	BAR DIA IN mm.	SPACING IN mm.	NO.OF BARS	REMARKS
1		32	150		ABUTMENT SHAFT
2		25	150		
3		12	150		
4		10ØLINK VERTICALLY ALTERNATE(STAGGERED)			
5		12		10X2	
6		25	150		FOUNDATION
6a		25	150		
7		12	120		
8		12	120		
9		25	130		
10		12	130		
11		12	120		
11a		12		8	
12		20		25	ABUTMENT CAP
12a		16	80		
12b		2L-10ø @ 1000 c/c (two layers)			
13		20		12	
13a		12		2X4	
14		12	150		DIRT WALL
15		12	150		
16		10	200		
16a		10	200		
17		12		3	BRACKET
18		2L-10ø @ 450 c/c (two layers)			
19		12	220		
20		20	110		RETURN WALL
20a		NOT IN USE			
21		12	110		
22		16	150		
23		12	150		
24		12		8	
25		12		2x3	
26		12	70		HAUNCH
27		12	70		APPROACH SLAB
28		12	70		
29		12	70		
30		12	80		



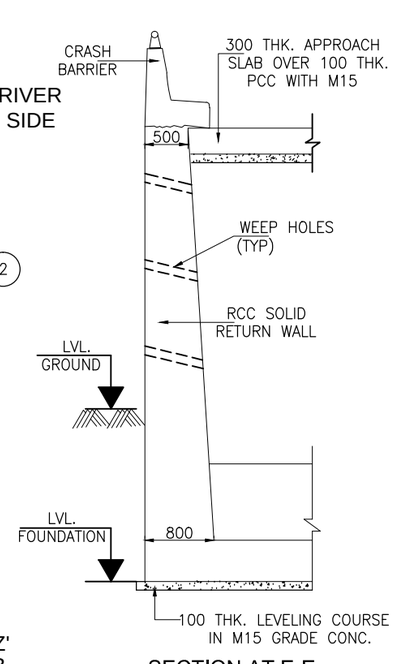
DIMENSIONAL DETAIL
PLAN
(SCALE:1:100)



REINFORCEMENT DETAILS OF
ABUTMENT FOOTING
PLAN
(SCALE:1:50)



SECTION AT B-B
(ABUTMENT SHAFT)
(SCALE:1:50)



SECTION AT E-E
(SCALE:1:50)

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Original Size: A2
Path -
Plotting Scale:

Client
National Highways & Infrastructure Development Corporation Ltd

Drawing Title: REINFORCEMENT DRAWING OF ABUTMENT BRIDGE AT DESIGN CH.Km. 21+415 (1x81.5M)

Drawing No.:HEC-AIPPL/NHIDCL/KB/GAD/ S-201 | Sheet : 01 OF 02

Scale :- NTS

Drn	Dgn.	Appd	Date
D.N	GAURAV SINGH	R.K.JAIN	JAN.-2020

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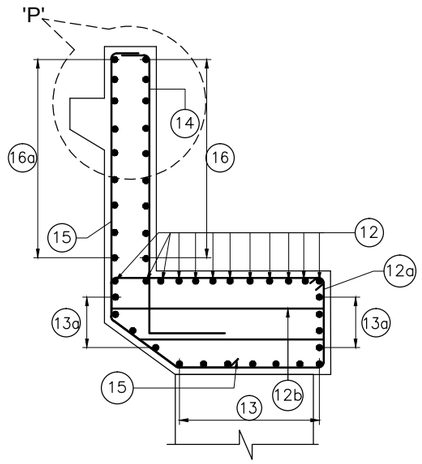
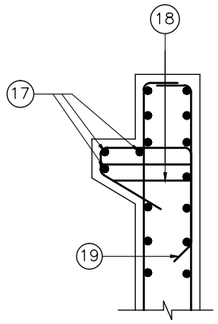
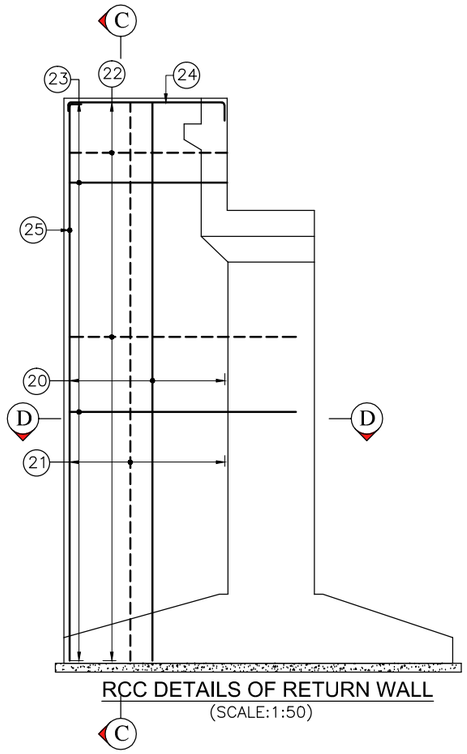


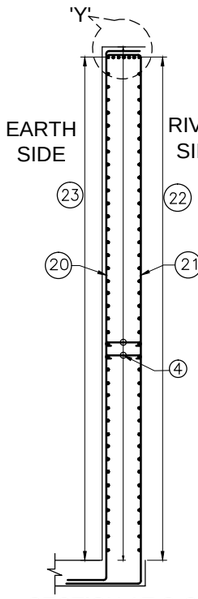
RC DETAILS OF DIRT WALL & ABUTMENT CAP
(SCALE:1:25)



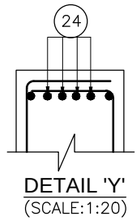
DETAIL AT 'P'
(DETAILS OF BRACKET)
(SCALE:1:20)



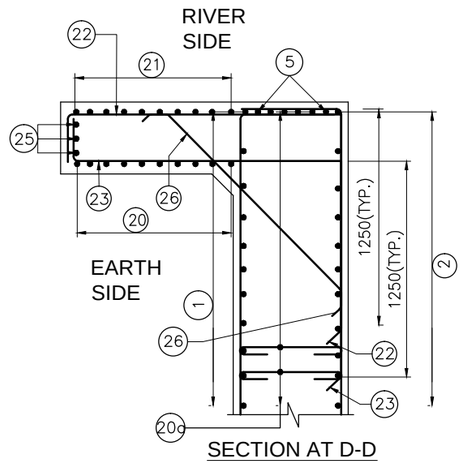
RCC DETAILS OF RETURN WALL
(SCALE:1:50)



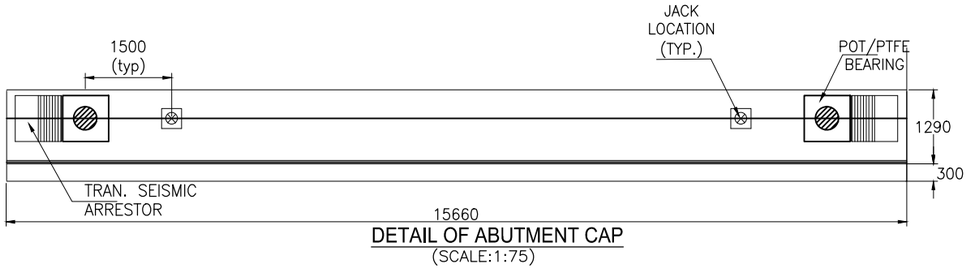
SECTION AT C-C
(SCALE:1:50)



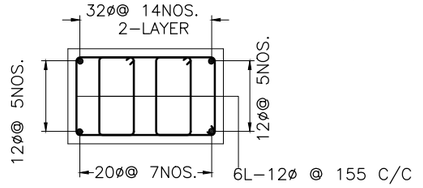
DETAIL 'Y'
(SCALE:1:20)



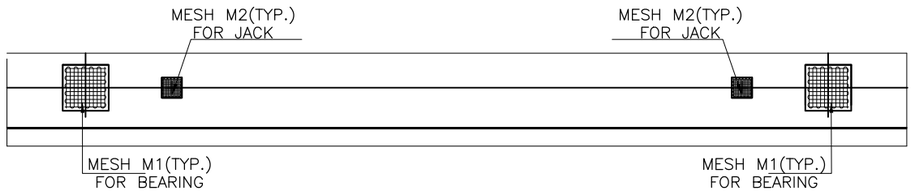
SECTION AT D-D
(SCALE:1:30)



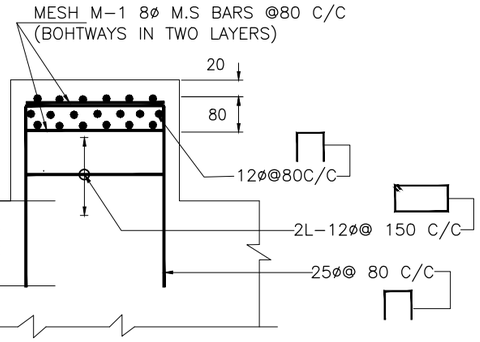
DETAIL OF ABUTMENT CAP
(SCALE:1:75)



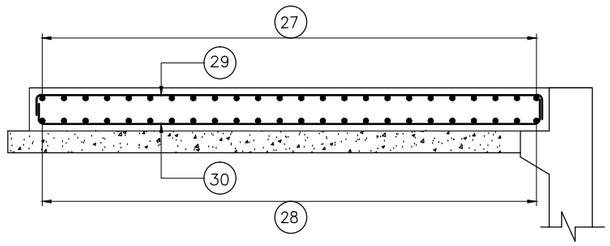
R.C. DETAIL OF SEISMIC ARRESTOR(TRANS.) PLAN
(SCALE-1:25)



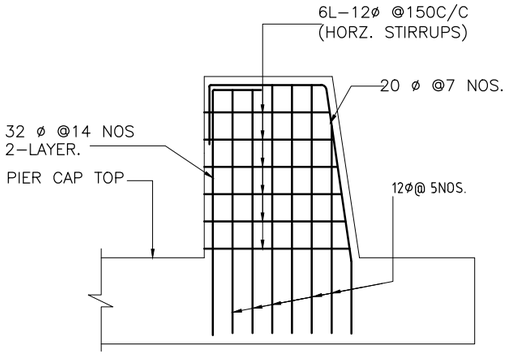
DETAIL OF PEDESTAL AND MESH
(SCALE:1:75)



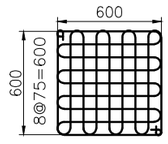
DETAILS OF PEDESTAL
(SIZE OF PEDESTAL 800X800)
(SCALE-1:25)



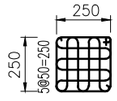
DETAILS OF APPROACH SLAB
(SCALE:1:30)



R.C DETAIL OF SEISMIC ARRESTOR (TRANS)
(SCALE-1:25)



MESH M - 1 8Ø MESH REINF. IN PEDESTAL
(SCALE-1:100)



MESH M - 2 8Ø MESH REINF. AT JACK LOCATION
(SCALE-1:100)

NOTES:

1. ALL DIMENSIONS ARE IN mm, AND LEVELS IN METRES UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
2. CONCRETE SHALL BE DESIGN MIX AND SHALL HAVE MINIMUM 28 DAYS CHARACTERISTIC STRENGTH ON 150mm CUBES FOR ALL ELEMENTS OF SUBSTRUCTURE AND FOUNDATION M20
3. GRADE OF STEEL SHALL BE Fe-500 CONFORMING TO IS :1786.
4. BACK FILLING BEHIND ABUTMENTS SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX:6 OF IRC:78-2000 HAVING PROPERTIES C=0, ø=30°, } =20° & δ= 18 kN/m3.
5. WEEP HOLES, 100 DIA IN SLOPE 1:20 SPACED @1000mm C/C BOTH HORIZONTALLY AND VERTICALLY SHALL BE IN PROVIDED IN STAGGERED MANNER IN ABUTMENTS, MEDIAN WALL & RETURN WALL ABOVE THE GROUND LEVEL.
6. THE FOUNDATION STRATA SHALL HAVE NET BEARING CAPACITY OF 350 kN/m2
7. IN CASE OF EXCAVATION IN ROCK THE ANNULAR SPACE AROUND THE FOUNDATION SHALL BE FILLED IN M 15 GRADE CONC.UPTO THE TOP OF ROCK
8. IT MAY BE ENSURED THAT MINIMUMEMBEDMENTOFFOUNDATION IS 1.5M IN SOFT ROCK OR 0.6M IN HARD ROCK AS PER PROVISION OF IRC - 78.

LEGEND:-
TOP FACE REINF. ———
BOTTOM FACE REINF. – — – —

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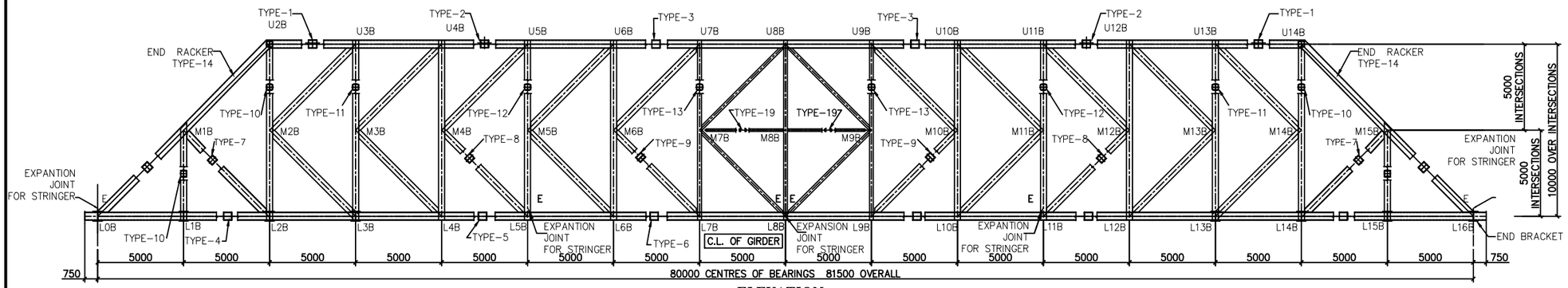
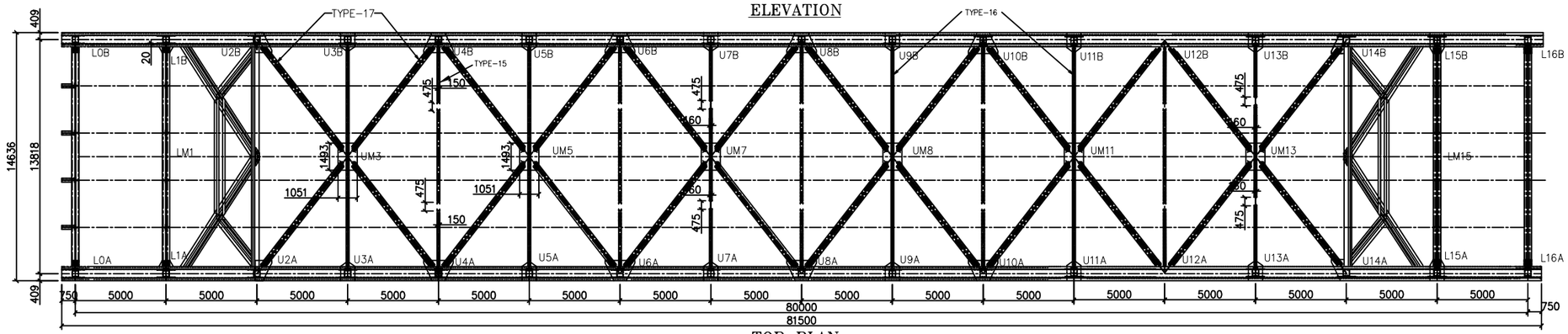
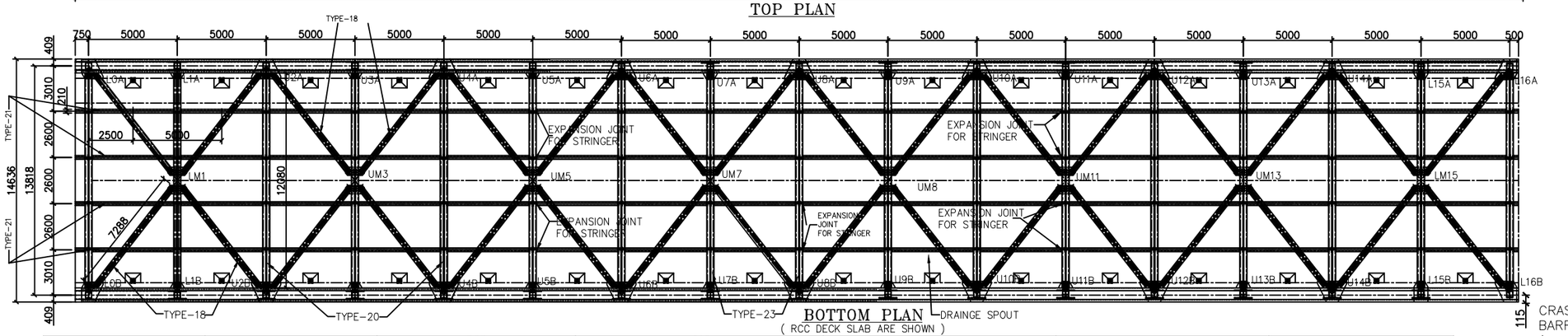
IN ASSOCIATION WITH
AGNITIO INFRASTRUCTURE PROJECTS PVT LTD



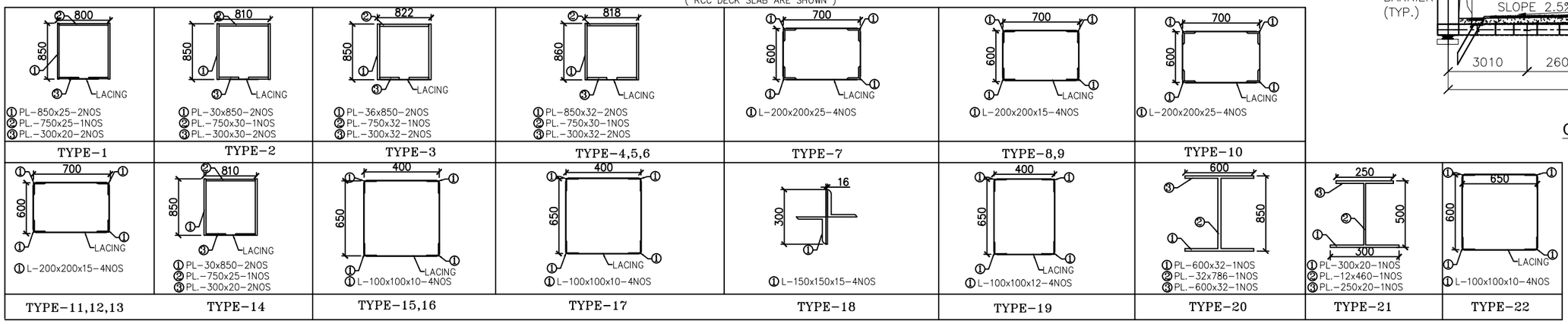
ELEVATION

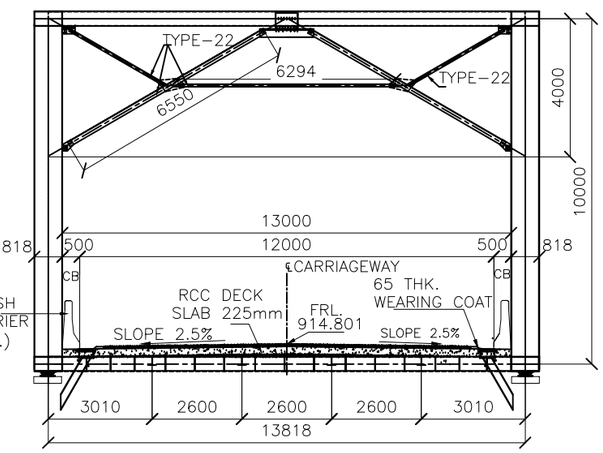


TOP PLAN



BOTTOM PLAN
(RCC DECK SLAB ARE SHOWN)





CROSS SECTION
(SCALE 1:125)

Revision no.	Details	Chk / By	Date

Project Title

Consultancy Services for carrying out Feasibility Study, Preparation of Detailed Project Report (DPR) and providing pre-construction services in respect of 2 Laning of **Kohima Bypass** connecting NH-39 (New NH-02) ,NH-150 (New NH-02), NH-61 (New NH-29) and NH-39 (New NH-02) on Engineering, Procurement and Construction (EPC) mode in the state of Nagaland

Original Size: A2
Path -
Plotting Scale:

Client

National Highways & Infrastructure Development Corporation Ltd

Drawing Title: DIMENSION DETAILS OF CROSS SECTION BRIDGE AT DESIGN CH.Km.21+415 (1x81.5M)

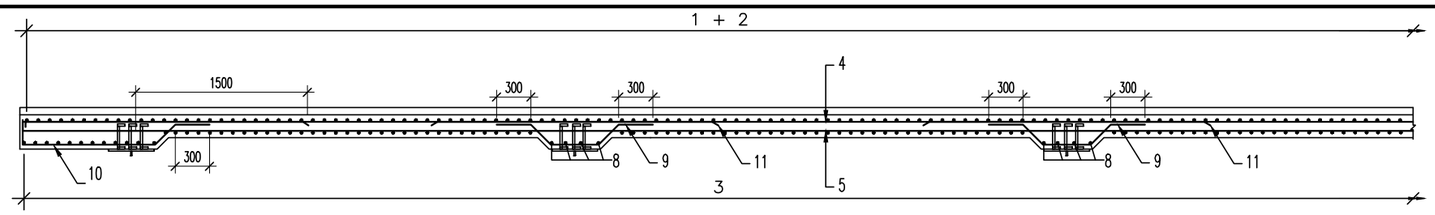
Drawing No.:HEC-AIPPL/NHIDCL/KB/GAD/S-301 | Sheet : 01 OF 01

Scale :- NTS

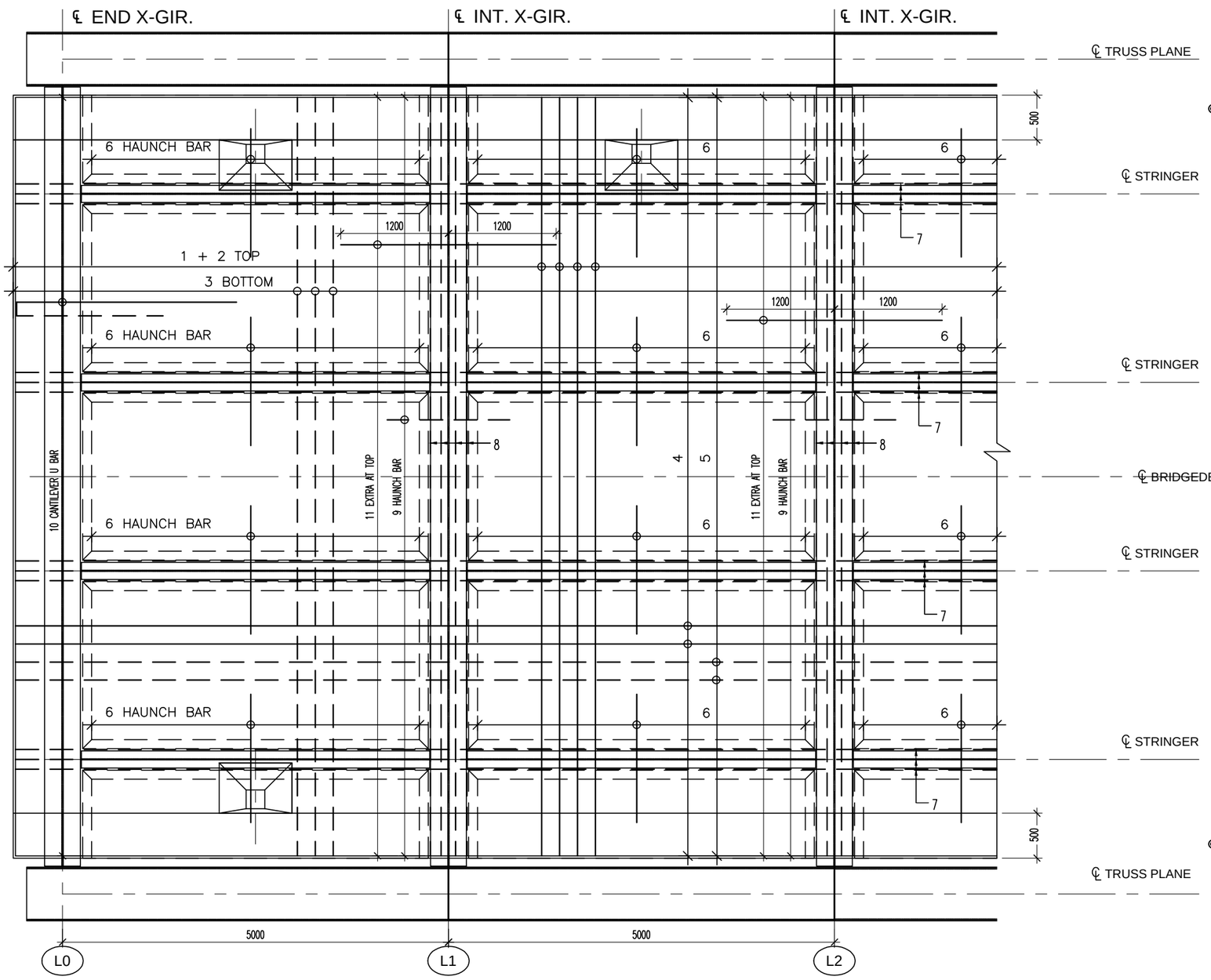
Drn	Dgn.	Appd	Date
D.N	GAURAV SINGH	R.K.JAIN	JAN.-2020

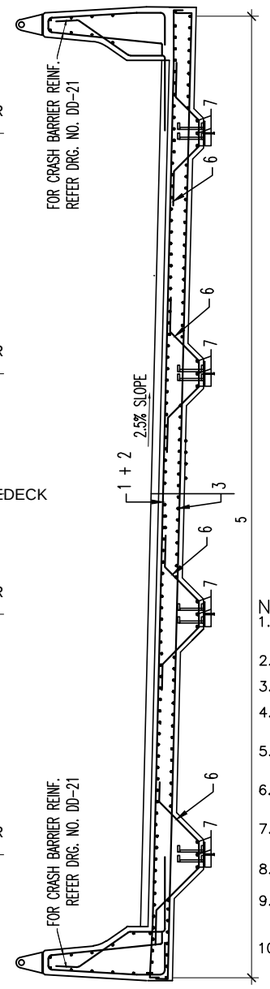
CONSULTANT

HIGHWAY ENGINEERING CONSULTANT
IN ASSOCIATION WITH
AGNITIO INFRASTRUCTURE PROJECTS PVT LTD



SECTION A-A, 1:40





SECTION B-B , 1:40

SCHEDULE OF REINFORCEMENT

BAR MKD.	SHAPE	DIA	SPACING	REMARKS
1		16Ø	150 C/C	ALTERNATE WITH 2
2		16Ø	150 C/C	ALTERNATE WITH 1
3		16Ø	200 C/C	
4		12Ø	125 C/C	
5		12Ø	125 C/C	
6		12Ø	100 C/C	PER HAUNCH
7		10Ø	3 NOS.	
8		12Ø	4 NOS.	
9		10Ø	200 C/C	PER HAUNCH
10		12Ø	100 C/C	
11		10Ø	200 C/C	EXTRA AT TOP

NOTES:–

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS. UNLESS OTHERWISE SPECIFIED.
2. GRADE OF CONCRETE USED M 35
3. CLEAR COVER TO MAIN REINFORCEMENT 40mm.
4. TOP REINF. SHOWN AS ———— BOTTOM REINF. SHOWN AS — — — — —
5. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED, NEITHER THE BARS SHALL BE COUNTED, NOR THE DIMENSIONS SCALED FROM THE DRAWING.
6. ANY DISCREPANCY BETWEEN ARCHITECTURAL DRAWINGS AND THIS DRAWING SHALL BE GOT RECONCILED BEFORE EXECUTION.
7. HIGH YIELD STRENGTH TMT BARS OF GRADE Fe 500D CONFORMING TO I.S. 1786 SHALL BE USED AS REINFORCEMENT WITH A MINIMUM YIELD STRENGTH OF 500 N/Sq.mm.
8. MINIMUM LAP AND ANCHORAGE LENGTH OF REINFORCEMENT SHALL BE KEPT AS PER PROVISION MADE IN IRE:112–2011
9. SUITABLE CHAIRS SHALL BE PROVIDED TO HOLD THE TOP BARS OF SLAB REINFORCEMENT IN POSITION.
10. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS

PART PLAN AT ROAD DECK (SHOWING REINFORCEMENT), 1:40

(CRASH BARRIER REINFORCEMENT NOT SHOWN FOR CLARITY)

Revision no.	Details	Chk. / By	Date

Project Title

Consultancy Services for carrying out Feasibility Study, Preparation of Detailed Project Report (DPR) and providing pre-construction services in respect of 2 Laning of **Kohima Bypass** connecting NH-39 (New NH-02) ,NH-150 (New NH-02), NH-61 (New NH-29) and NH-39 (New NH-02) on Engineering, Procurement and Construction (EPC) mode in the state of Nagaland

Original Size: A2

Path -

Plotting Scale:

Client

National Highways & Infrastructure Development Corporation Ltd

Drawing Title: REINFORCEMENT DETAILS OF DECK SLAB BRIDGE AT DESIGN CH.Km.21+415(1x81.5M)

Drawing No.: HEC–AIPPL/NHIDCL/KB/GAD/ S-401

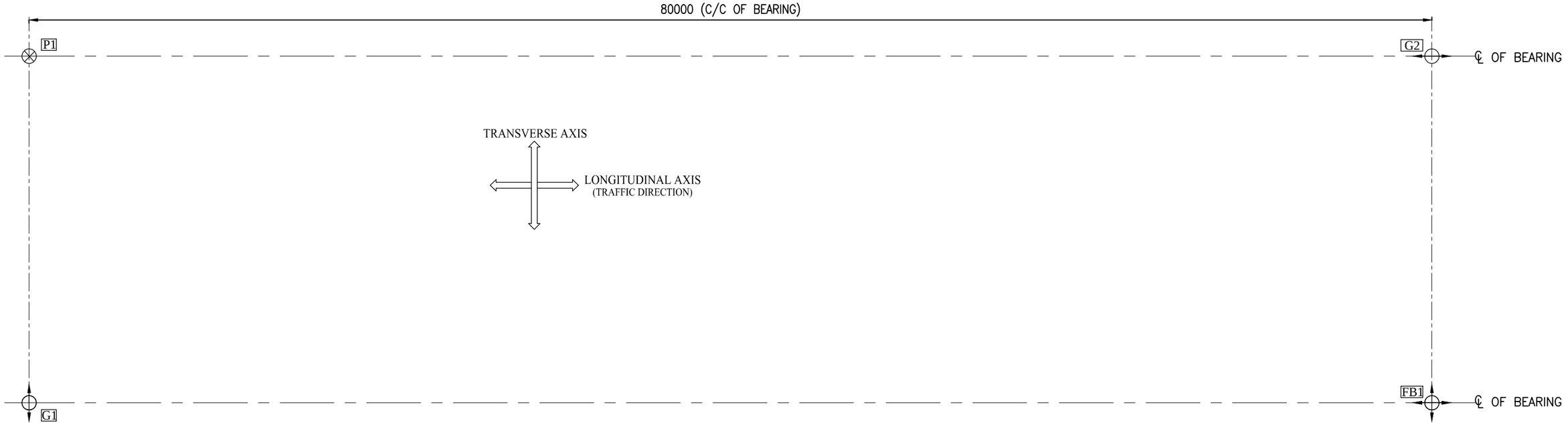
Sheet : 01 OF 01

Scale :– NTS

Drn	Dgn.	Appd	Date
D.N	GAURAV SINGH	R.K.JAIN	JAN.–2020

CONSULTANT

HIGHWAY ENGINEERING CONSULTANT
IN ASSOCIATION WITH
AGNITIO INFRASTRUCTURE PROJECTS PVT LTD



ARRANGEMENT OF BEARINGS

Sl. No	Bearing Type	Load Condition	Coexisting Loads, Forces,Movement and Rotation Data										Qty. (Nos.)
			Vertical Load (kN)		Horizontal Force (kN)				Rotation (Rad)		Movement (mm)		
			Case	Magnitude	Longitudinal		Transverse		Case	Magnitude	Longitudinal	Transverse	
					Case	Magnitude	Case	Magnitude					
(I)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
P1	Pot fixed bearing	Normal	Maximum	7847	Coexisting	844	Coexisting	-	Coexisting	-	-	-	1
			Minimum	0	Coexisting	844	Coexisting	-	Coexisting				
		Seismic/Wind	Maximum	5629	Coexisting	939	Coexisting	-	Coexisting				
			Minimum	0	Coexisting	939	Coexisting	-	Coexisting				
		Seismic/Wind	Coexisting	5629	Maximum	939	Coexisting	0	Coexisting				
		Seismic/Wind	Coexisting	0	Coexisting	939	Maximum	1062	Coexisting				
G1	Transversely guided pot - PTFE bearing	Normal	Maximum	7847	Coexisting	844	Coexisting	-	Coexisting	0.36	-	6	1
			Minimum	0	Coexisting	844	Coexisting	-	Coexisting				
		Seismic/Wind	Maximum	5629	Coexisting	939	Coexisting	-	Coexisting				
			Minimum	0	Coexisting	939	Coexisting	-	Coexisting				
		Seismic/Wind	Coexisting	5629	Maximum	939	Coexisting	-	Coexisting				
G2	Longitudinally guided pot -PTFE bearing	Normal	Maximum	7847	Coexisting	-	Coexisting	-	Coexisting		82	-	1
			Minimum	0	Coexisting	-	Coexisting	-	Coexisting				
		Seismic/Wind	Maximum	5629	Coexisting	-	Coexisting	-	Coexisting				
			Minimum	0	Coexisting	-	Coexisting	-	Coexisting				
		Seismic/Wind	Coexisting	5629	Maximum	-	Coexisting	0	Coexisting				
		Seismic/Wind	Coexisting	0	Coexisting	-	Maximum	1062	Coexisting				
FB1	Free Pot PTFE bearing	Normal	Maximum	7847	Coexisting	-	Coexisting	-	Coexisting		82	6	1
			Minimum	0	Coexisting	-	Coexisting	-	Coexisting				
		Seismic/Wind	Maximum	5629	Coexisting	-	Coexisting	-	Coexisting				
			Minimum	0	Coexisting	-	Coexisting	-	Coexisting				

Revision no.	Details	Chk / By	Date

Project Title

Consultancy Services for carrying out Feasibility Study, Preparation of Detailed Project Report (DPR) and providing pre-construction services in respect of 2 Laning of **Kohima Bypass** connecting NH-39 (New NH-02) ,NH-150 (New NH-02), NH-61 (New NH-29) and NH-39 (New NH-02) on Engineering, Procurement and Construction (EPC) mode in the state of Nagaland

Original Size: A2

Path -

Plotting Scale:

Client

National Highways & Infrastructure Development Corporation Ltd

Drawing Title: BEARING LAYOUT DRAWING
BRIDGE AT DESIGN CH.Km. 21+415 (1x81.5M)

Drawing No.:HEC–AIPPL/NHIDCL/KB/GAD/S-501

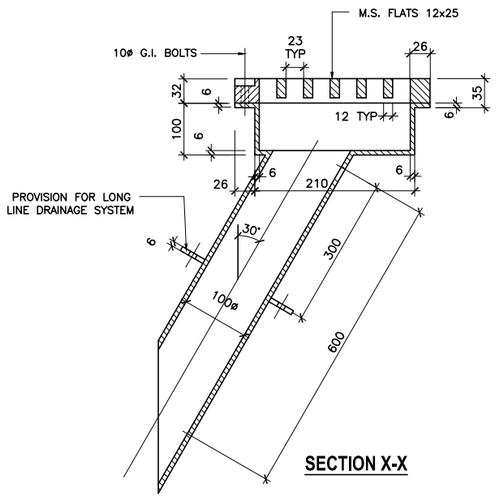
Sheet : 01 OF 01

Scale :– NTS

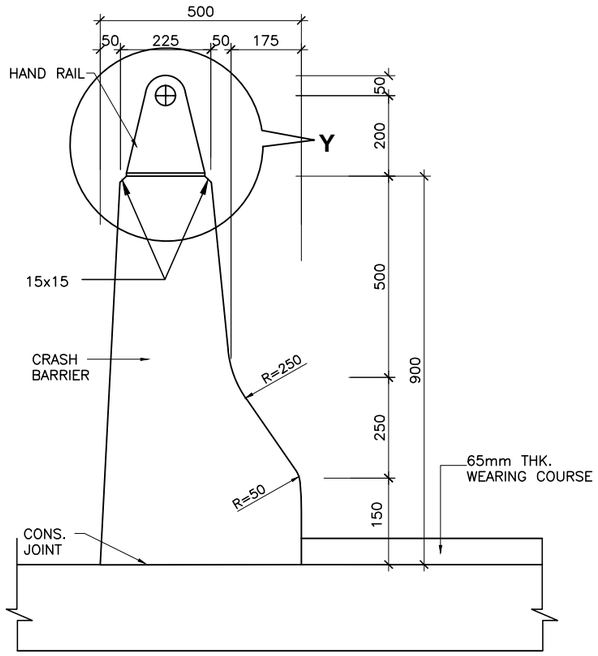
Drn	Dgn.	Appd	Date
D.N	GAURAV SINGH	R.K.JAIN	JAN.–2020

CONSULTANT

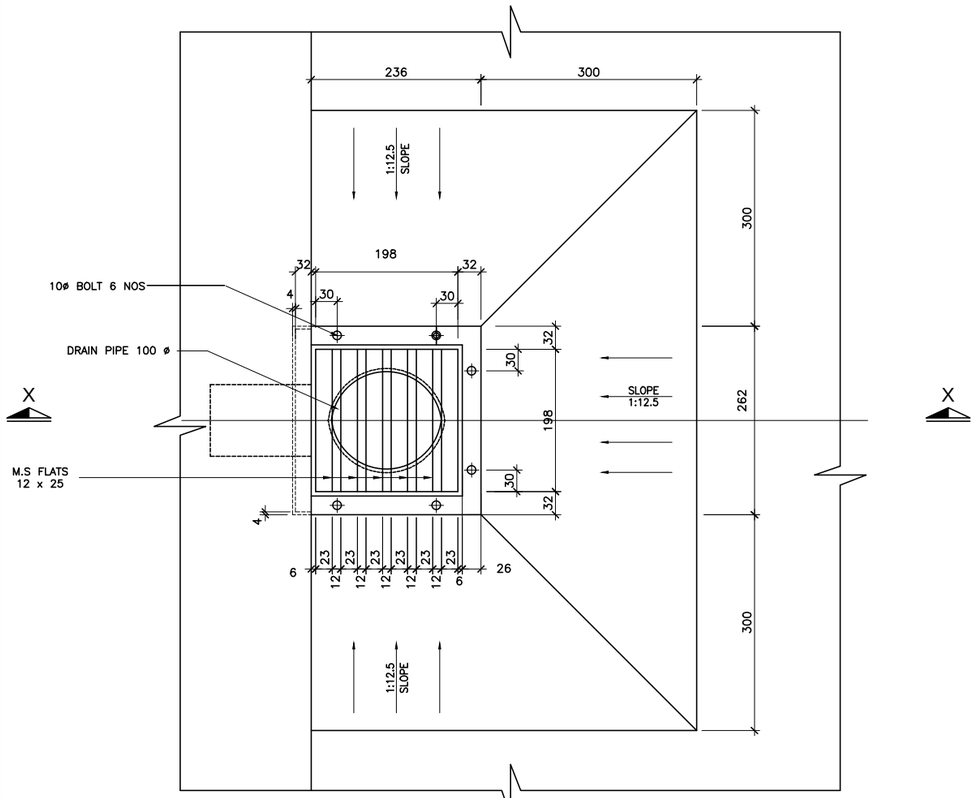
HIGHWAY ENGINEERING CONSULTANT
IN ASSOCIATION WITH
AGNITIO INFRASTRUCTURE PROJECTS PVT LTD



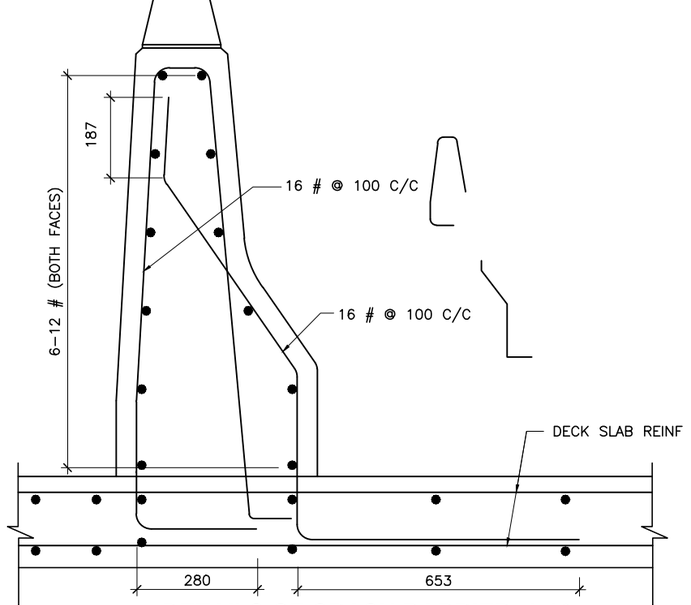
SECTION X-X



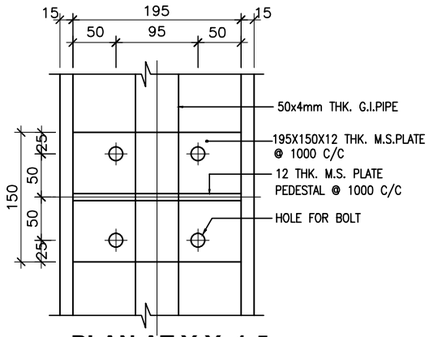
DETAILS OF CRASH BARRIER, 1:10
(FOR DIMENSION ONLY)



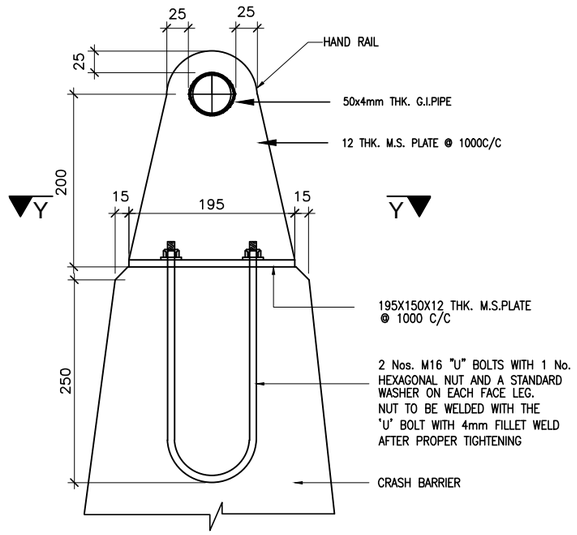
DETAILS OF DRAINAGE SPOUT
AND COLLECTION PIT 1:5



DETAILS OF CRASH BARRIER, 1:10
(FOR REINFORCEMENT ONLY)



PLAN AT Y-Y, 1:5



DETAIL 'Y', 1:5

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. READ THIS DRAWING IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
3. SPACING OF DRAINAGE SPOUT IN DIFFERENT SPANS WILL BE AS SHOWN IN THE GENERAL ARRANGEMENT DRAWINGS OF THE CORRESPONDING SPANS.
4. DRAINAGE SPOUT AND COLLECTION PIT ASSEMBLY SHALL BE FABRICATED FROM MILD STEEL AND AFTER FABRICATION THE COMPLETE ASSEMBLY EXCEPT GRATING SHALL BE GIVEN A HOT DIPPED GALVANIZED COATING.
5. THE ENDS OF RAILING PIPES SHALL BE SEALED WITH A CIRCULAR PIECE OF MS PLATE WELDED TO END OF PIPE.
6. GRADE OF CONCRETE FOR VARIOUS ELEMENTS SHALL BE AS FOLLOWS:
   a) CRASH BARRIER – M40

Revision no.	Details	Chk / By	Date

Project Title

Consultancy Services for carrying out Feasibility Study, Preparation of Detailed Project Report (DPR) and providing pre-construction services in respect of 2 Laning of **Kohima Bypass** connecting NH-39 (New NH-02) ,NH-150 (New NH-02), NH-61 (New NH-29) and NH-39 (New NH-02) on Engineering, Procurement and Construction (EPC) mode in the state of Nagaland

Original Size: A2

Path -

Plotting Scale:

Client

National Highways & Infrastructure Development Corporation Ltd

Drawing Title: MISCELLANEOUS DRAWING
BRIDGE AT DESIGN CH.Km. 21+415 (1x81.5M)

Drawing No.: HEC–AIPPL/NHIDCL/KB/GAD/**S-601**

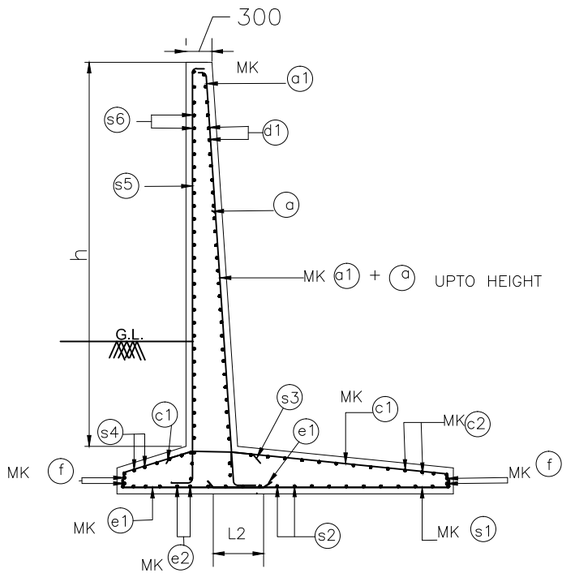
Sheet : **01** OF **01**

Scale :– NTS

Drn	Dgn.	Appd	Date
D.N	GAURAV SINGH	R.K.JAIN	JAN.–2020

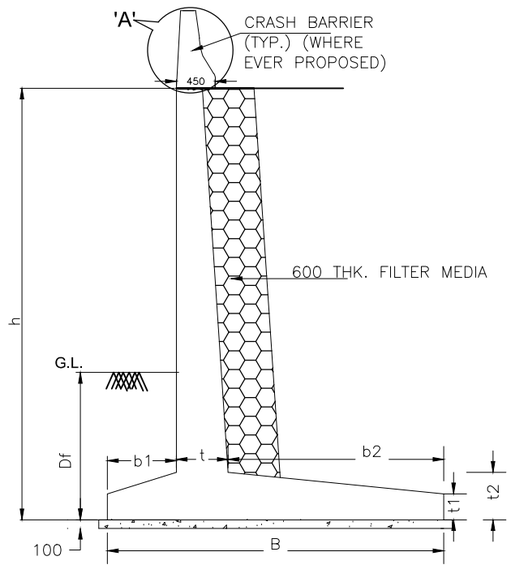
CONSULTANT

HIGHWAY ENGINEERING CONSULTANT
IN ASSOCIATION WITH
AGNITIO INFRASTRUCTURE PROJECTS PVT LTD



REINFORCEMENT DETAILS OF RCC RETAINING WALL

(SCALE 1:50)



TYPICAL CROSS SECTION OF RCC RETAINING WALL

(SCALE 1:50)

NOTES :-

1. ALL DIMENTIONS IN MM (UNLESS OTHERWISE SPECIFIED) & CHANGES ARE IN METERS. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED. NO D IMENTION SHALL BE SCALED.
2. BACKFILL MATERIAL BEHIND ABUTMENT SHALL BE SELECTED SOIL HAVING PROPERTIES AS C= 0 KG/SQ.CM. □>30 DEGREE, r=1800 TO 2000 KG/CUM.
3. GRADE OF CONCRETE= M 30
   GRADE OF STEEL FE-500.
4. MINIMUM COVER TO ANY REINFORCEMENT SHALL BE 75 MM.
5. LAP LENGTH FOR M-30 GRADE OF CONCRETE SHALL BE:
   a. 87 X BAR DIA.
   b. AT PARTICULAR LOCATION LAPPING OF BAR SHALL NOT BE GREATER THAN 50%.
6. CLEAR COVER -

SCHEDULE OF RETAINING/TCE WALL

			HEIGHT (H) 4M		HEIGHT (H) 5M		HEIGHT (H) 6M		HEIGHT (H) 7M		HEIGHT (H) 8M		HEIGHT (H) 9M	
SR.N0	TYPES OF BAR	SHAPE OF (NOT TO SCALE)	DIA OF BARS (mm)	SPACING/ NO OF BARS(mm)	DIA OF BARS (mm)	SPACING/ NO OF BARS(mm)	DIA OF BARS (mm)	SPACING/ NO OF BARS(mm)	DIA OF BARS (mm)	SPACING/ NO OF BARS(mm)	DIA OF BARS (mm)	SPACING/ NO OF BARS(mm)	DIA OF BARS (mm)	SPACING/ NO OF BARS(mm)
1	a		12	200	16	200	16	200	16	200	20	200	25	200
2	a1		12	200	16	200	16	200	16	200	20	200	20	200
3	c1		16	100	20	100	20	100	20	100	25	100	32	100
4	c2		8	300	8	300	10	300	8	300	8	300	8	200
5	d1		8	200	8	200	8	200	8	200	8	200	10	200
6	e1		10	100	16	100	16	100	16	100	20	100	20	100
7	e2		8	300	8	300	10	300	8	300	8	300	8	200
8	f		10	4 NOS	10	4 NOS	10	4 NOS	10	4 NOS	10	4 NOS	10	4 NOS
9	s1		10	300	10	300	10	300	10	300	10	300	10	300
10	s2		8	300	8	300	10	300	8	300	8	300	8	200
11	s3		10	300	10	300	10	300	10	300	10	300	10	300
12	s4		8	300	8	300	10	300	8	300	8	300	8	200
13	s5		12	200	12	200	12	200	12	200	12	200	12	200
14	s6		8	200	8	200	8	200	8	200	8	200	10	200

TABLE SHOWING VARIOUS PARAMETERS OF RCC RETAINING WALL

	PARAMETERS						
SR.NO	HIGHT (mm)	3–4M	4–5M	5–6M	6–7M	8M	9M
1	B	3.4	4.2	5	5.9	6.8	8.1
2	b1	1.2	1.4	1.8	2.0	2.6	3.0
3	b2	1.6	2	2.2	2.6	2.9	3.6
4	t	0.6	0.8	1	1.3	1.3	1.5
5	t1	0.3	0.3	0.3	0.4	0.4	0.4
6	t2	0.6	0.8	1.1	1.1	1.3	1.4
7	L1	0.85	0.85	1.05	1.05	1.05	1.05
8	L2	0.85	0.85	0.85	0.85	1.05	1.05
9	L3	0.55	0.55	0.55	0.55	0.55	0.55
10	Df	1.5	1.5	1.5	2.0	2.0	2.0
11	maximum base pressure kN/m²	150.10	174.67	189.23	223.68	223.77	224.0

Revision no.	Details	Chk / By	Date

Project Title

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Original Size: A2

Path -

Plotting Scale:

Client

National Highways & Infrastructure Development Corporation Ltd

Drawing Title: DETAIL DRAWING OF RETAINING WALL BRIDGE AT DESIGN CH.Km. 21+415 (1x81.5M)

Drawing No.: HEC–AIPPL/NHIDCL/KB/GAD/S-701 | Sheet : 01 OF 01

Scale :– NTS

Drn	Dgn.	Appd	Date
D.N	GAURAV SINGH	R.K.JAIN	JAN.–2020

CONSULTANT

HIGHWAY ENGINEERING CONSULTANT
IN ASSOCIATION WITH
AGNITIO INFRASTRUCTURE PROJECTS PVT LTD