



Government of Nepal
Ministry of Physical Infrastructure and Transport
Department Of Roads
Development Cooperation Implementation Division
Strategic Road Connectivity & Trade Improvement Project
(SRCTIP)

**Detailed Design of Upgradation of Kamala- Dhalkebar- Pathlaiya
Road Section (130km) of Mahendra Highway and Bridges**

Final Design Report
Volume IV
Design Report & Drawing of Bridges

Bridge Name- Sukhajor
Volume-2
Detailed Drawing

April, 2023

Joint Venture Of:

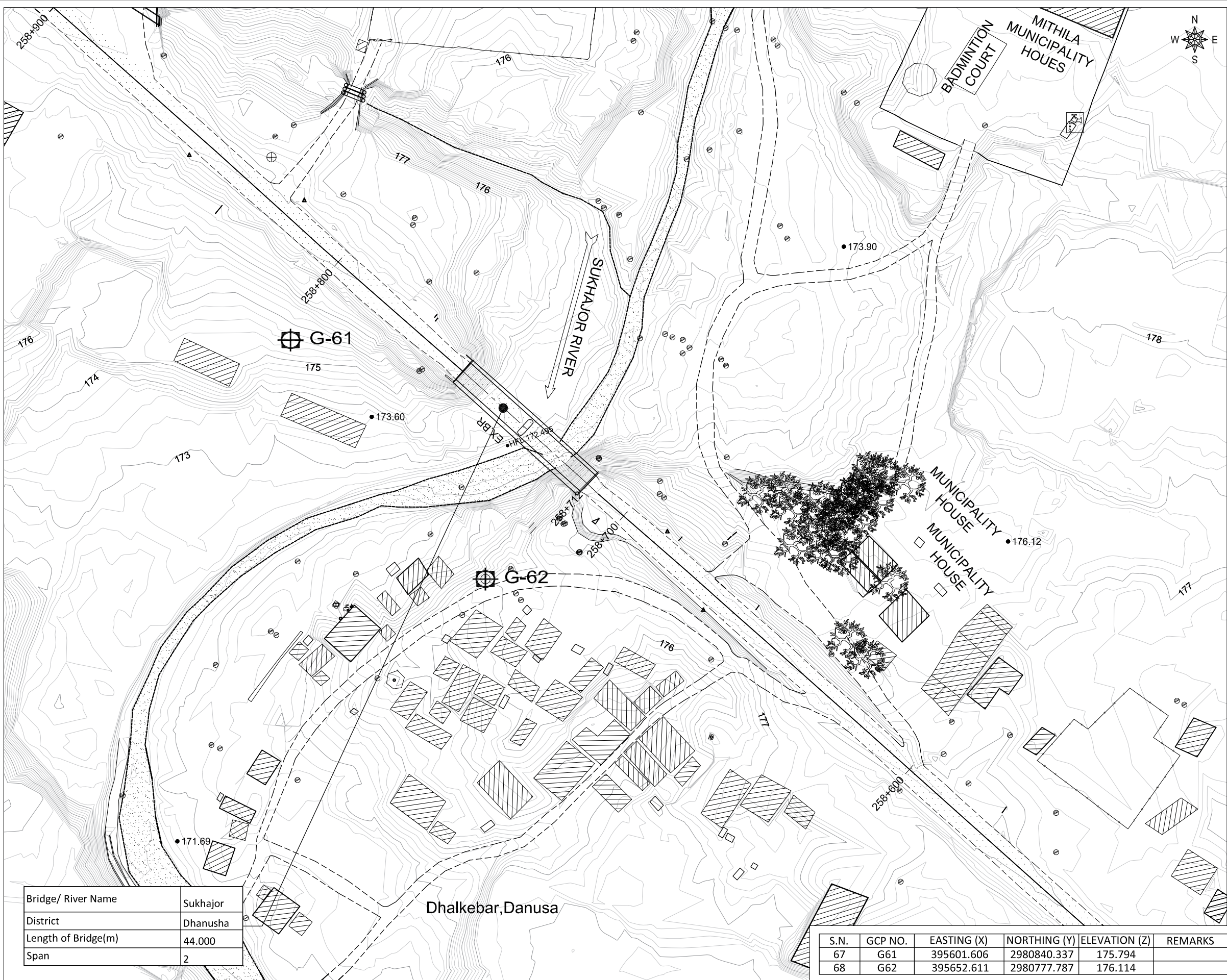
eptisa EPTISA Servicios De Ingenieria
Madrid, Spain

STUP Consultants Private Limited
Kolkata, India

In Association With
Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited

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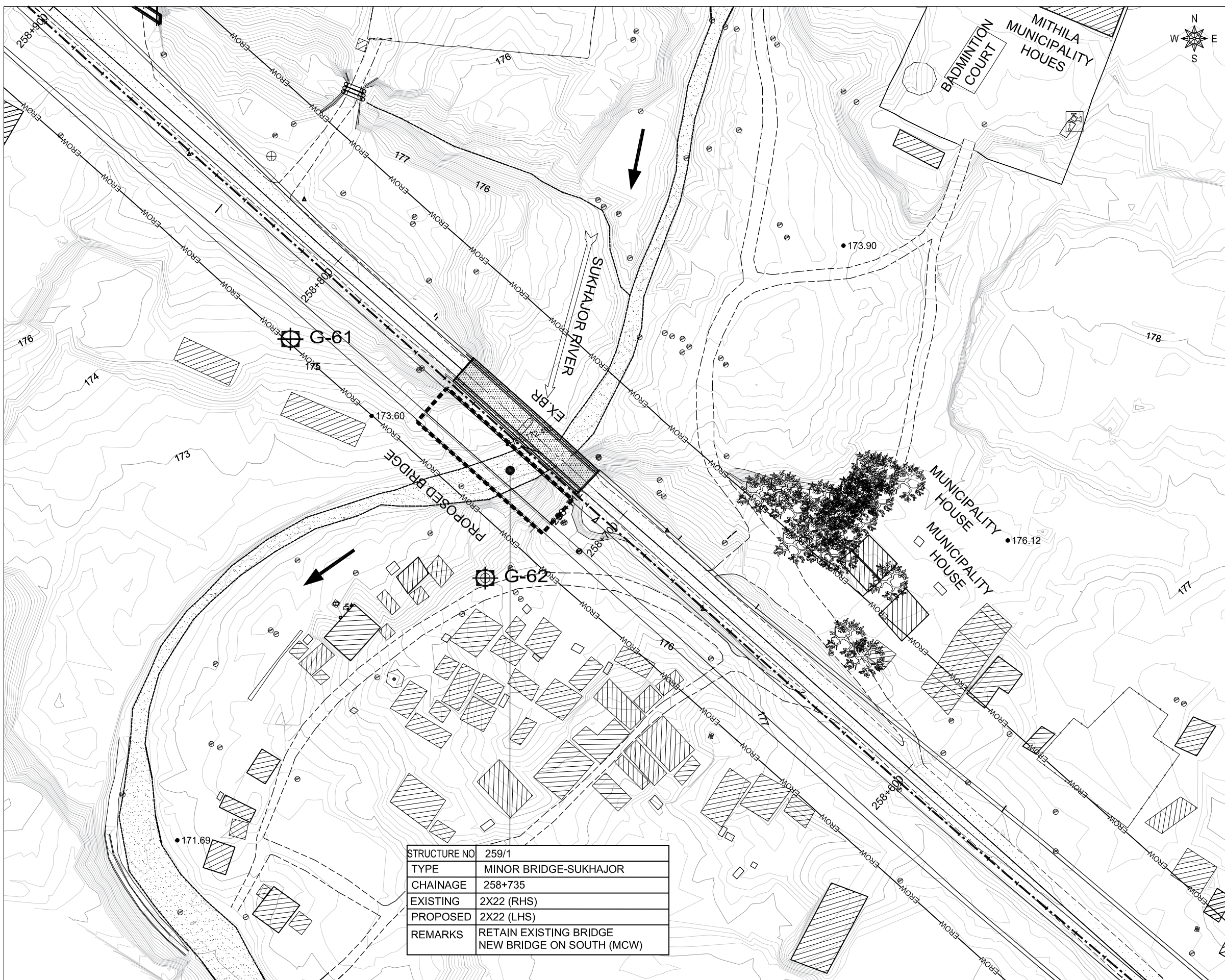
DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL
MAIN FOOT TRAIL		ANIMAL FARM	
PLACE NAME		BAMBOO	
POLICE STATION		BIO GAS	
PETROL PUMP		BUS WAITING STATION	
Pond/ Water Body		BRIDGE	
POULTRY FARM		CONTOUR	
PROPERTY BOUNDARY		CANAL	
ROAD INFORMATION BOARD		CULVERT	
RIVER		CONTROL POINT (G)	
SPOT HEIGHT		CRUSHER	
SHED		DELINOTOR	
SAFTY TANK		ELECTRIC POLE	
SCHOOL		FACTORY	
STREET LIGHT		FEEDAR ROAD	
TAP		FISH FARM	
TEMPORARY HOUSE		FLOW DIRECTION	
TREE		GABION WALL	
TRANSMISSION LINE TOWER		HOSPITAL	
WELL		HAND PUMP	
TEMPLE		HOUSE	
CGI SHEET HOUSE		HOADING BOARD	
TOILET		CARRIAGE WAY	
WOODEN HOUSE		HUT	
WATER TANK		INDEX CONTOUR	
TRANSFORMER		KILOMETER POST	
SHOULDER		MONASTERY	

Bridge/ River Name	Sukhajor
District	Dhanusha
Length of Bridge(m)	44.000
Span	2

Dhalkebar, Danusa

S.N.	GCP NO.	EASTING (X)	NORTHING (Y)	ELEVATION (Z)	REMARKS
67	G61	395601.606	2980840.337	175.794	
68	G62	395652.611	2980777.787	176.114	

EMPLOYER		PROJECT NAME		DESIGN CONSULTANTS		Designed By	Mr. R.A.		Drawing Name	Scale:	AS SHOWN	Date:	22.04.2023
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of		Checked By	Mr. S.M.								
		 EPTISA Servicios De Ingeniera Madrid, Spain	 STUP Consultants Private Limited Kolkatta, India		Approved By	Mr. H.B.							
		In Association With Udaya Consultancy, Geocom International, Sundar Kirti Consultant and Rays Consultant Private Limited											



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TREE		GABION WALL	
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WELL		HAND PUMP	
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CGI SHEET HOUSE		HOADING BOARD	
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WATER TANK		INDEX CONTOUR	
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		 EPTISA Servicios De Ingenieria Madrid, Spain	 STUP Consultants Private Limited Kolkatta, India	Checked By	Mr. S.M.						
		In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited		Approved By	Mr. H.B.		Reference Drawings	Chainage:	258+735	Drawing No.- KDP/DPR/STR/BR/SUKHAJOR/DD- 03	
								Sheet No.1/1			

A. GENERAL

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS NOTED OTHERWISE.
2. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. DIMENSIONS ARE NOT TO BE SCALED.
3. THE LAYOUT OF THE BRIDGE/CULVERT SHALL BE SET AS PER RELEVANT HIGHWAY PLAN AND PROFILE DRAWING.
4. THE FORMATION LEVEL GIVEN IN THIS DRAWING SHALL BE VERIFIED FROM THE RELEVANT HIGHWAY DRAWING. IN CASE OF ANY DISCREPANCY THE HIGHWAY DRAWING SHALL BE CONSIDERED CORRECT.

B. DESIGN CRITERIA

1. THE DESIGN HAS BEEN PREPARED BASED ON THE FOLLOWING CODES:
- a) NEPAL ROAD STANDARD 2070
- b) IRC-5 2015
- c) IRC-6 2017
- d) IRC-78 2014
- e) IRC-112 2020
- f) IRC SP-13 2022
2. TOTAL WIDTH OF THE BRIDGE DECK: 11.85 M (8 M WIDE CARRIAGEWAY + 2.5 M WIDE FOOTPATH) HOWEVER THIS BRIDGE IS DESIGNED FOR THE FOLLOWING CARRIAGEWAY LIVE LOADS AS PER IRC:6-2017
- a) ONE LANE OF IRC CLASS 70R (WHEELED) FOR TWO LANES + ONE LANE OF IRC CLASS A
- b) THREE LANES OF IRC CLASS A
3. SEISMIC ZONE CONSIDERED IN THE DESIGN IS ZONE-V.
4. LAYING, COMPACTION, & EXTENT OF BACKFILL BEHIND ABUTMENT & RETURN/RETAINING WALLS SHALL CONSIST OF SELECTED EARTH CONFORMING TO THE APPENDIX-6 OF IRC:78-2014 HAVING PROPERTIES $C=0$, $\phi=30^\circ$ & DENSITY=20KN/m³.
5. 100mm DIA WEEP HOLES AT 1000mm C/C BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN STAGGERED MANNER IN VERTICAL WALLS OF THE ABUTMENT AND RETURN WALL ABOVE GL. IN ONE OR TWO LAYERS AT A SLOPE OF 1 VERTICAL TO 20 HORIZONTAL TOWARDS THE DRAINING FACE.

C. HYDRAULIC DATA: -

1. DESIGN DISCHARGE, (Q100) - 62.26 CUMECs
2. HFL - 174.190 M
3. FREE BOARD (MINIMUM) - 1 M
4. MAXIMUM SCOUR LEVEL:
- ABUTMENT - 171.540M
- PIER - 170.080M

SCOUR LEVELS WERE CALCULATED AS PER IRC 78:2014 CL 703 WITH APPROPRIATELY INCREASED DESIGN DISCHARGE

D. STRUCTURAL AND OTHER DATA: -

1. SPAN ARRANGEMENT: 2 X 22 = 44 M
2. SUPERSTRUCTURE:
- PRECAST RCC LONGITUDINAL GIRDERS & CAST-IN-SITU RCC CROSS GIRDERS AND DECK SLAB.
3. SUBSTRUCTURE
- A) ABUTMENTS - RCC WALL TYPE
4. FOUNDATIONS
- A) ABUTMENT - 1200 DIA BORED CAST-IN-SITU PILE
- DESIGN WORKING LOAD ON PILE - 314 TON
- B) PIER- 1200 DIA BORED CAST-IN-SITU PILE
- DESIGN WORKING LOAD ON PILE - 261 TON
- RCC BORED PILES SHOULD BE CONSTRUCTED AS PER IS: 2911(PART 1/SEC 2)-2010.
5. BEARINGS
- ELASTOMERIC BEARINGS
6. WEARING COAT:
- 65 MM THICK ASPHALTIC CONCRETE WEARING COAT AS PER STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE WORKS (2073) , DEPARTMENT OF ROADS
7. EXPANSION JOINT -
- SLAB SEAL TYPE EXPANSION JOINT OF PROVEN QUALITY SHALL BE PROVIDED IN ACCORDANCE WITH IRC:SP-69-2005 (GUIDELINES AND SPECIFICATIONS OF EXPANSION JOINT)
8. DRAINAGE SPOUTS - AS PER STANDARD SPECIFICATION FOR ROAD & BRIDGE WORKS 2073
9. RAILINGS/CRASH BARRIER:
- RCC CRASH BARRIER AT EDGES OF CARRIAGEWAY AND FOOTPATH

10. FOOTPATH

2.5m WIDE FOOTPATH AT OUTER EDGE OF DECK

11. CONCRETE: -

- a. PILE..... M35 (CEMENT CONTENT AS PER SPECIFICATION)
- b. PILE CAP.....M35
- c. BEARING PEDESTALS.....M40
- d. ABUTMENTM35
- e. PIER.....M35
- f. PIER CAP.....M35
- g. RETURN WALL.....M35
- h. LEVELING COURSE: I) BELOW APPROACH SLAB.....M15
- II) BELOW PILE CAP.....M15
- g. APPROACH SLABM30
- h. CAST-IN-SITU CRASH BARRIERM40
- i. KERBM35
- j. DECK SLAB FOR RCC GIRDERS.....M35
- k. PRECAST RCC GIRDERSM35
- l. CAST-IN-SITU CROSS GIRDER FOR RCC GIRDERS.....M35

12. REINFORCEMENT STEEL: -

- a. H.Y.S.D. BARS - GRADE 500 CONFORMING TO IS 1786
- b. REINFORCEMENT WHERE EVER NECESSARY SHALL BE LOCALLY BENT OR ADJUSTED TO ENSURE PROPER CONCRETING.

13. CONCRETE COVER

- a. DECK SLAB, GIRDER, PEDESTAL, CAP : 40 MM
- b. SUBSTRUCTURE AND FOUNDATION : 75 MM

14. LAPS (Ls) ARE TO BE STAGGERED AND MINIMUM LAP LENGTH ARE TO BE AS FOLLOWS:

- a) FOR M 30 GRADE CONCRETE : 57.2 ϕ
- b) FOR M 35 GRADE CONCRETE : 51.48 ϕ
- c) FOR M 40 GRADE CONCRETE : 48.62 ϕ

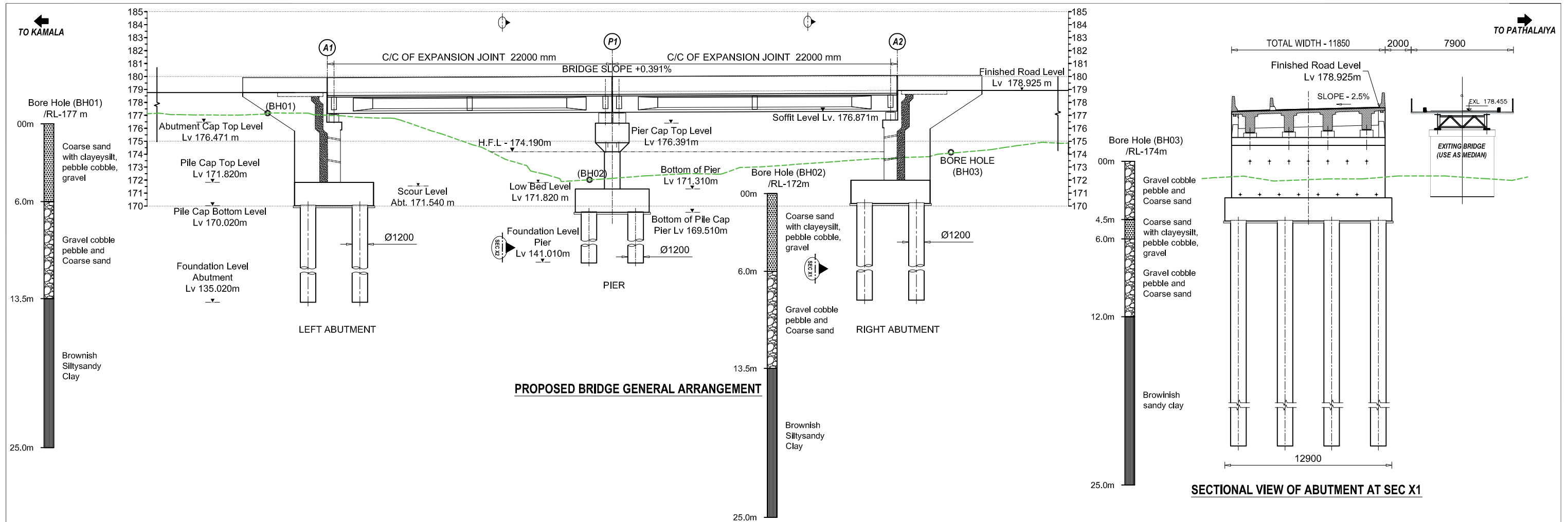
(WHERE ϕ IS THE DIAMETER OF THE BAR)

15. LAP LENGTH SHALL BE INCREASED BY A FACTOR BASED ON THE PERCENTAGE OF LAPPED BAR RELATIVE TO THE TOTAL CROSS SECTIONAL AREA. LAP LENGTH FOR DIFFERENT GRADE OF CONCRETE AS WELL AS DIFFERENT PERCENTAGE OF LAP LENGTH ARE AS FOLLOWS:

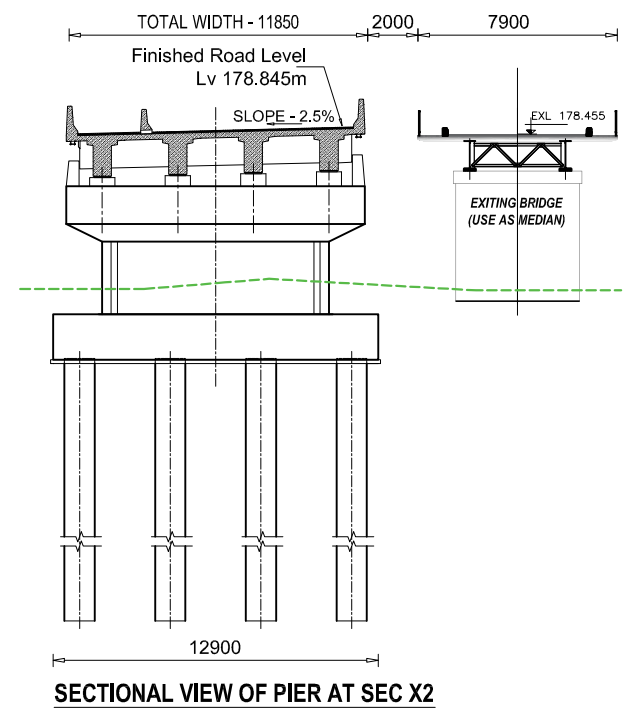
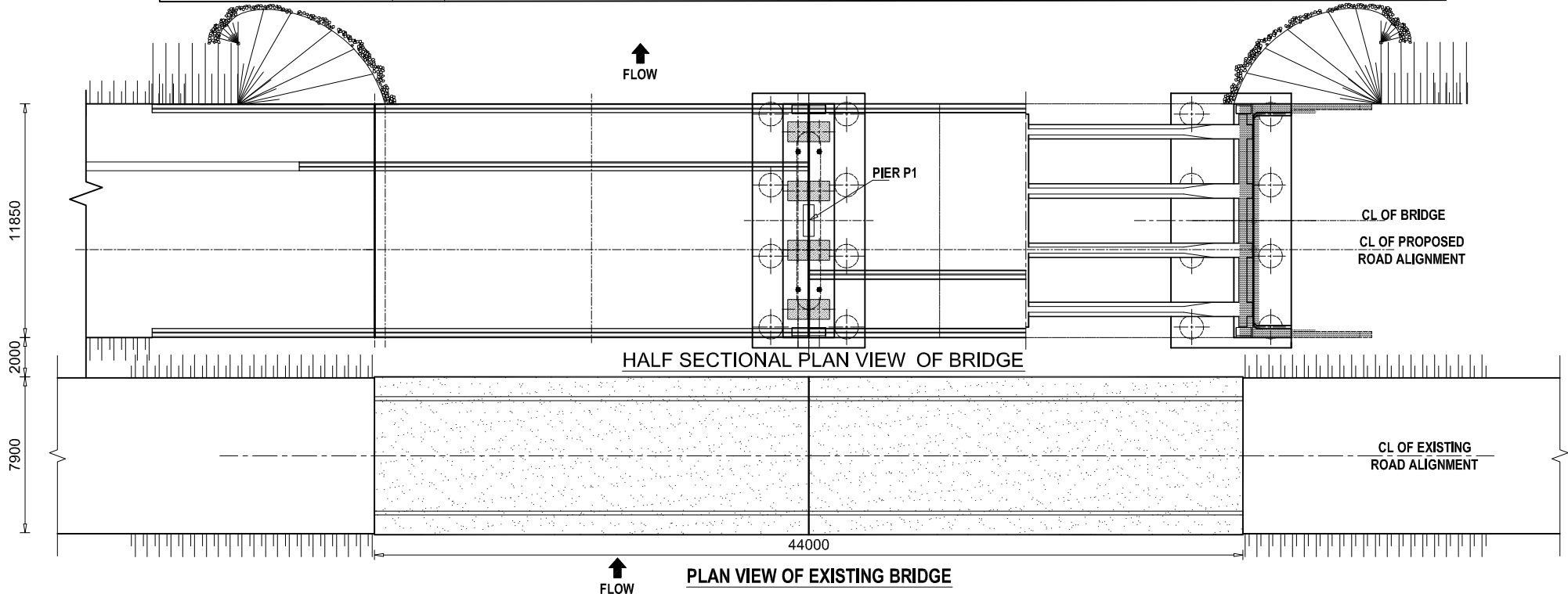
GRADE OF CONCRETE	M30	M35	M40	M45
LAPPED BAR <25%	57.2 ϕ	51.48 ϕ	48.62 ϕ	45.76 ϕ
25%≤LAPPED BAR <33%	65.78 ϕ	62.65 ϕ	55.91 ϕ	52.62 ϕ
33%≤LAPPED BAR <50%	80.08 ϕ	72.07 ϕ	68.07 ϕ	64.06 ϕ
50%≤LAPPED BAR	85.8 ϕ	77.22 ϕ	72.93 ϕ	68.64 ϕ

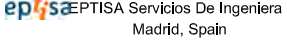
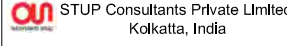
16. THE LAP LENGTH SHALL BE STAGGERED BY MINIMUM DISTANCE OF 1.3 TIMES THE LAP LENGTH.
17. HELICAL REINFORCEMENT SHALL BE LAPPED BY 1.5 TURNS.
18. INSTEAD OF LAPPING SPLICING OF REINFORCEMENT CAN BE DONE WITH WELDED JOINT AS PER CL. 15.2.5.2 OF IRC 112-2020. WELD LENGTH SHALL NOT BE LESS THAN 18D.
19. SHARP EDGES OF CONCRETE TO BE CHAMFERED MINIMUM 50 X 50

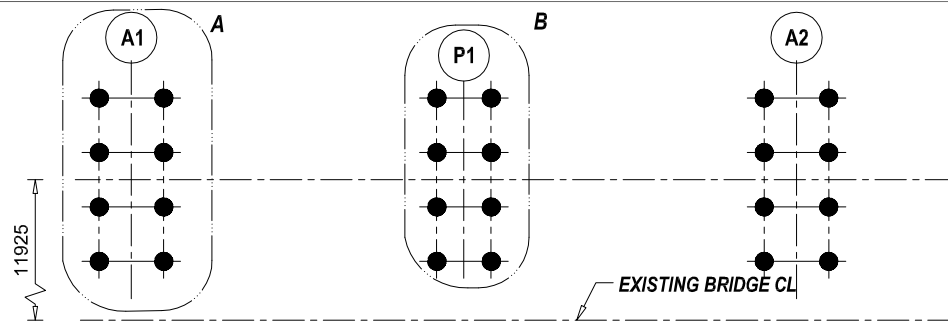
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			Checked By	Mr. S.M.				Drawing No.- KDP/DPR/STR/BR/SUKHAJOUR/DD-4
			Approved By	Mr. H.B.		Reference Drawings -	Chainage: 258+735	Sheet No. 1 / 1



Finished Road Level(D/S)	178.765	178.845	178.925
Finished Road Level (Existing Bridge)	178.455	178.455	178.455
Existing Ground Level(D/S)	176.982	173.658	172.134
Existing Ground Lv	177.835	173.956	174.256
Chainage	258+713	258+735	258+757

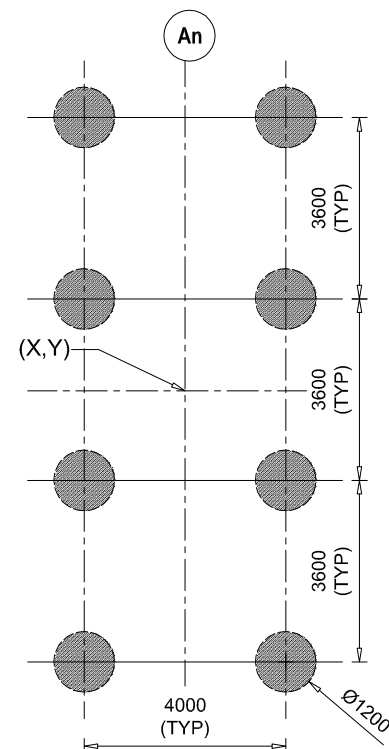


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		In Association With Udaya Consultancy, Geocom International, Sundar Krti Consultant and Rays Consultant Private Limited		Checked By	Mr. S.M. 	Reference Drawings			Drawing No.- KDP/DPR/STR/BR/SUKHAJAJOR/DD-5
				Approved By	Mr. H.B. 				Sheet No. 1 / 1



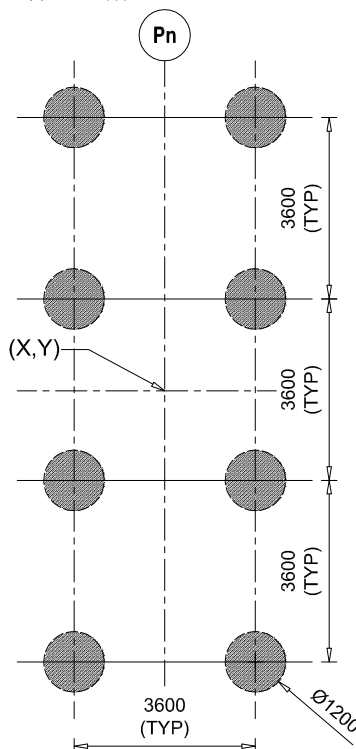
DETAILS AT PILE LAYOUT

SCALE - 1:500



DETAILS AT A

SCALE - 1:150



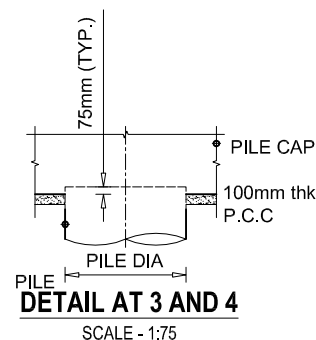
DETAILS AT B

SCALE - 1:150

CO ORDINATES OF PILE LOCATION OF PROPOSED BRIDGE

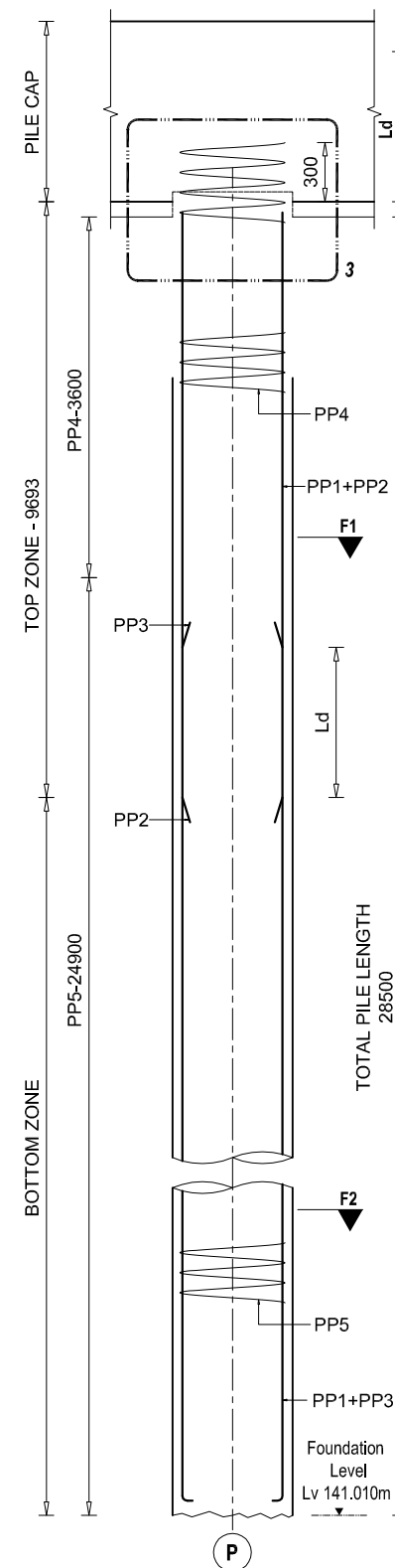
SN.	ABUTMENT/PIER	EASTING (X)	NORTHING (Y)
1	ABUTMENT (A1)	395671.246	2980793.554
2	PIER (P1)	395654.805	2980808.172
3	ABUTMENT (A2)	395638.363	2980822.79

PILE CAPACITY			
SN.	DESCRIPTION	DIA (mm)	CAPACITY (Ton)
1	ABUTMENT	1200	314
2	PIER	1200	261



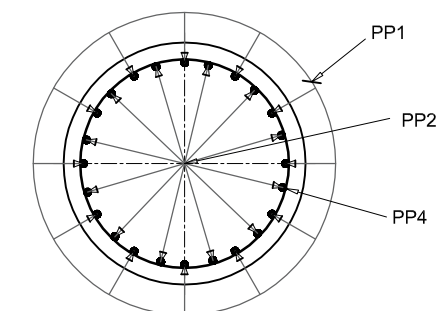
BAR BENDING SCHEDULE OF ABUTMENT PILE								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	PA1	 37100 300	32		37.400	10	6.321	2364.05
2	PA2	 11868	32		11.868	10	6.320988	750.1748
3	PA3	 26432 300	12		26.732	10	0.889	237.62
4	PA4	Dia. 1034  100	16	115	3.448	42	1.580	228.87
5	PA5	Dia. 1034  100	12	115	3.448	263	0.889	806.14
TOTAL (KG) :								4386.85
No. of Pile								8.00
TOTAL WEIGHT (KG) :								35094.77

BAR BENDING SCHEDULE OF PIER PILE								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	PP1	300 30150	32		30.450	12	6.321	2309.69
2	PP2	12618	32		12.618	12	6.320988	957.0987
3	PP3	300 19932	12		20.232	12	0.889	215.81
4	PP4	Dia. 1034 100	16	100	3.448	48	1.580	261.56
5	PP5	Dia. 1034 100	12	100	3.448	237	0.889	726.44
TOTAL (KG) :								4470.60
No. of Pile								8.00
TOTAL WEIGHT (KG) :								35764.80



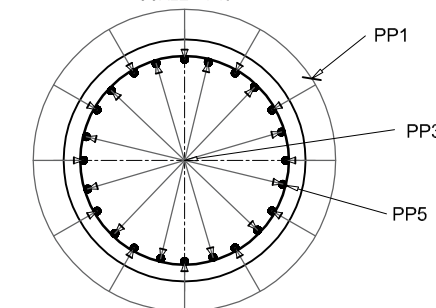
BAR DETAIL AT PIER PILE

SCALE - 1:75



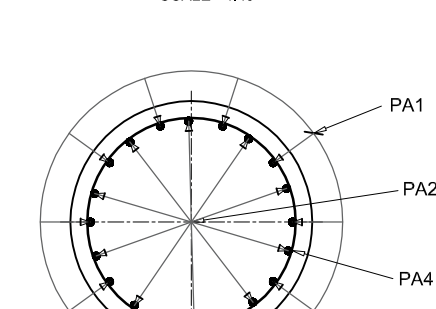
SECTIONAL VIEW AT F1 - F1

SCALE - 1:40



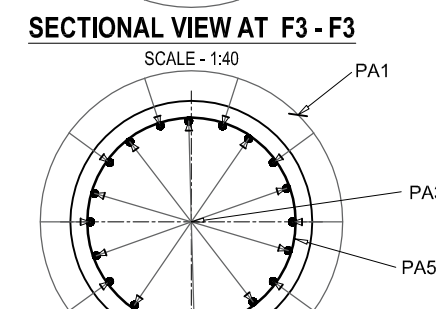
SECTIONAL VIEW AT F2 - F2

SCALE - 1:40



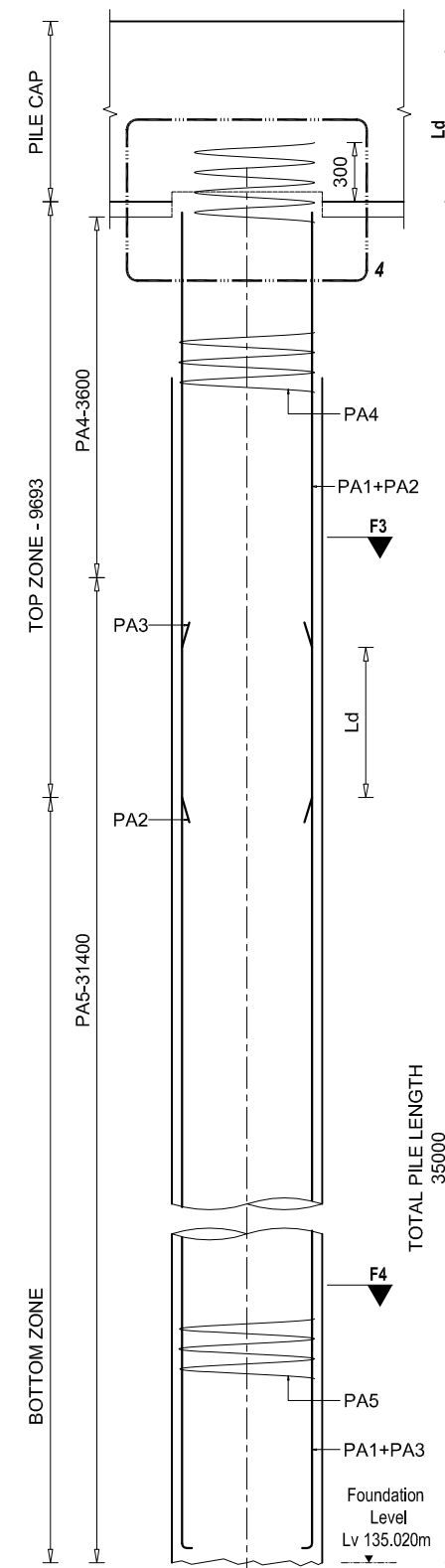
SECTIONAL VIEW AT F3 - F3

SCALE - 1:40



SECTIONAL VIEW AT F4 - F4

SCALE - 1:40



BAR DETAIL AT ABUTMENT PILE

SCALE - 1:75

NOTE

READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/SUKHAJOR/DD-4

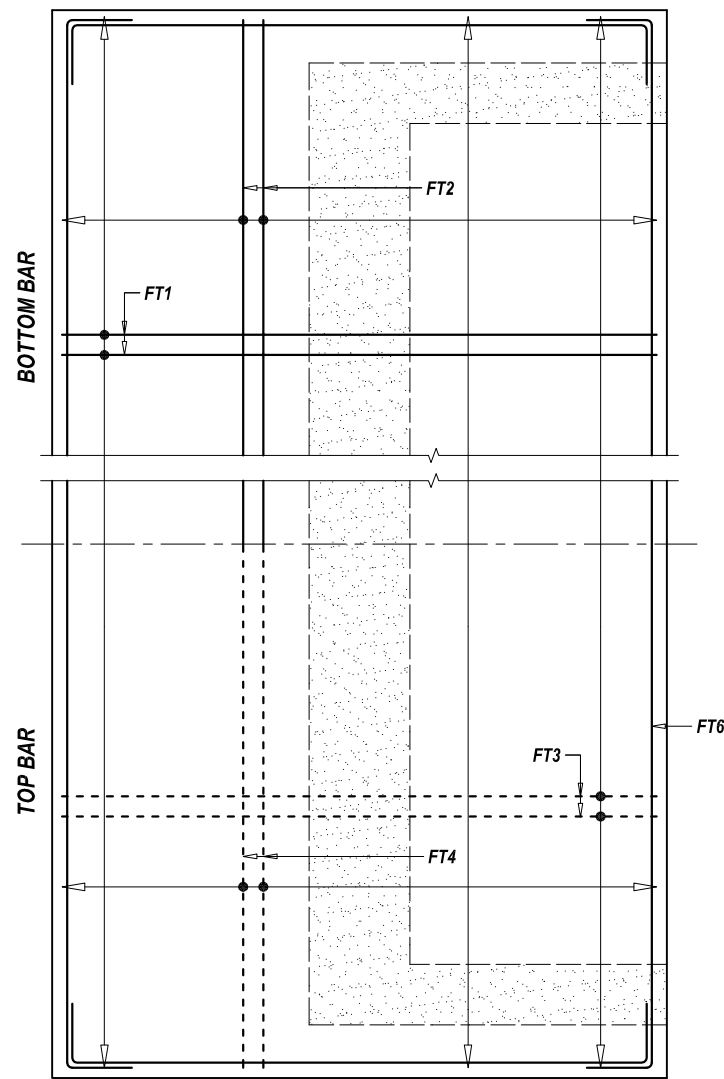
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						Checked By	Mr. S.M.				
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										Sheet No. 1/1	



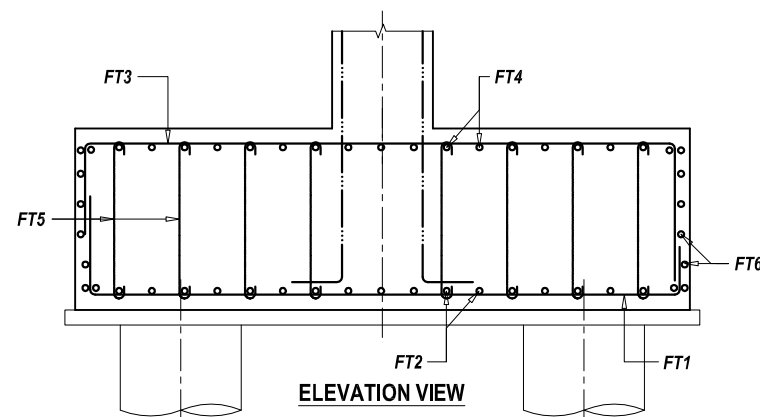
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DRG NO. KDP/DPR/STR/BR/SUKHAJAJOR/DD-4



EMPLOYER	PROJECT NAME	DESIGN CONSULTANTS		Designed By	Mr. R.A.		Drawing Name ABUTMENT DETAILS OF BRIDGE OVER RIVER SUKHAJAJOR	Scale: AS SHOWN	Date: 05.05.2023
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP)	Joint Venture of			Nec.No. 6431 CHM/ 'A'	Signature			
	Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	 EPTISA Servicios De Ingenieria Madrid, Spain	 STUP Consultants Private Limited Kolkatta, India	Checked By	Mr. S.M.		Reference Drawings KDP/DPR/STR/BR/SUKHAJAJOR/DD-9	Chainage: 258+735	Drawing No.- KDP/DPR/STR/BR/SUKHAJAJOR/DD-7
	In Association With Udaya Consultancy, Geocom International, Sundar Kirti Consultant and Rays Consultant Private Limited	Approved By	Mr. H.B.		Sheet No. 1 / 2				

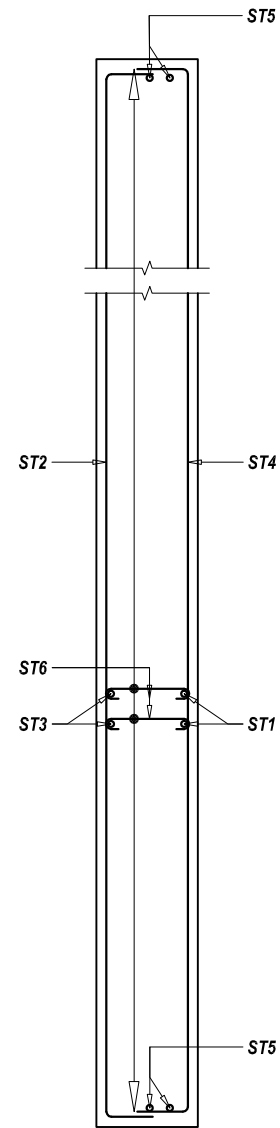


PLAN VIEW

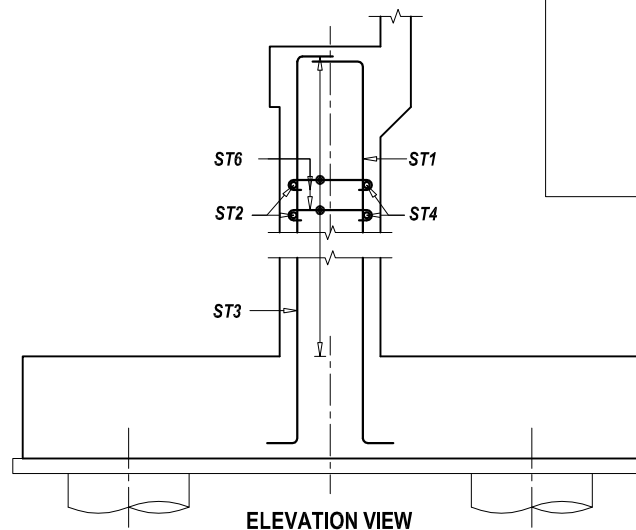


BAR DETAIL OF PILE CAP
SCALE - 1 : 75

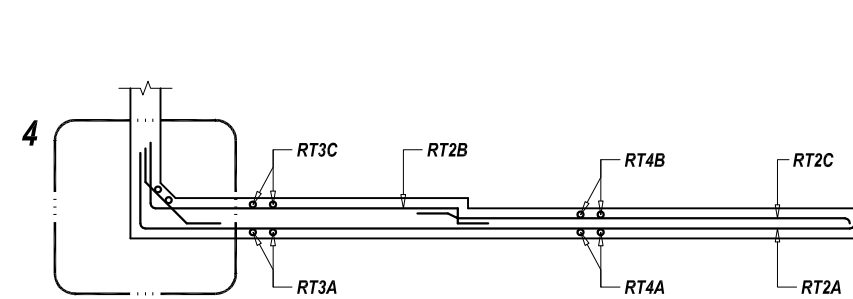
NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/SUKHAJOR/DD-4



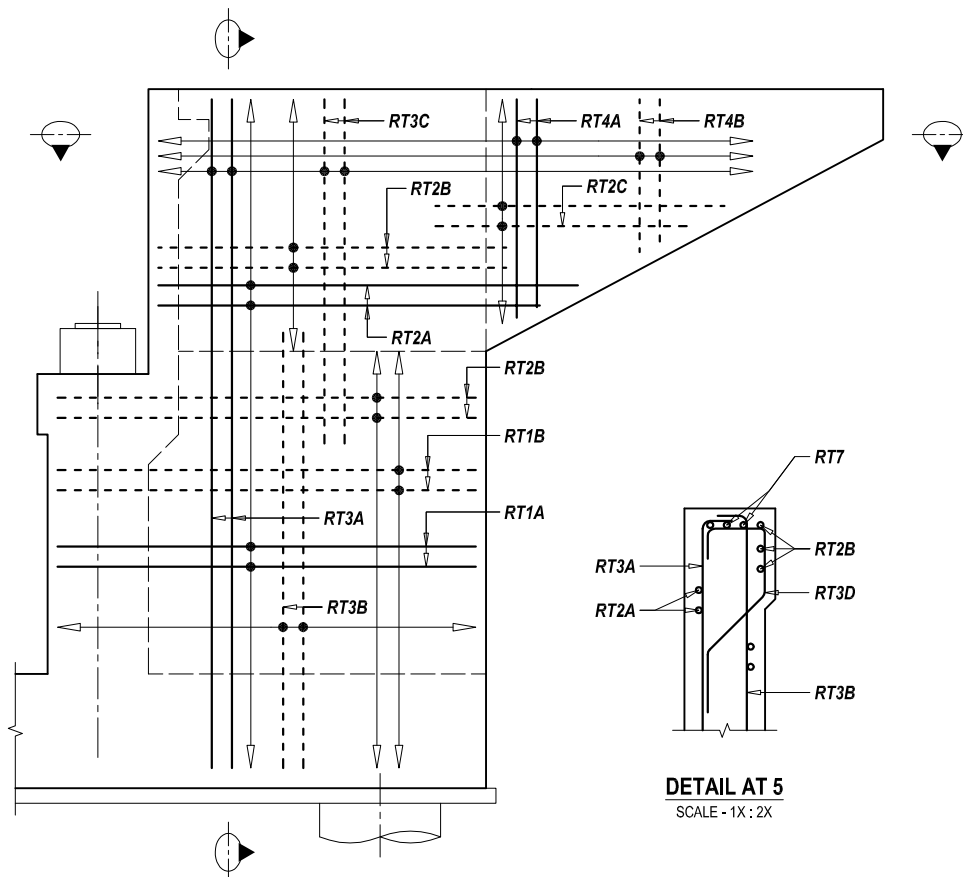
SECTIONAL PLAN VIEW



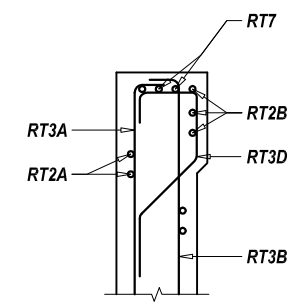
BAR DETAIL AT ABUTMENT STEM
SCALE - 1 : 75



SECTIONAL PLAN VIEW

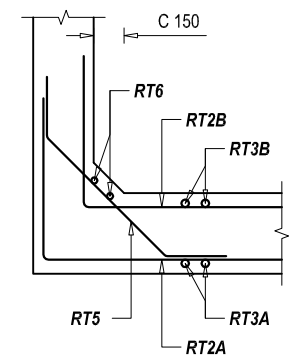


ELEVATION VIEW

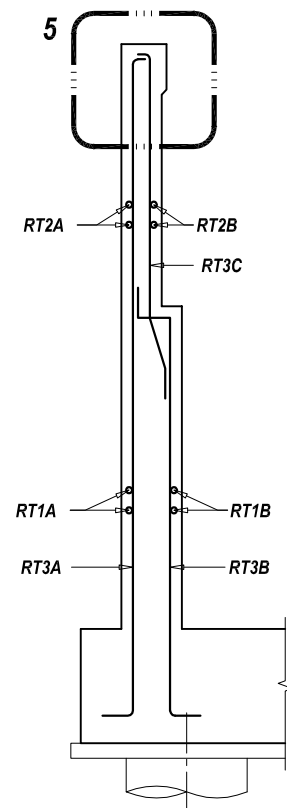


DETAIL AT 5
SCALE - 1X : 2X

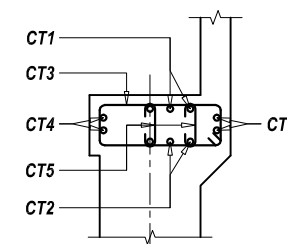
BAR DETAIL AT RETURN WALL
SCALE - 1 : 75



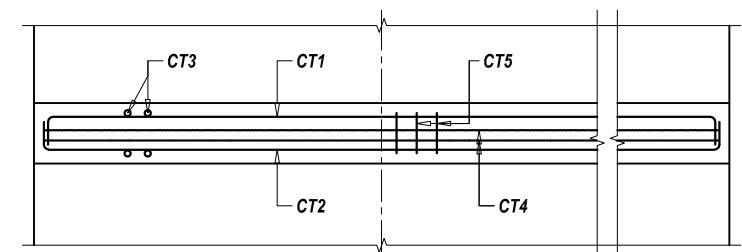
DETAILS AT 4



SECTIONAL SIDE VIEW



ELEVATION VIEW

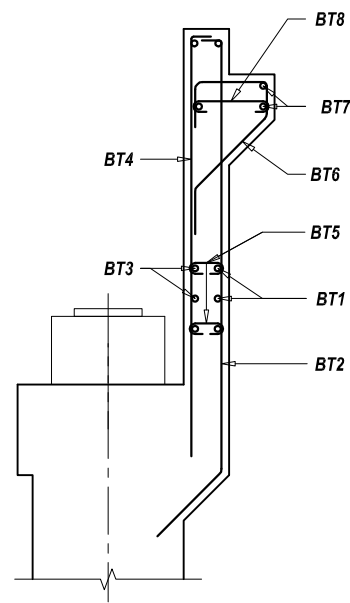


FRONT VIEW

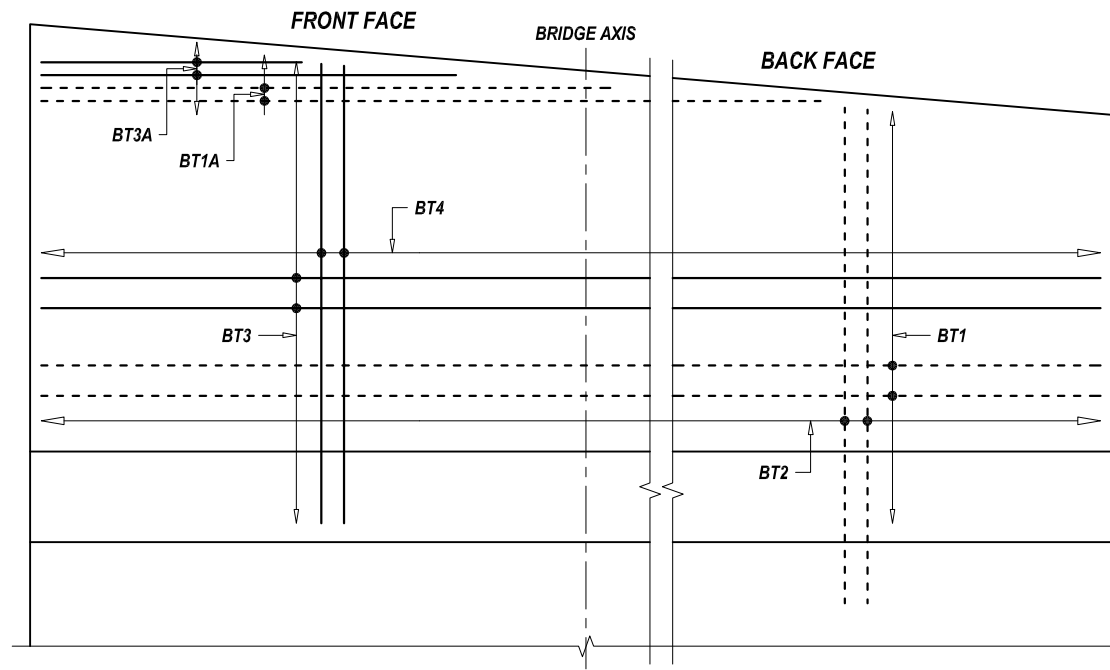
BAR DETAIL AT ABUTMENT CAP
SCALE - 1 : 75

--- TOP BAR OR
NEAR FACE REINFORCEMENT
--- BOTTOM BAR OR
FAR FACE REINFORCEMENT

EMPLOYER Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	PROJECT NAME Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	DESIGN CONSULTANTS Joint Venture of EPTISA Servicios De Ingenieria Madrid, Spain STUP Consultants Private Limited Kolkata, India In Association With Udaya Consultancy, Geocom International, Sundar Kirti Consultant and Rays Consultant Private Limited	Designed By Mr. R.A. Nec.No. 6431 CIVIL 'A' Checked By Mr. S.M. Approved By Mr. H.B.	Drawing Name ABUTMENT REINFORCEMENT DETAILS OF BRIDGE OVER RIVER SUKHAJOR Reference Drawings KDP/DPR/STR/BR/SUKHAJOR/DD-9	Scale: AS SHOWN Chainage: 258+735	Date: 05.05.2023 Drawing No.- KDP/DPR/STR/BR/SUKHAJOR/DD-8 Sheet No. 1 / 2
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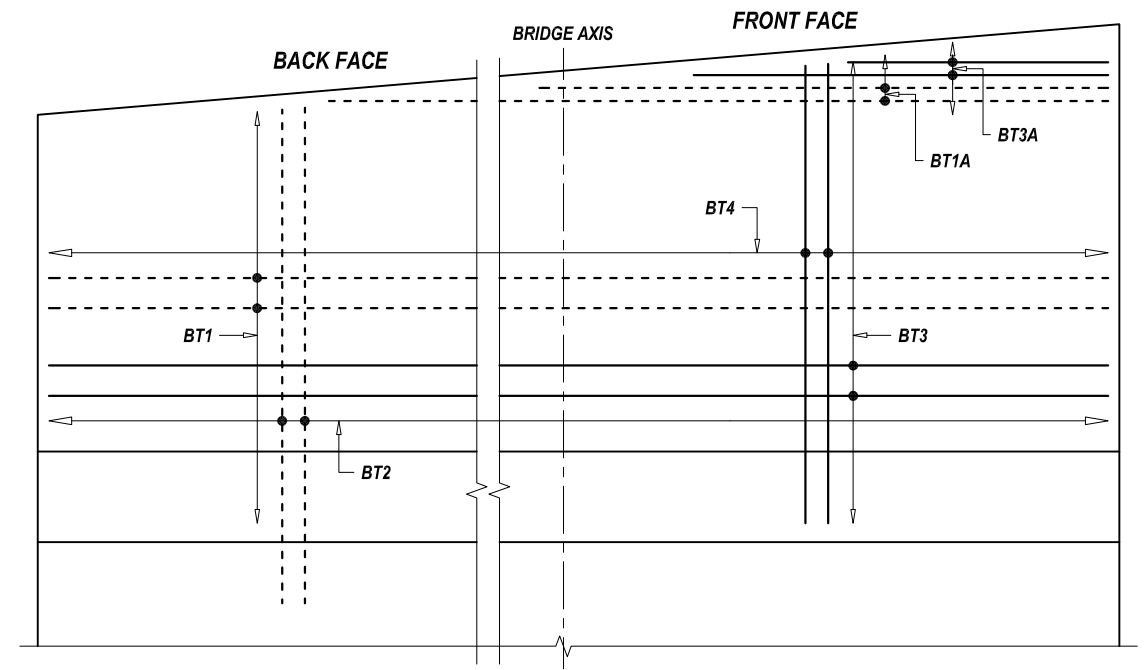
SECTIONAL SIDE VIEW



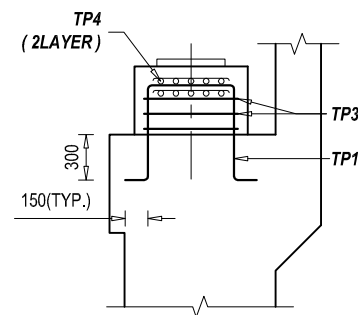
ELEVATION VIEW / VIEW AT D1

BAR DETAIL AT DIRT WALL

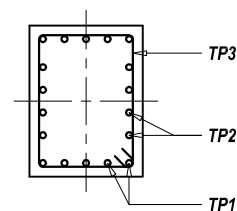
SCALE - 1 : 50



ELEVATION VIEW / VIEW AT D2

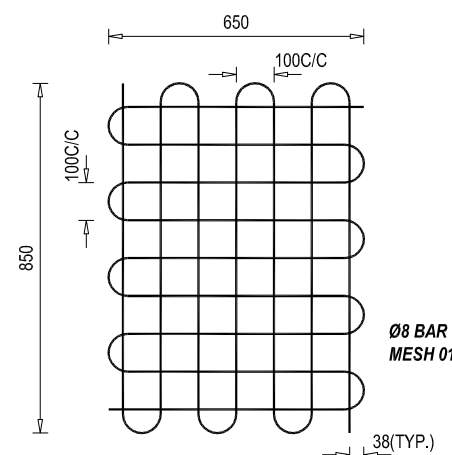


SECTIONAL SIDE VIEW



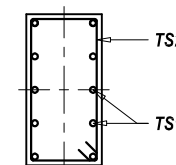
SECTIONAL PLAN VIEW
BAR DETAIL AT PEDESTAL

SCALE - 1 : 50

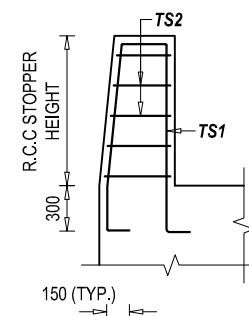


REINFORCEMENT DETAILS OF
BEARING MESH

SCALE - 1 : 50

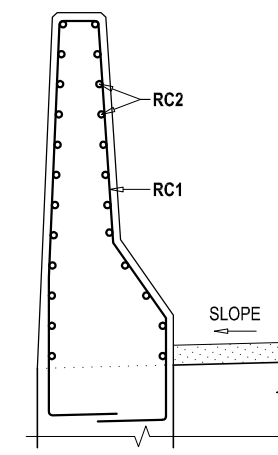


SECTIONAL PLAN VIEW



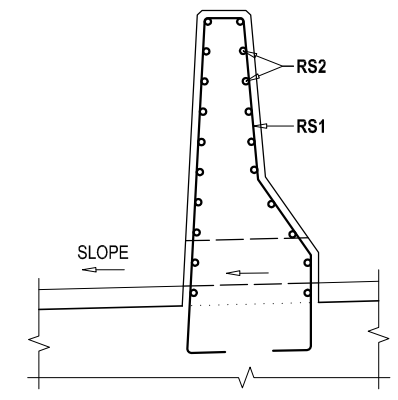
R.C.C STOPPER LEFT
ELEVATION VIEW

SCALE - 1 : 50



REINFORCEMENT DETAILS OF
R.C.C BARRIER (B)- SECTIONAL VIEW

SCALE - 1 : 25



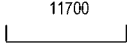
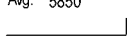
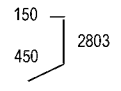
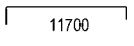
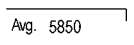
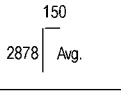
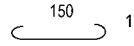
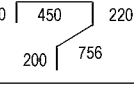
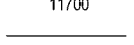
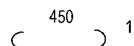
REINFORCEMENT DETAILS OF
R.C.C SEPARATOR - SECTIONAL VIEW

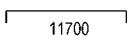
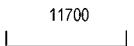
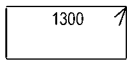
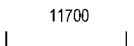
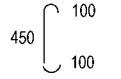
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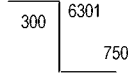
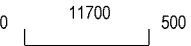
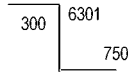
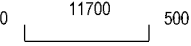
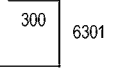
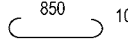
--- TOP BAR OR
NEAR FACE REINFORCEMENT
--- BOTTOM BAR OR
FAR FACE REINFORCEMENT

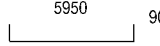
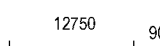
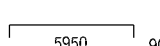
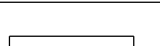
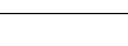
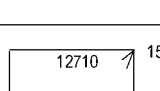
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READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/SUKHAJOR/DD-4

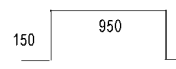
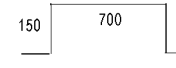
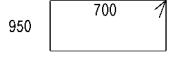
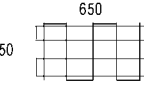
EMPLOYER	PROJECT NAME	DESIGN CONSULTANTS	Designed By	Mr. R.A.	Drawing Name	Scale:	Date:
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlajaya Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of  EPTISA Servicios De Ingeniera Madrid, Spain  STUP Consultants Private Limited Kolkata, India In Association With Udaya Consultancy, Geocom International, Sundar Kritt Consultant and Rays Consultant Private Limited	Mr. S.M.	Mr. S.M.	ABUTMENT REINFORCEMENT DETAILS OF BRIDGE OVER RIVER SUKHAJOR Reference Drawings KDP/DPR/STR/BR/SUKHAJOR/DD-9	AS SHOWN Chainage: 258+735	05.05.2023
			Checked By	Mr. H.B.			Drawing No.- KDP/DPR/STR/BR/SUKHAJOR/DD-8
			Approved By	Mr. H.B.			Sheet No. 2 / 2

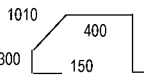
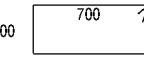
BAR BENDING SCHEDULE OF DIRT WALL								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	BT 1	150  150	16	200	12.000	17	1.580	322.37
2	BT 1A	Avg. 5850  150	16	200	6.000	3	1.580	28.44
3	BT 2	150  2803 Avg.	16	125	3.403	96	1.580	516.25
4	BT 3	150  150	16	200	12.000	13	1.580	246.52
5	BT3A	Avg. 5850  150	16	200	6.000	3	1.580	28.44
6	BT 4	150  2878 Avg.	12	125	3.028	96	0.889	258.39
7	BT 5	100  100	12	500	0.350	96	0.889	29.87
8	BT 6	200  220	12	200	1.826	61	0.889	99.01
9	BT 7	11700 	16		11.700	5	1.580	92.44
10	BT 8	100  100	12	200	0.650	120	0.889	69.33
TOTAL (KG) :								1691.07

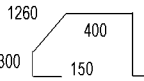
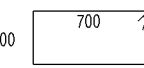
BAR BENDING SCHEDULE OF ABUTMENT CAP								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	CT 1	300  300	16	150	12.300	11	1.580	213.81
2	CT 2	300  300	16	150	12.300	11	1.580	213.81
3	CT 3	450  100	16	150	3.700	80	1.580	467.75
4	CT 4	300  300	12	150	12.000	8	0.889	85.33
5	CT 5	450  100	12	Long. 150 Trans.300	0.650	382	0.889	220.71
TOTAL (KG) :								1201.41

BAR BENDING SCHEDULE OF ABUTMENT STEM								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	ST 1	300  750	25		7.351	100	3.858	2836.03
2	ST 2	500  500	16	170	12.700	24	1.580	481.66
3	ST 3	300  750	25		7.351	100	3.858	2836.03
4	ST 4	500  500	16	170	12.700	24	1.580	481.66
5	ST 5	300  750	16		7.351	12	1.580	139.40
6	ST 6	100  100	12	Ver. 475 Hor.475	1.050	225	0.889	210.00
TOTAL (KG) :								6984.78

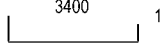
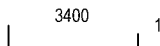
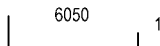
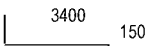
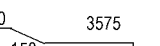
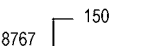
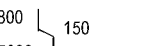
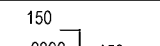
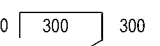
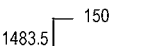
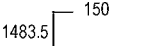
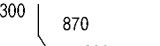
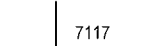
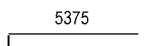
BAR BENDING SCHEDULE OF PILE CAP								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	FT 1	900  900	25		7.750	100	3.858	2989.97
2	FT 2	900  900	20		14.550	50	2.469	1796.30
3	FT 3	900  900	16		7.750	100	1.580	1224.69
4	FT 4	900  900	16		14.550	50	1.580	1149.63
5	FT 5	100  100	10	Long. 250 Trans.500	1.850	607	0.617	693.18
6	FT 6	5900  150	16	200	37.520	8	1.580	474.33
TOTAL (KG) :								8328.09

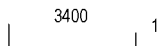
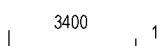
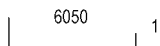
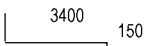
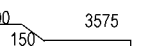
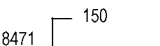
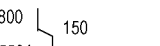
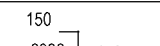
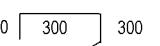
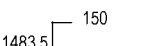
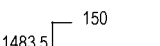
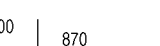
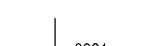
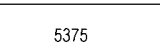
BAR BENDING SCHEDULE OF PEDESTAL								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	TP 1	150  Avg. 650	16	150	2.850	6	1.580	27.02
1	TP 2	150  Avg. 650	16	150	2.350	8	1.580	29.71
2	TP 3	950  100	16	150	3.500	3	1.580	16.59
1	TP 4	850  @ 100	8		13.400	2	0.395	10.59
TOTAL (KG) :								83.91
TOTAL NOS OF PEDESTAL :								4.00
TOTAL WEIGHT (KG) :								335.64

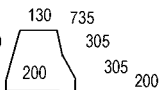
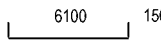
BAR BENDING SCHEDULE OF RCC SEISMIC ARRESTER - LEFT								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	TS1-L	1010  1270	16	150	3.280	6	1.580	31.10
2	TS2-L	400  100	12	150	2.400	7	0.889	14.93
TOTAL (KG) :								46.03

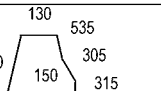
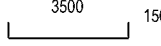
BAR BENDING SCHEDULE OF RCC SEISMIC ARRESTER - RIGHT								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	TS1-R	1260  1525	16	150	3.785	6	1.580	35.89
2	TS2-R	400  100	12	150	3.400	9	0.889	27.20
TOTAL (KG) :								63.09

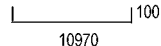
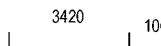
EMPLOYER		PROJECT NAME		DESIGN CONSULTANTS		Designed By		Drawing Name		Scale:		Date:	
	Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges		Joint Venture of		Mr. R.A.		ABUTMENT BAR BENDING SCHEDULE OF BRIDGE OVER RIVER SUKHAJOR		AS SHOWN		03.08.2023	
				EPTISA Servicios De Ingeniera Madrid, Spain		Mr. S.M.						Drawing No.- KDP/DPR/STR/BR/SUKHAJOR/DD- 9	
				In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited		Mr. H.B.		Reference Drawings -		Chainage: 258+735		Sheet No. 1 / 2	

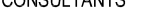
BAR BENDING SCHEDULE OF RETURN WALL - LEFT								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	RT1A	450 	12	150	4.000	48	0.889	170.67
2	RT1B	450 	12	150	4.000	48	0.889	170.67
3	RT2A	450 	12	150	6.650	21	0.889	124.13
4	RT2B	150 	12	150	4.300	21	0.889	80.27
5	RT2C		12	150	4.475	21	0.889	83.53
6	RT3A	8767 	12	150	9.367	18	0.889	149.87
7	RT3B		16	150	7.200	18	1.580	204.80
8	RT3C		16	150	3.992	18	1.580	113.55
9	RT3D	200 	16	150	1.210	43	1.580	82.22
10	RT4A	1483.5 	12	150	1.784	50	0.889	79.27
11	RT4B	1483.5 	16	150	1.784	50	1.580	140.92
12	RT5	300 	12	150	1.470	69	0.889	90.16
13	RT6		12		7.117	2	0.889	12.65
14	RT7	225 	20		5.6	4	2.469	55.31
TOTAL (KG) :								1558.02

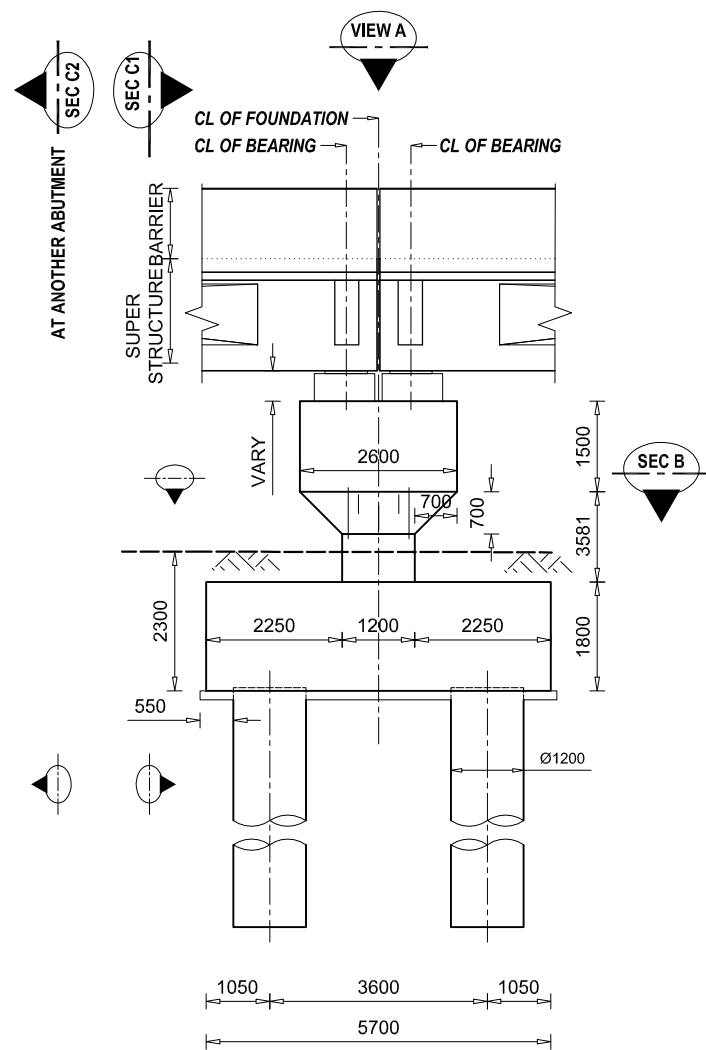
BAR BENDING SCHEDULE OF RETURN WALL - RIGHT								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	RT1A	450 	12	150	4.000	46	0.889	163.56
2	RT1B	450 	12	150	4.000	46	0.889	163.56
3	RT2A	450 	12	150	6.650	21	0.889	124.13
4	RT2B	150 	12	150	4.300	21	0.889	80.27
5	RT2C		12	150	4.475	21	0.889	83.53
6	RT3A	8471 	12	150	9.071	18	0.889	145.14
7	RT3B		16	150	6.904	18	1.580	196.38
8	RT3C		16	150	3.992	18	1.580	113.55
9	RT3D	200 	16	150	1.210	43	1.580	82.22
10	RT4A	1483.5 	12	150	1.784	50	0.889	79.27
11	RT4B	1483.5 	16	150	1.784	50	1.580	140.92
12	RT5	300 	12	150	1.470	69	0.889	90.16
13	RT6		12		6.821	2	0.889	12.13
14	RT7	225 	20		5.6	4	2.469	55.31
TOTAL (KG) :								1530.11

BAR BENDING SCHEDULE OF R.C.C BARRIER								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	RC1		16	150	3.170	42	1.580	210.39
2	RC2	150 	10	150	6.400	20	0.617	79.01
TOTAL (KG) :								289.41

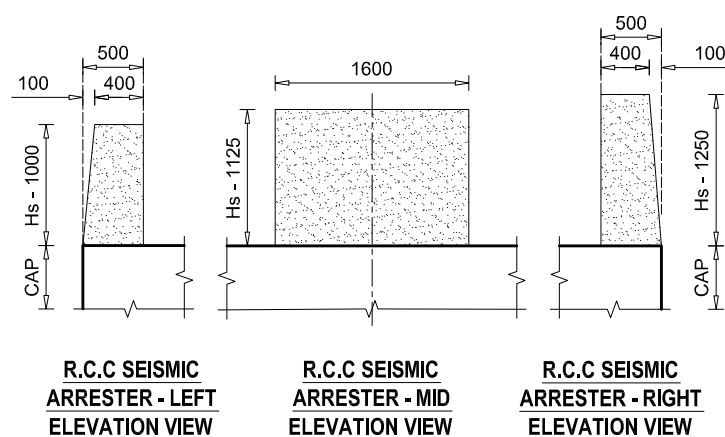
BAR BENDING SCHEDULE OF R.C.C SEPARATOR								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	RS1		16	150	2.695	25	1.580	106.47
2	RS2	150 	10	150	3.800	17	0.617	39.88
TOTAL (KG) :								146.35

BAR BENDING SCHEDULE OF APPROACH SLAB								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	1601	100 	16	150	11.170	48	1.580	847.27
2	1202	100 	12	150	3.620	150	0.889	482.67
TOTAL (KG) :								1329.93

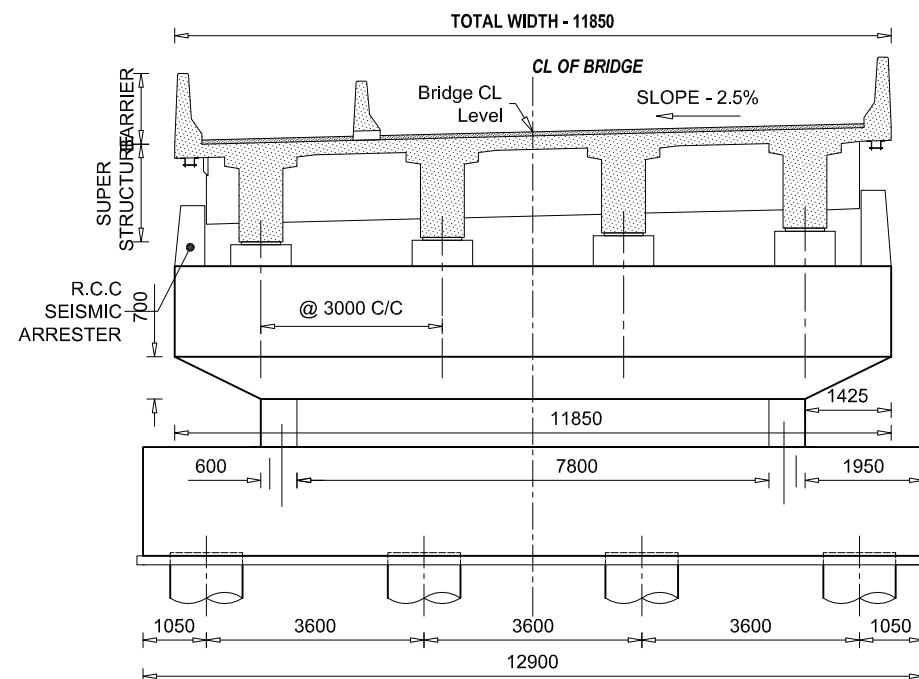
EMPLOYER		PROJECT NAME		DESIGN CONSULTANTS		Designed By	Mr. R.A.		Drawing Name	Scale:	Date:
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of		Checked By	Mr. S.M.						
		 EPTISA Servicios De Ingeniera Madrid, Spain	 STUP Consultants Private Limited Kolkata, India								
				In Association With Udaya Consultancy, Geocom International, Sundar Krilli Consultant and Rays Consultant Private Limited		Approved By	Mr. H.B.		-	258+735	Sheet No. 2 / 2



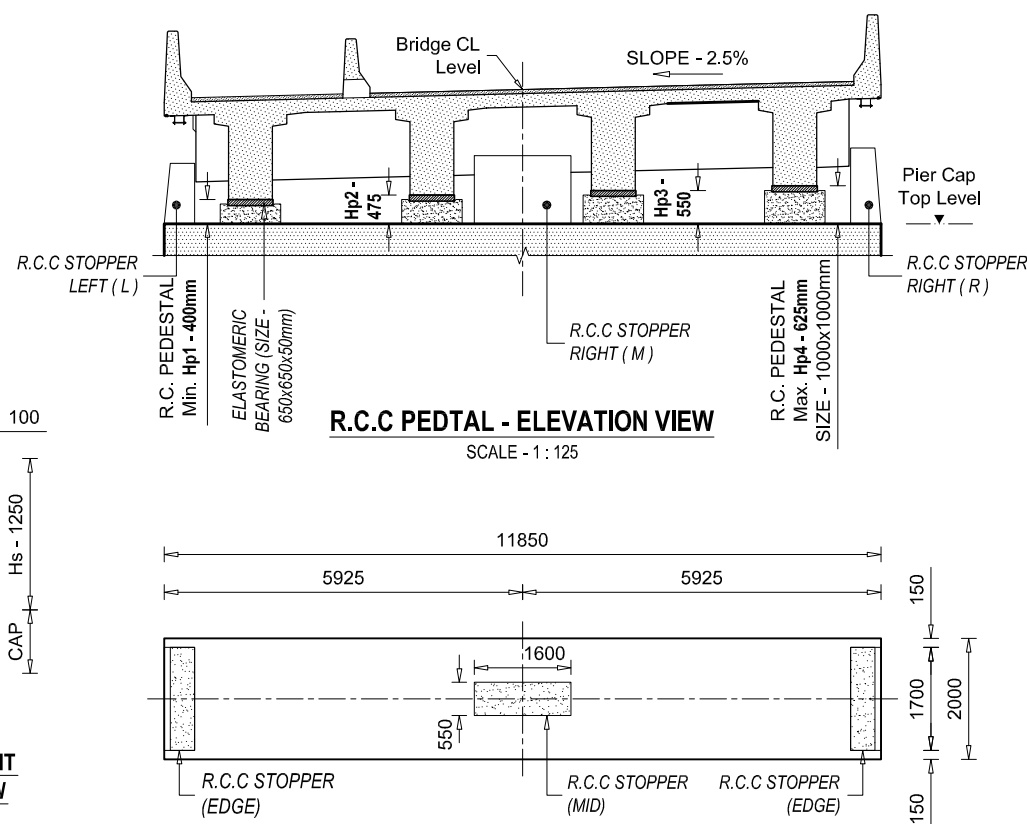
ELEVATION VIEW OF PIER
SCALE - 1: 125



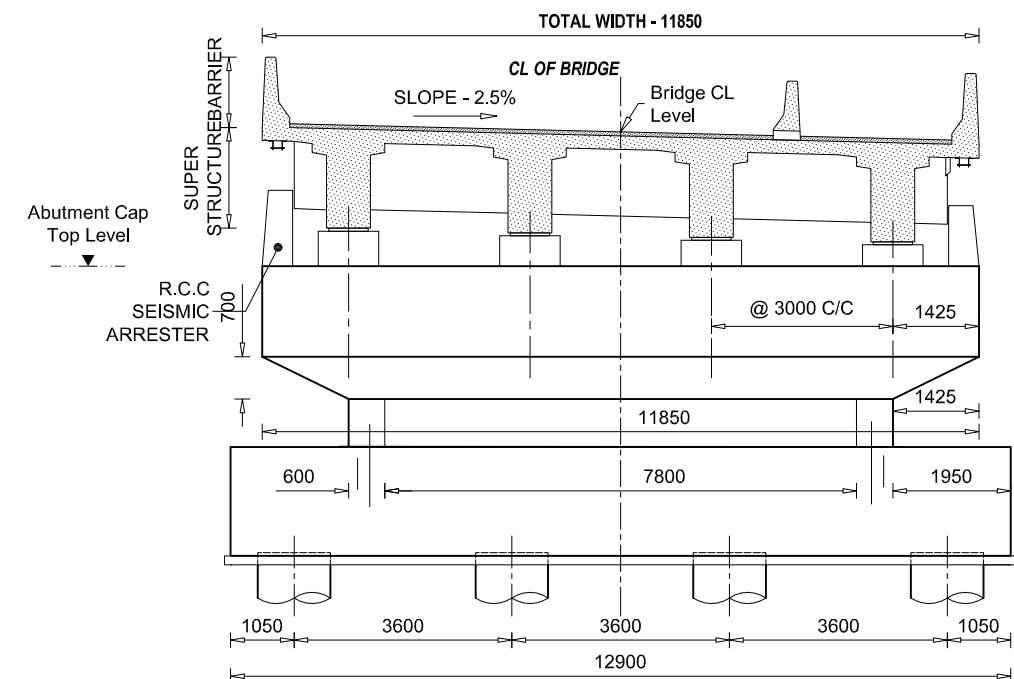
DETAIL AT PEDESTAL
SCALE - 1: 75



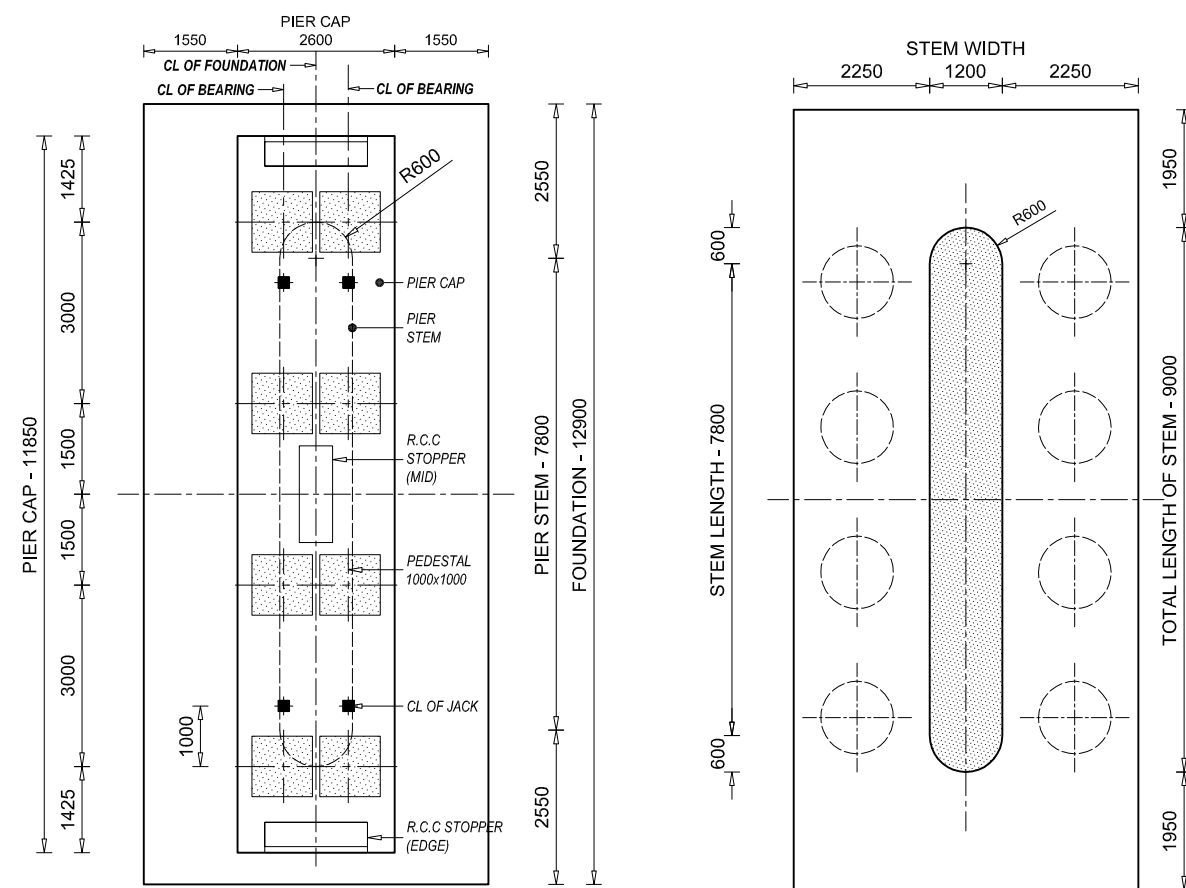
SECTIONAL VIEW AT C1 - C1
SCALE - 1: 125



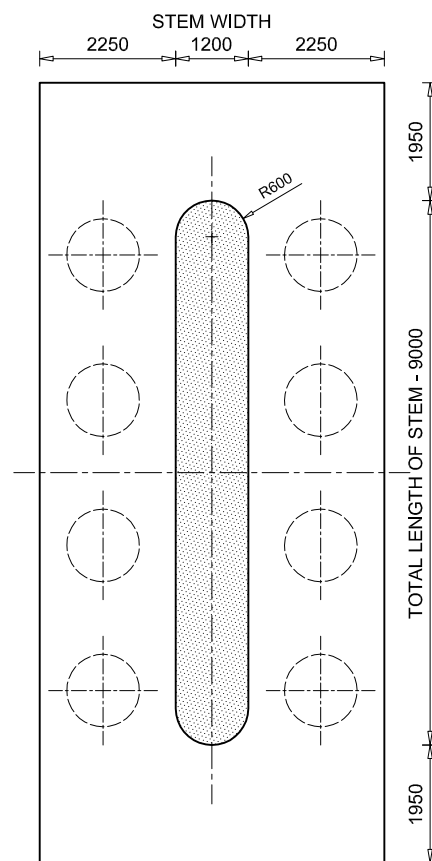
DETAIL AT R.C.C SEISMIC ARRESTER
SCALE - 1: 150



SECTIONAL VIEW AT C2 - C2
SCALE - 1: 125



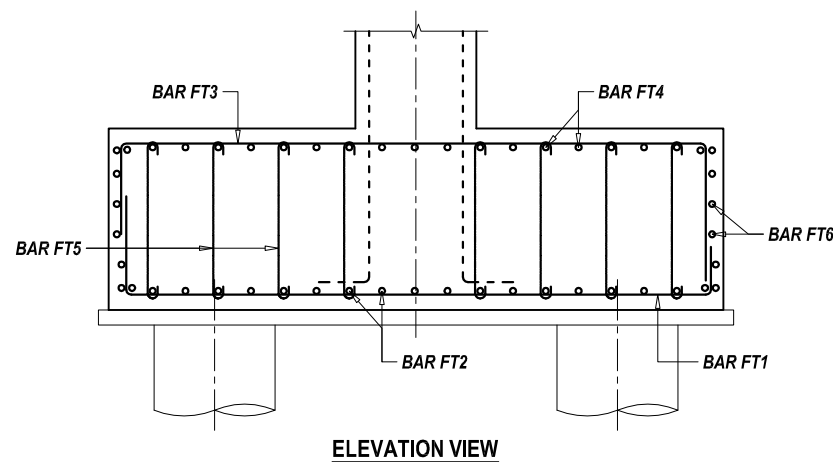
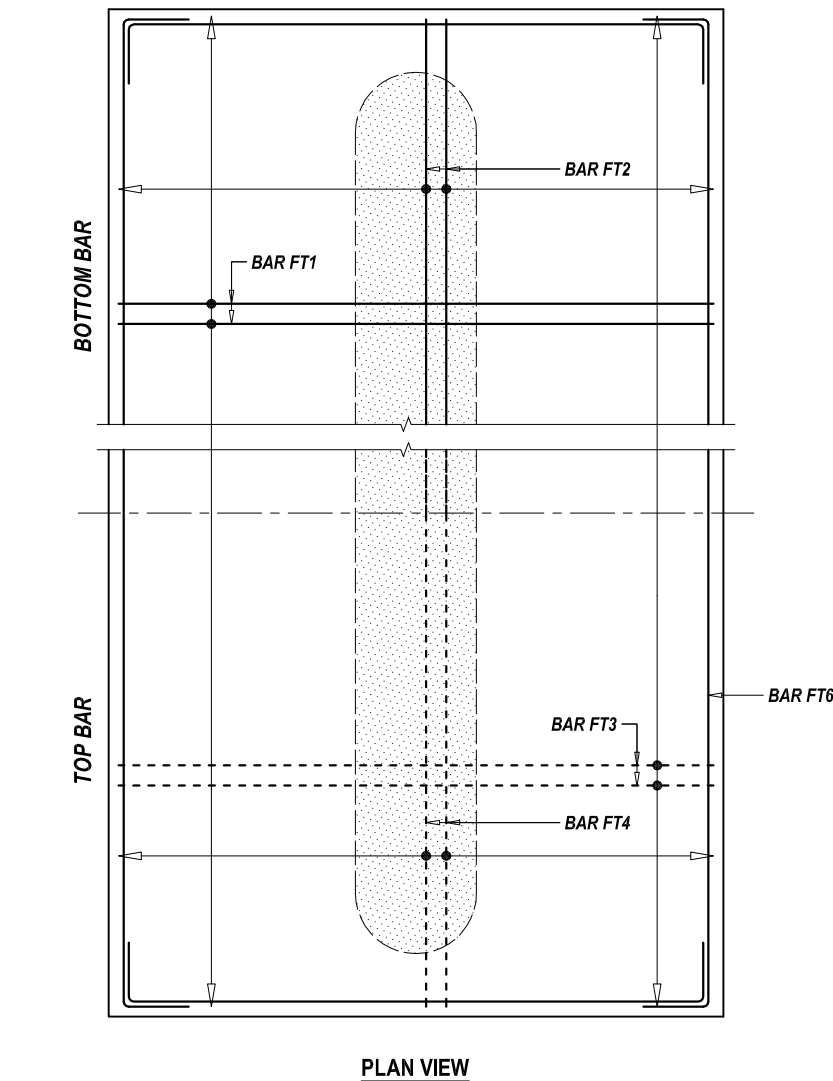
PLAN VIEW OF PIER (VIEW AT A)
SCALE - 1: 125



SECTIONAL VIEW AT B - B
SCALE - 1: 125

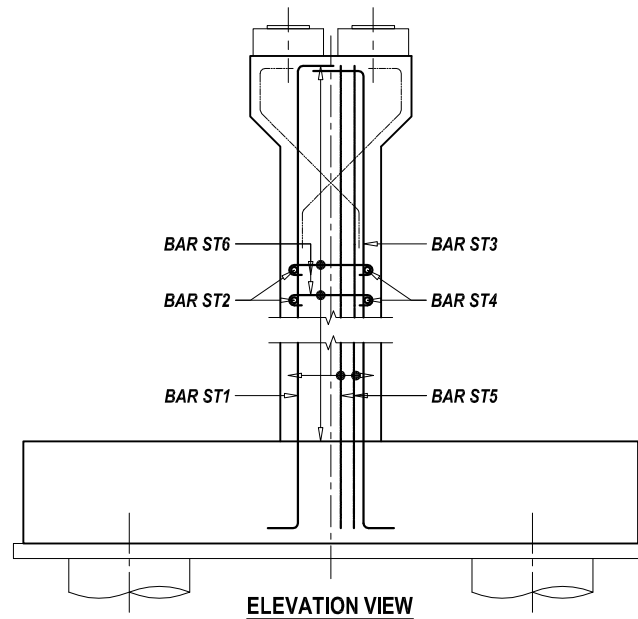
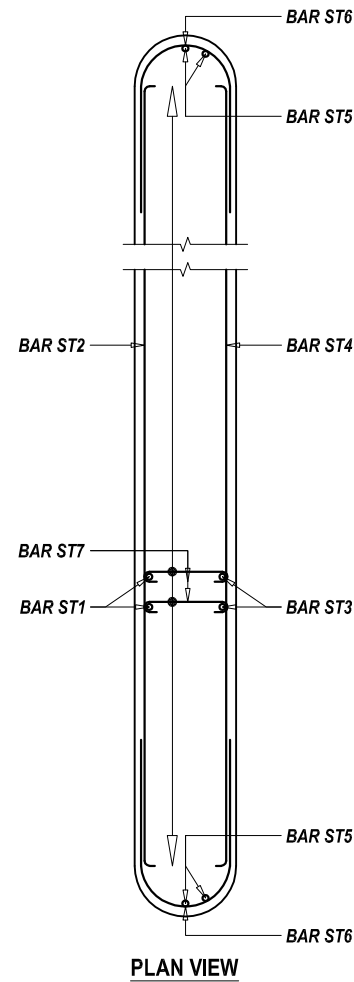
NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/SUKHAJAJOR/DD-4

EMPLOYER	PROJECT NAME	DESIGN CONSULTANTS	Designed By	Drawing Name	Scale:	Date:
Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of ep4saePTISA Servicios De Ingenieria Madrid, Spain STUP Consultants Private Limited Kolkata, India In Association With Udaya Consultancy, Geocom International, Sundar Krti Consultant and Rays Consultant Private Limited	Mr. R.A. Nec.No. 6431 CIVIL/TA Signature	PIER DETAILS OF BRIDGE OVER RIVER SUKHAJAJOR	AS SHOWN	03.08.2023
			Checked By Mr. S.M. Signature	Reference Drawings KDP/DPR/STR/BR/SUKHAJAJOR/DD-12	Chainage: 258+735	Drawing No.- KDP/DPR/STR/BR/SUKHAJAJOR/DD- 10
			Approved By Mr. H.B. Signature			Sheet No. 1/1



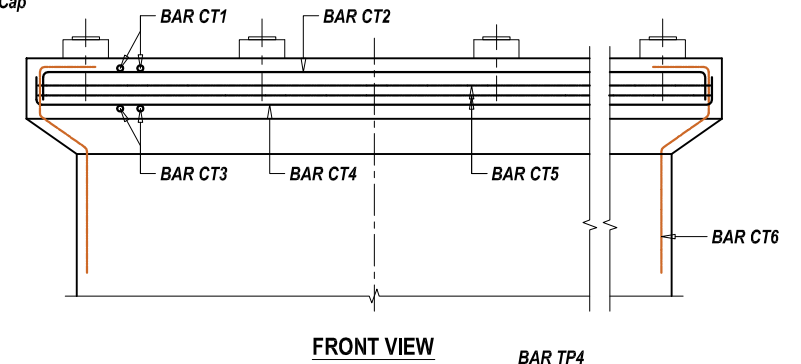
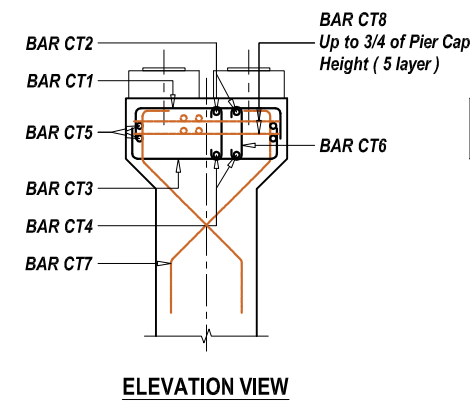
BAR DETAIL OF FOUNDATION

SCALE - 1 : 75



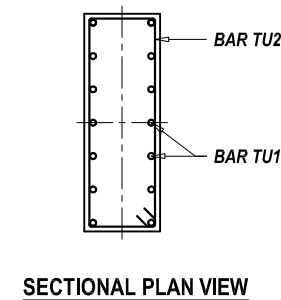
BAR DETAIL AT PIER STEM

SCALE - 1 : 75

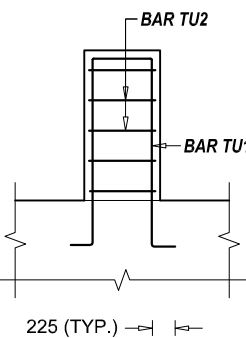


BAR DETAIL AT PIER CAP

SCALE - 1 : 75



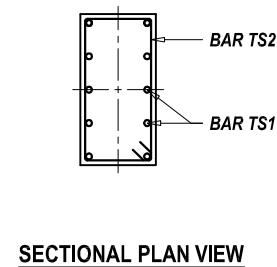
R.C.C STOPPER HEIGHT



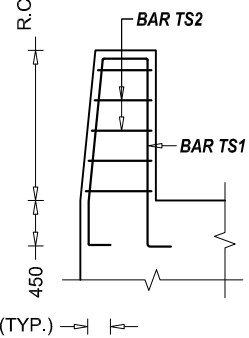
SECTIONAL ELEVATION VIEW

R.C.C STOPPER AT MID

SCALE - 1 : 50



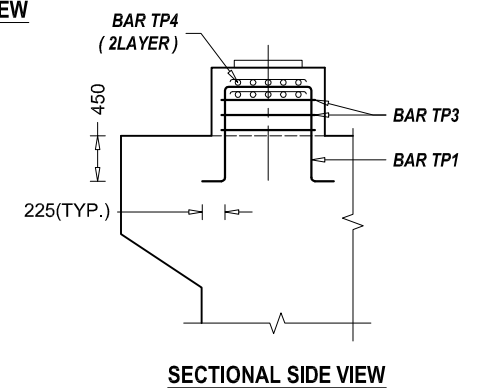
SECTIONAL PLAN VIEW



SECTIONAL ELEVATION VIEW

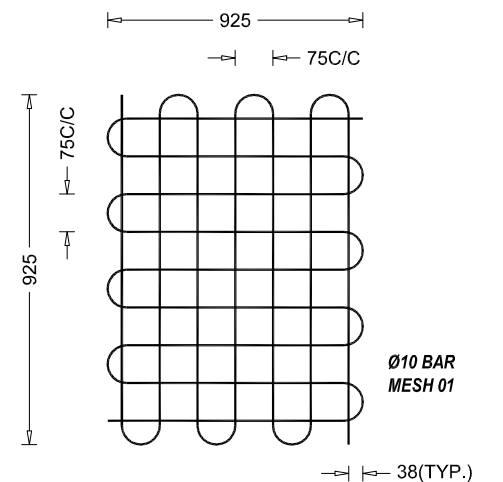
R.C.C STOPPER AT EDGE

SCALE - 1 : 50



**SECTIONAL PLAN VIEW
BAR DETAIL AT PEDESTAL**

SCALE - 1 : 50



SCALE - 1 : 50

--- TOP BAR OR NEAR FACE REINFORCEMENT
--- BOTTOM BAR OR FAR FACE REINFORCEMENT

NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/SUKHAJAJOR/DD-4



Government of Nepal
Ministry of Physical Infrastructure and Transport
Department of Roads
Development Cooperation Implementation
Division

PROJECT NAME
Strategic Road Connectivity & Trade Improvement Project (SRCTIP)
Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges

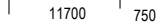
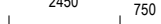
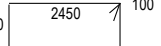
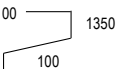
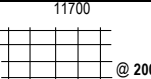
DESIGN CONSULTANTS
Joint Venture of
ep4saePTISA Servicios De Ingenieria Madrid, Spain
STUP Consultants Private Limited Kolkata, India
In Association With
Udaya Consultancy, Geocom International, Sundar Krti Consultant and Rays Consultant Private Limited

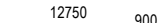
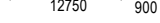
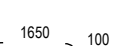
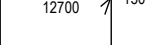
Designed By Mr. R.A.
Nec.No. 6431 CIVIL/TA
Checked By Mr. S.M.
Approved By Mr. H.B.

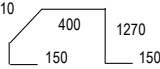
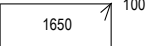
Drawing Name
PIER BAR DETAIL OF BRIDGE OVER RIVER SUKHAJAJOR
Reference Drawings
KDP/DPR/STR/BR/SUKHAJAJOR/DD-12

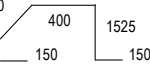
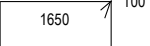
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Chainage:
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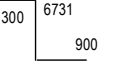
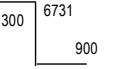
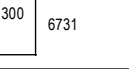
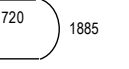
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03.08.2023
Drawing No.- KDP/DPR/STR/BR/SUKHAJAJOR/DD- 11
Sheet No.1/1

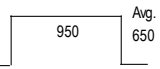
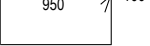
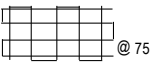
BAR BENDING SCHEDULE OF PIER CAP								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	CT1	750  750	20		3.950	50	2.469	487.65
2	CT2	750  750	20		13.200	18	2.469	586.67
3	CT3	750  750	20		3.950	50	2.469	487.65
4	CT4	750  750	20		13.200	18	2.469	586.67
5	CT5	11700  100	16	150	28.500	11	1.580	495.41
6	CT6	100  100	16	X: 280 Y: 480	1.550	225	1.580	551.11
7	CT7	 100	16	150	1.550	137	1.580	335.57
8	CT8	2450  @ 200	16		296.650	5 Layer	1.580	2343.90
TOTAL (KG) :								5874.63

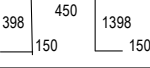
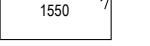
BAR BENDING SCHEDULE OF PILE CAP								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	FT1	900  900	25		7.350	98	3.858	2778.94
2	FT2	900  900	25		14.550	50	3.858	2806.71
3	FT3	900  900	25		7.350	98	3.858	2778.94
4	FT4	900  900	25		14.550	50	3.858	2806.71
5	FT5	100  100	16	Long 225 Trans 250	1.85	1258	1.580	3677.71
6	FT6	5500  150	16	200	36.700	8	1.580	463.96
TOTAL (KG) :								15312.97

BAR BENDING SCHEDULE OF RCC SEISMIC ARRESTER - LEFT								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	TS1-L	1010  150	16	150	3.280	13	1.580	67.38
2	TS2-L	400  100	12	150	4.300	7	0.889	26.76
TOTAL (KG) :								94.14

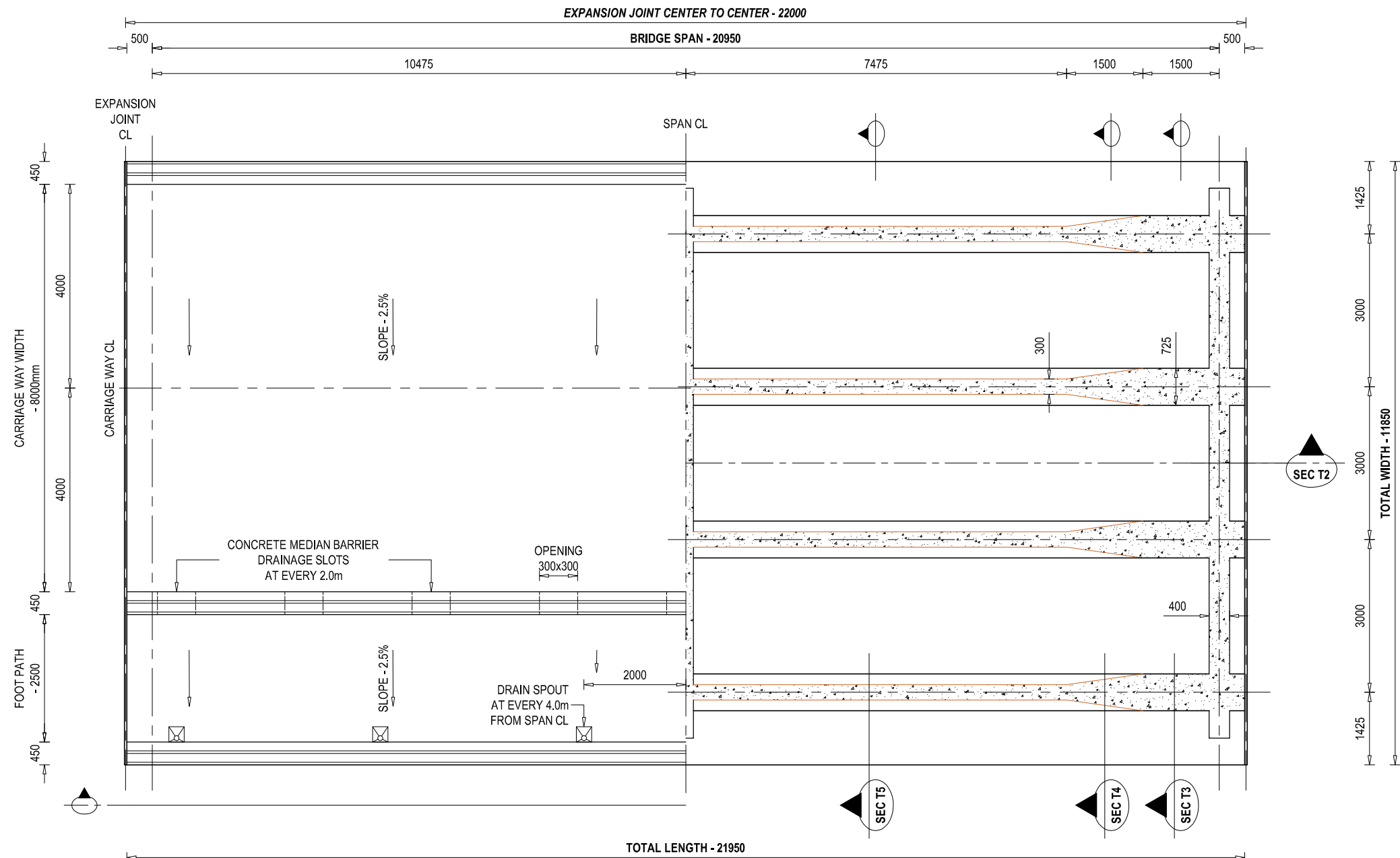
BAR BENDING SCHEDULE OF RCC SEISMIC ARRESTER - RIGHT								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	TS1-R	1260  150	16	150	3.785	13	1.580	77.76
2	TS2-R	400  100	12	150	4.300	9	0.889	34.40
TOTAL (KG) :								112.16

BAR BENDING SCHEDULE OF PIER STEM								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	ST1	300  900	25		7.931	55	3.858	1682.89
2	ST2	100  100	16	200	7.850	18	1.580	223.29
3	ST3	300  900	25		7.931	55	3.858	1682.89
4	ST4	100  100	16	200	7.850	18	1.580	223.29
5	ST5	900  6731	25		7.931	12	3.858	367.18
5	ST6	720  1885	16	200	3.325	36	1.580	189.16
6	ST7	100  100	12	Ver. 140 Hor. 400	1.250	598	0.889	664.44
TOTAL (KG) :								5033.13

BAR BENDING SCHEDULE OF PEDESTAL								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	TP1	150  650	16	150	2.850	8	1.580	36.03
2	TP2	150  650	16	150	2.850	8	1.580	36.03
3	TP3	950  100	16	150	4.000	3	1.580	18.96
4	TP4	925  @ 75	8		24.675	2	0.395	19.50
TOTAL (KG) :								110.52

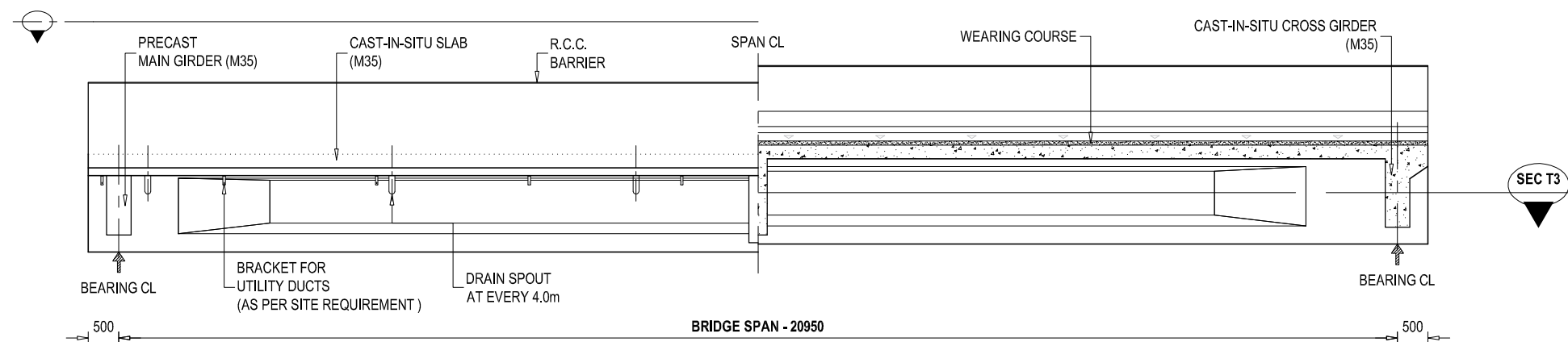
BAR BENDING SCHEDULE OF RCC SEISMIC ARRESTER - MID								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	TU1	1398  150	16	150	3.546	13	1.580	72.85
2	TU2	450  100	12	150	4.200	8	0.889	29.87
TOTAL (KG) :								102.71

EMPLOYER		PROJECT NAME		DESIGN CONSULTANTS		Designed By		Drawing Name		Scale:		Date:	
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division		Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges		Joint Venture of		Mr. R.A.		PIER BAR BENDING SCHEDULE OF BRIDGE OVER RIVER SUKHAJOR		AS SHOWN		03.08.2023	
				ep4sæPTISA Servicios De Ingeniera Madrid, Spain		Mr. S.M.						Drawing No.-KDP/DPR/STR/BR/SUKHAJOR/DD- 12	
				In Association With Udaya Consultancy, Geocom International, Sundar Krti Consultant and Rays Consultant Private Limited		Mr. H.B.		Reference Drawings		258+735		Sheet No. 1/1	



HALF SECTIONAL PLAN VIEW OF SUPERSTRUCTURE AT SEC T1

SCALE - 1 : 100 @ A3 PAPER

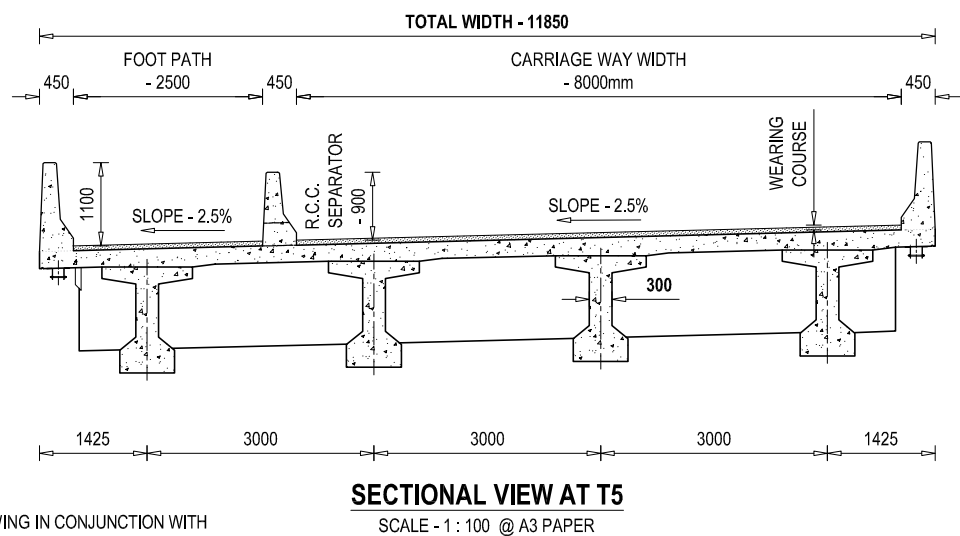
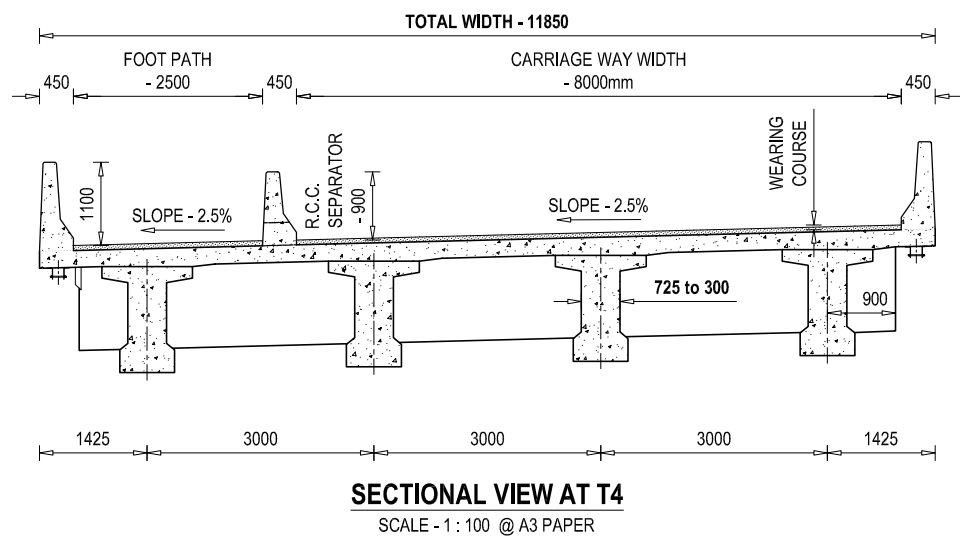
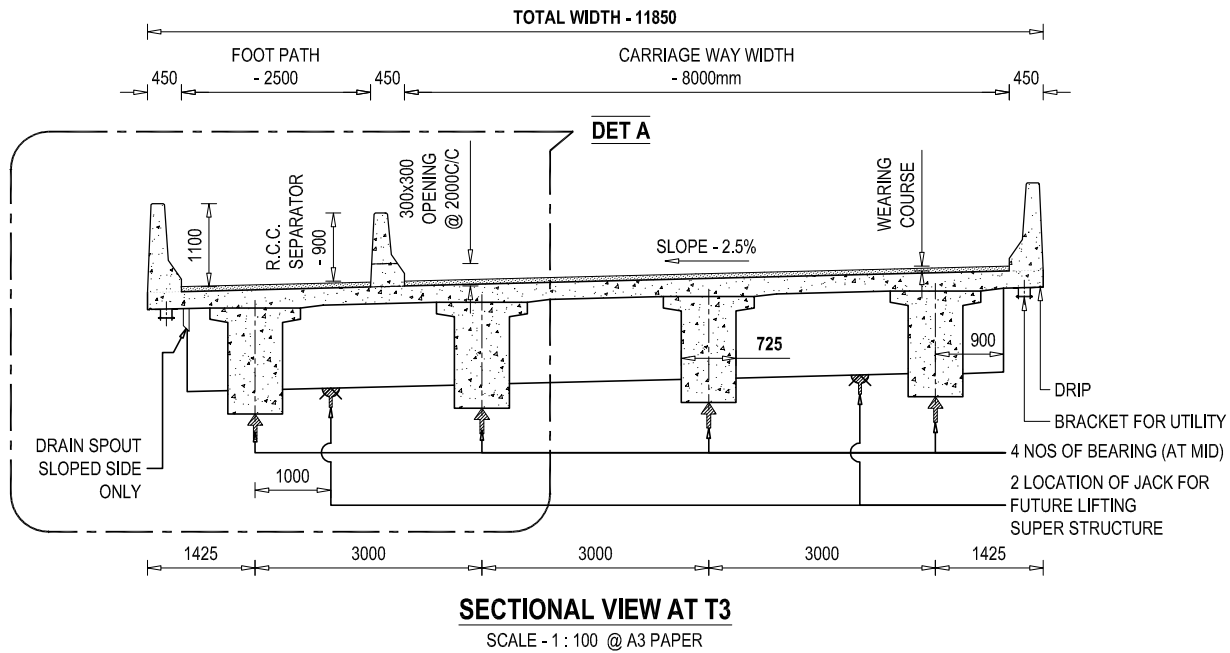


HALF ELEVATION SECTIONAL VIEW OF SUPERSTRUCTURE AT SEC T2

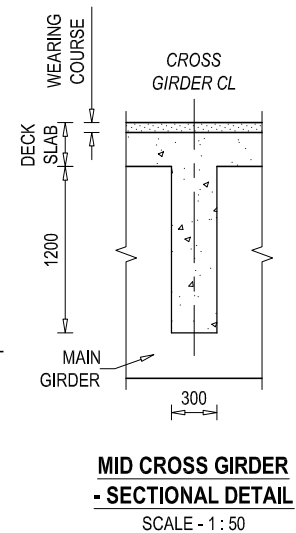
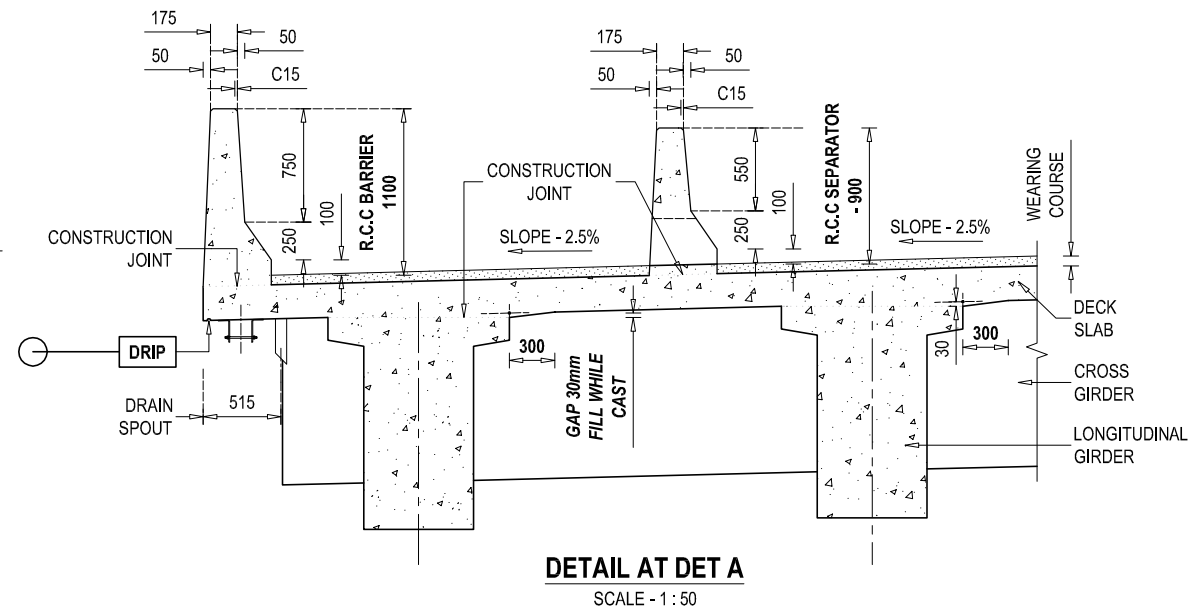
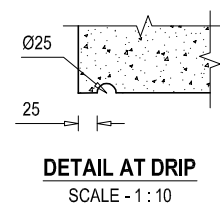
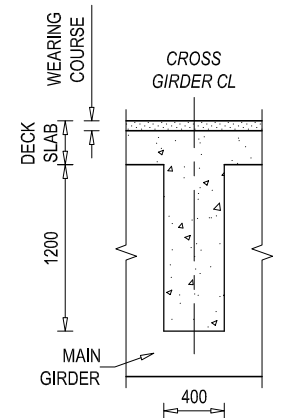
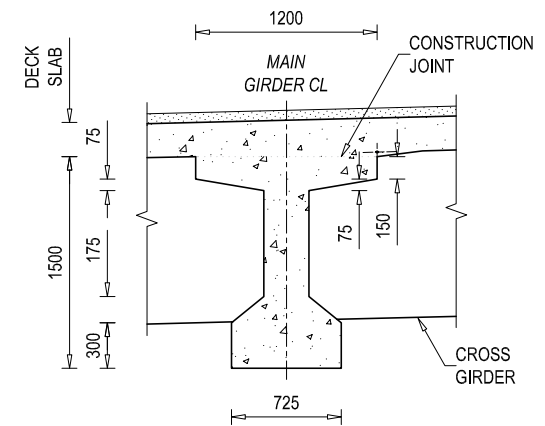
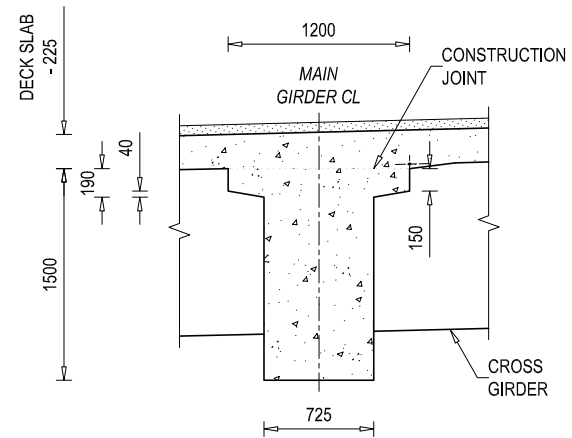
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NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/SUKHAJOR/DD-4

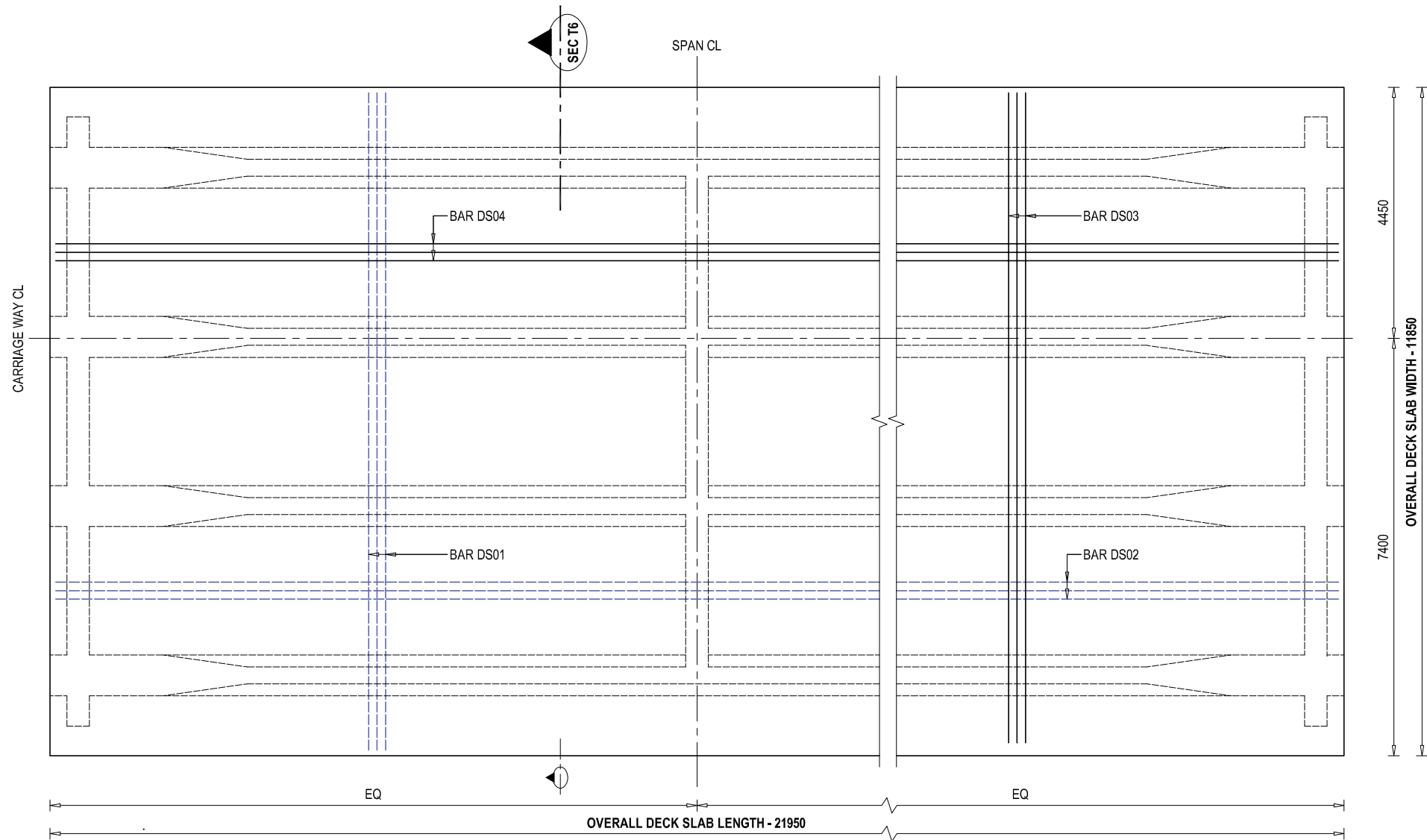
EMPLOYER	PROJECT NAME	DESIGN CONSULTANTS	Designed By	Mr. R.A.	Drawing Name	Scale:	Date:
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of  EPTISA Servicios De Ingenieria Madrid, Spain  STUP Consultants Private Limited Kolkata, India In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited	Checked By	Mr. S.M.	SUPER STRUCTURE DETAILS OF BRIDGE OVER RIVER SUKHAJOR Reference Drawings KDP/DPR/STR/BR/SUKHAJOR/DD-17	AS SHOWN Chainage: 258+735	24.04.2023
			Approved By	Mr. H.B.			Drawing No.- KDP/DPR/STR/BR/SUKHAJOR/DD- 13
							Sheet No. 1/2



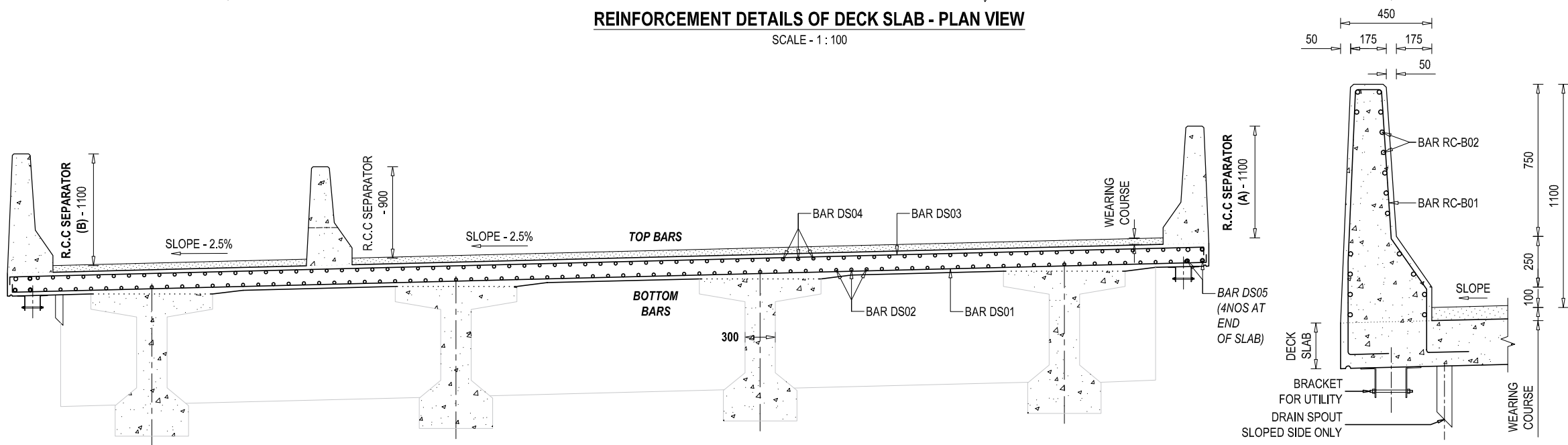
NOTE
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DRG NO. KDP/DPR/STR/BR/SUKHAJOR/DD-4



EMPLOYER Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	PROJECT NAME Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathkhaliya Road Section (130 KM) of Mahendra Highway and Bridges	DESIGN CONSULTANTS Joint Venture of eptisa EPTISA Servicios De Ingenieria Madrid, Spain STUP STUP Consultants Private Limited Kolkata, India In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited	Designed By Mr. R.A. Nec.No. 6431 CIVIL/14/ Checked By Mr. S.M. Approved By Mr. H.B.	Drawing Name SUPER STRUCTURE DETAILS OF BRIDGE OVER RIVER SUKHAJOR Reference Drawings KDP/DPR/STR/BR/SUKHAJOR/DD-17	Scale: AS SHOWN Chainage: 258+735	Date: 24.04.2023 Drawing No.- KDP/DPR/STR/BR/SUKHAJOR/DD- 13 Sheet No.2/2
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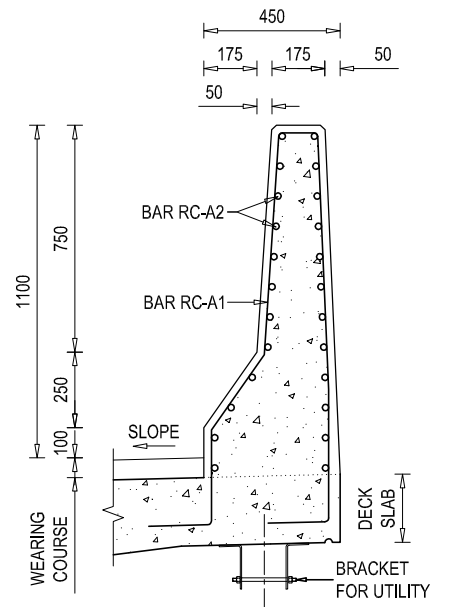
REINFORCEMENT DETAILS OF DECK SLAB - PLAN VIEW
SCALE - 1 : 100



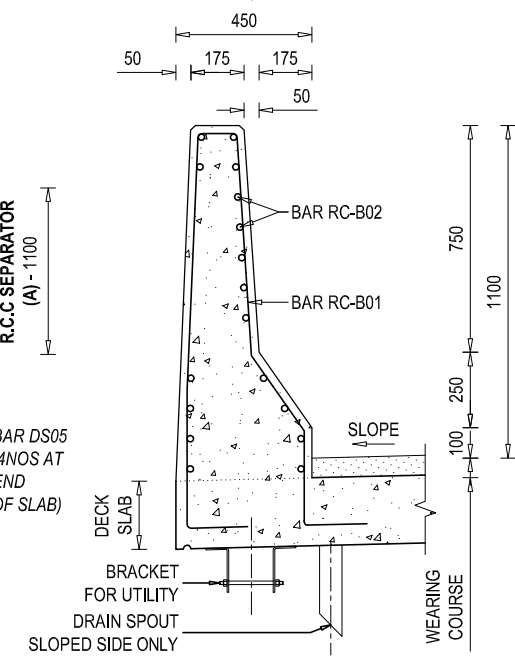
REINFORCEMENT DETAILS OF DECK SLAB - SECTIONAL VIEW AT T6
SCALE - 1 : 50

LEGEND FOR REINFORCEMENT BAR

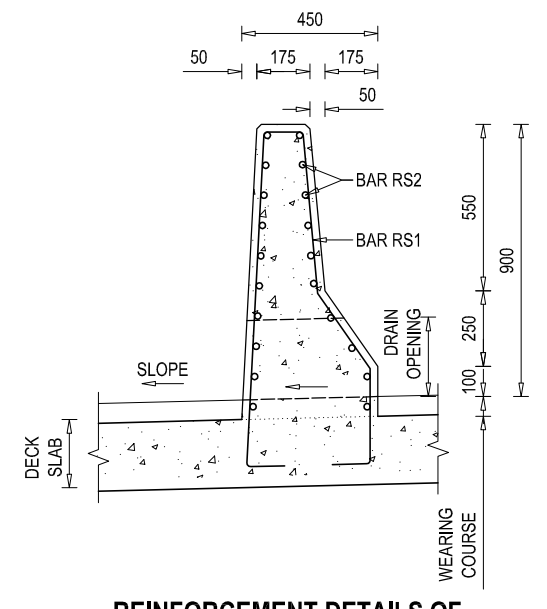
CODE	FULL FORM	
DS	- DECK SLAB	CG - CROSS GIRDER
RB	- R.C.C BARRIER	AS - APPROACH SLAB
RS	- R.C.C SEPARATOR	ST - STOPPER
MG	- MAIN GIRDER	** - ***
	TOP BAR OR NEAR FACE REINFORCEMENT	
	BOTTOM BAR OR FAR FACE REINFORCEMENT	



REINFORCEMENT DETAILS OF R.C.C BARRIER (A)- SECTIONAL VIEW
SCALE - 1 : 25



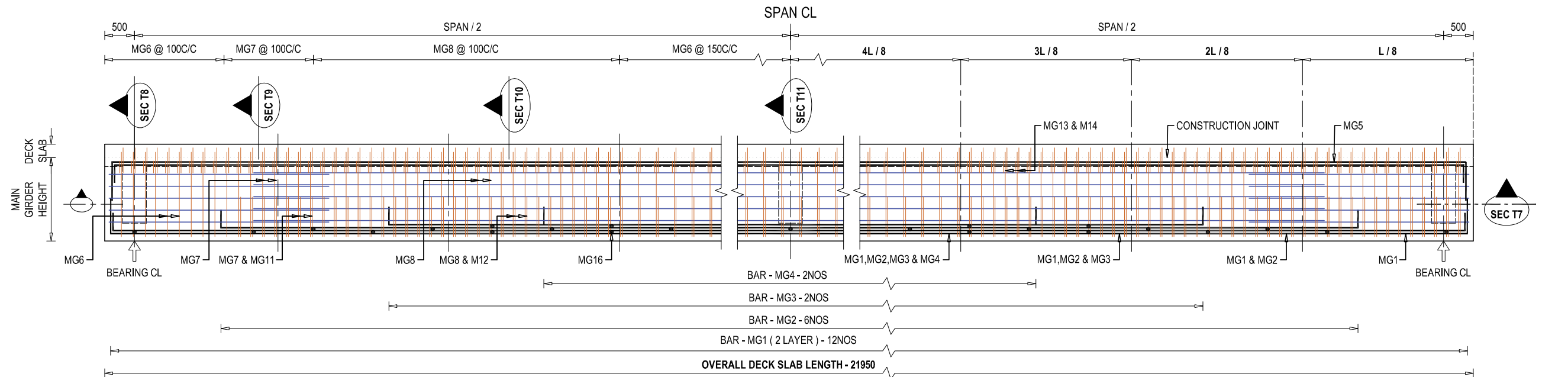
REINFORCEMENT DETAILS OF R.C.C BARRIER (B)- SECTIONAL VIEW
SCALE - 1 : 25



REINFORCEMENT DETAILS OF R.C.C SEPARATOR - SECTIONAL VIEW
SCALE - 1 : 25

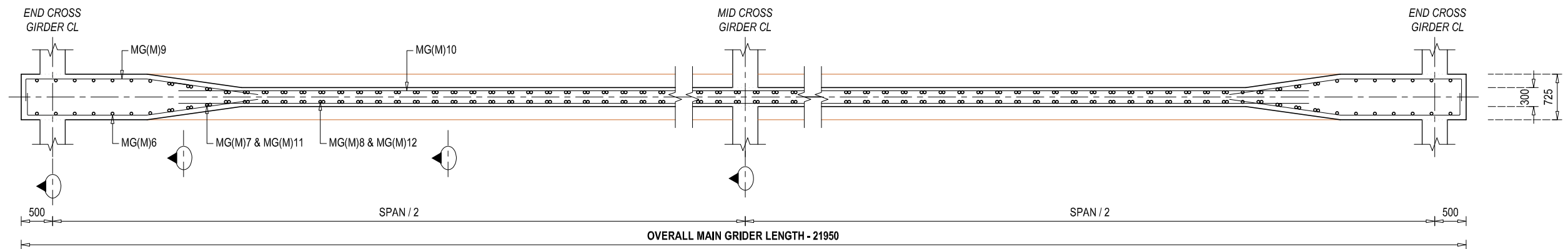
NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/SUKHAJOR/DD-4

EMPLOYER	PROJECT NAME	DESIGN CONSULTANTS		Designed By	Mr. R.A.		Drawing Name DECK SLAB DETAILS OF BRIDGE OVER RIVER SUKHAJOR	Scale: AS SHOWN	Date: 24.04.2023
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathahiya Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of			Nec.No. 6431 CH/6/14				
		 EPTISA Servicios De Ingenieria Madrid, Spain	 STUP Consultants Private Limited Kolkata, India	Checked By	Mr. S.M.		Reference Drawings KDP/DPR/STR/BR/SUKHAJOR/DD-17	Chainage: 258+735	Drawing No.- KDP/DPR/STR/BR/SUKHAJOR/DD- 14
		In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited		Approved By	Mr. H.B.				



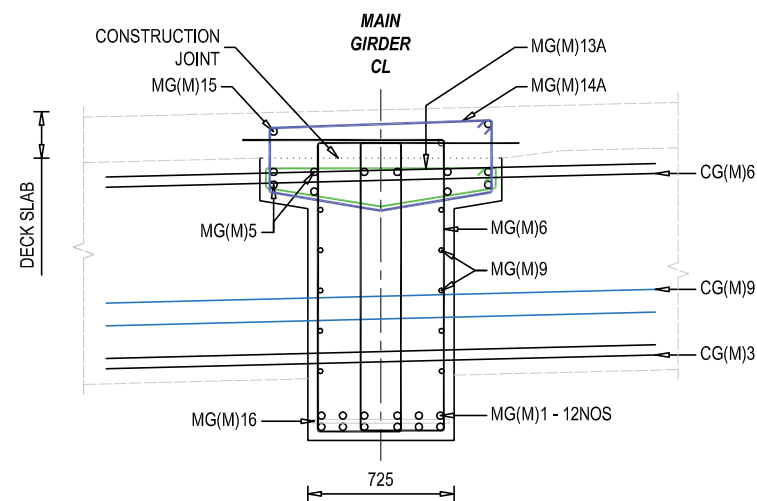
REINFORCEMENT DETAILS OF MAIN GIRDER - SECTIONAL ELEVATION VIEW

SCALE - 1 : 75



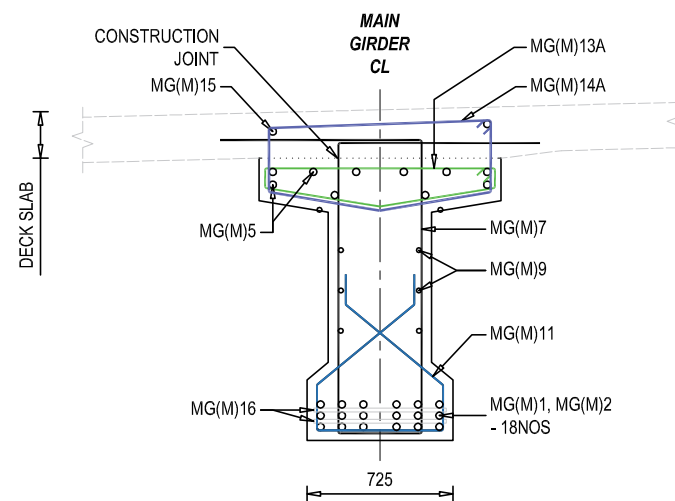
REINFORCEMENT DETAILS OF MAIN GIRDER (MID) - SECTIONAL PLAN VIEW AT T7(M)

SCALE - 1 : 75



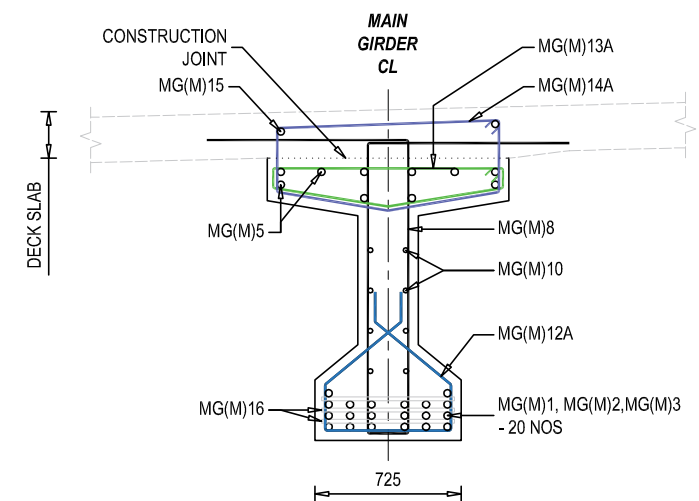
REINFORCEMENT DETAILS OF MAIN GIRDER SECTIONAL VIEW AT T8

SCALE - 1 : 50



REINFORCEMENT DETAILS OF MAIN GIRDER SECTIONAL VIEW AT T9

SCALE - 1 : 50



REINFORCEMENT DETAILS OF MAIN GIRDER SECTIONAL VIEW AT T10

SCALE - 1 : 50

NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/SUKHAJOR/DD-4



Government of Nepal
Ministry of Physical Infrastructure and Transport
Department of Roads
Development Cooperation Implementation
Division

PROJECT NAME
Strategic Road Connectivity & Trade Improvement Project (SRCTIP)
Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges

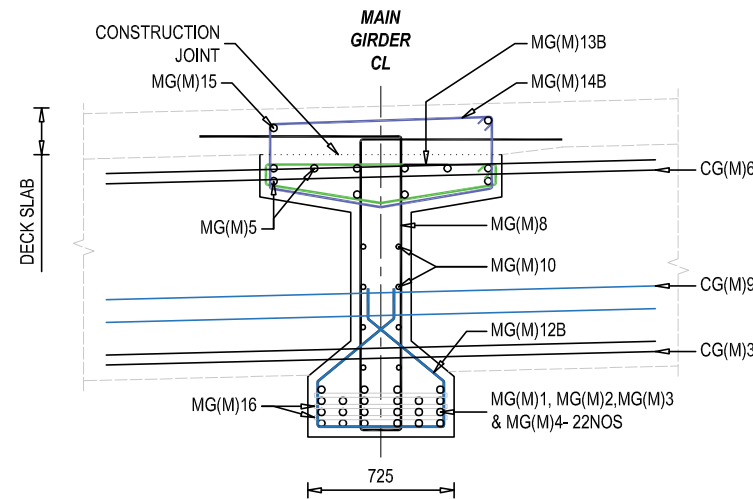
DESIGN CONSULTANTS
Joint Venture of
EPTISA Servicios De Ingeniera Madrid, Spain
STUP Consultants Private Limited Kolkata, India
In Association With
Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited

Designed By Mr. R.A.
Nec.No. 6431 CIVIL/14
Checked By Mr. S.M.
Approved By Mr. H.B.

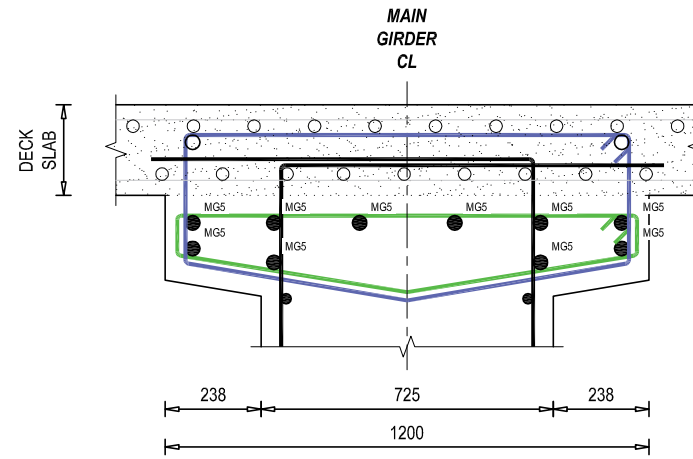
Drawing Name
MAIN GIRDER REINFORCEMENT DETAILS OF BRIDGE OVER RIVER SUKHAJOR
Reference Drawings
KDP/DPR/STR/BR/SUKHAJOR/DD-17

Scale:
AS SHOWN
Chainage:
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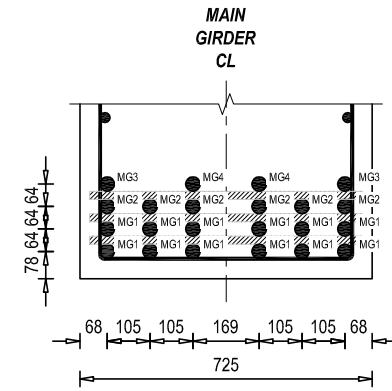
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24.04.2023
Drawing No.- KDP/DPR/STR/BR/SUKHAJOR/DD- 15
Sheet No.1/2



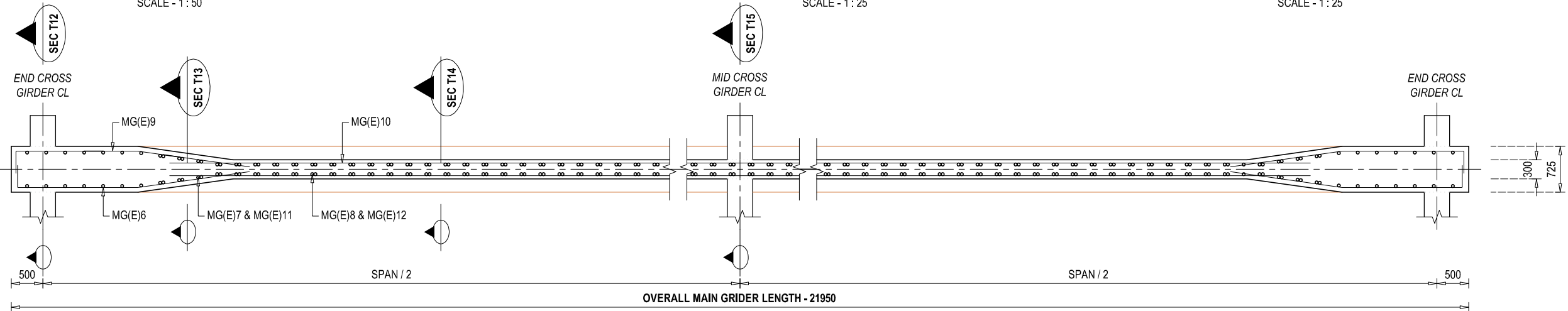
**REINFORCEMENT DETAILS OF MAIN GIRDER
SECTIONAL VIEW AT T11**
SCALE - 1 : 50



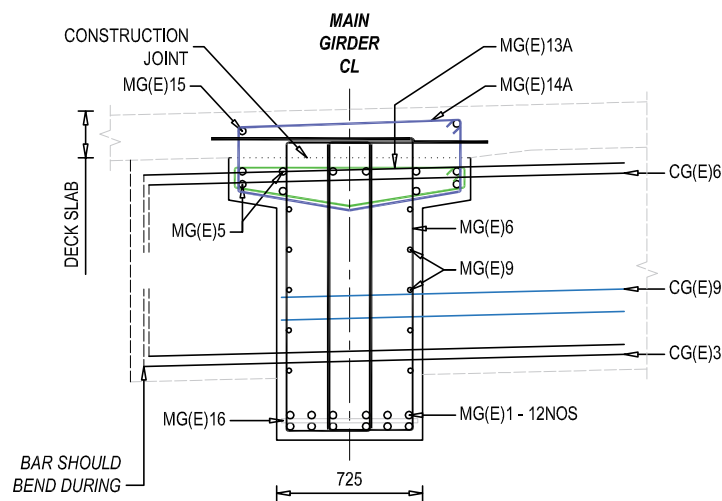
**TOP BAR WEB REINFORCEMENT DETAILS
OF MAIN GIRDER**
SCALE - 1 : 25



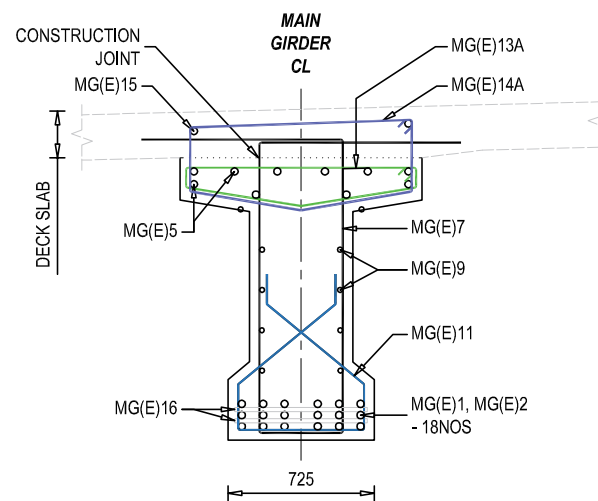
**BOTTOM BAR WEB REINFORCEMENT DETAILS
OF MAIN GIRDER**
SCALE - 1 : 25



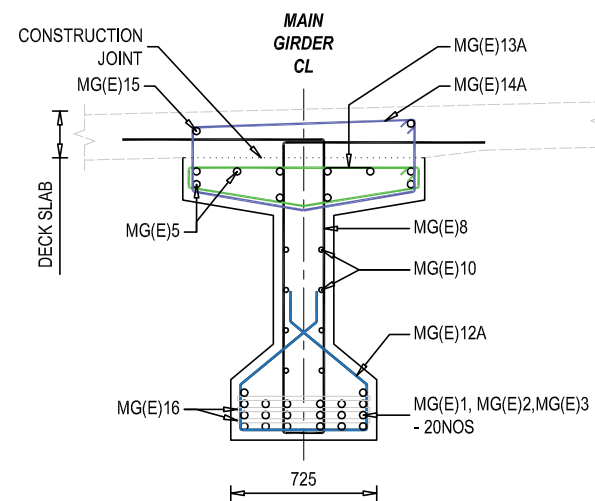
REINFORCEMENT DETAILS OF MAIN GIRDER (END) - SECTIONAL PLAN VIEW AT T7(E)
SCALE - 1 : 75



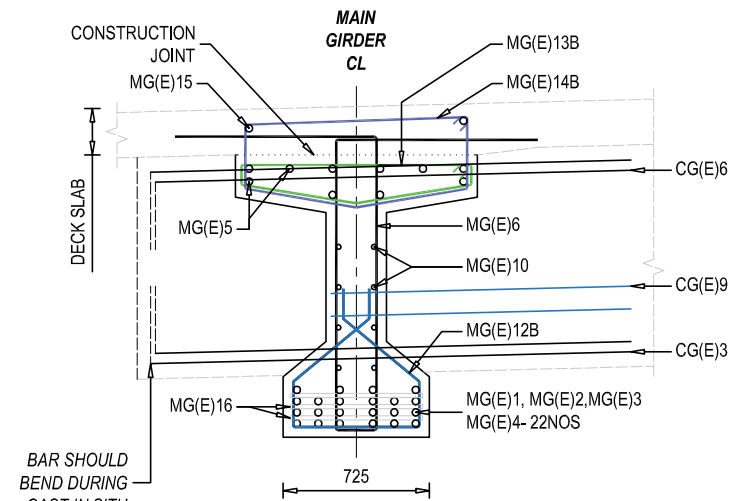
**REINFORCEMENT DETAILS OF MAIN GIRDER
SECTIONAL VIEW AT T12**
SCALE - 1 : 50



**REINFORCEMENT DETAILS OF MAIN GIRDER
SECTIONAL VIEW AT T13**
SCALE - 1 : 50



**REINFORCEMENT DETAILS OF MAIN GIRDER
SECTIONAL VIEW AT T14**
SCALE - 1 : 50



**REINFORCEMENT DETAILS OF MAIN GIRDER
SECTIONAL VIEW AT T15**
SCALE - 1 : 50

NOTE
READ THIS DRAWING IN CONJUNCTION WITH SCALE - 1 : 50
DRG NO. KDP/DPR/STR/BR/SUKHAJAJOR/DD-4



Government of Nepal
Ministry of Physical Infrastructure and Transport
Department of Roads
Development Cooperation Implementation
Division

PROJECT NAME
Strategic Road Connectivity & Trade Improvement Project (SRCTIP)
Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges

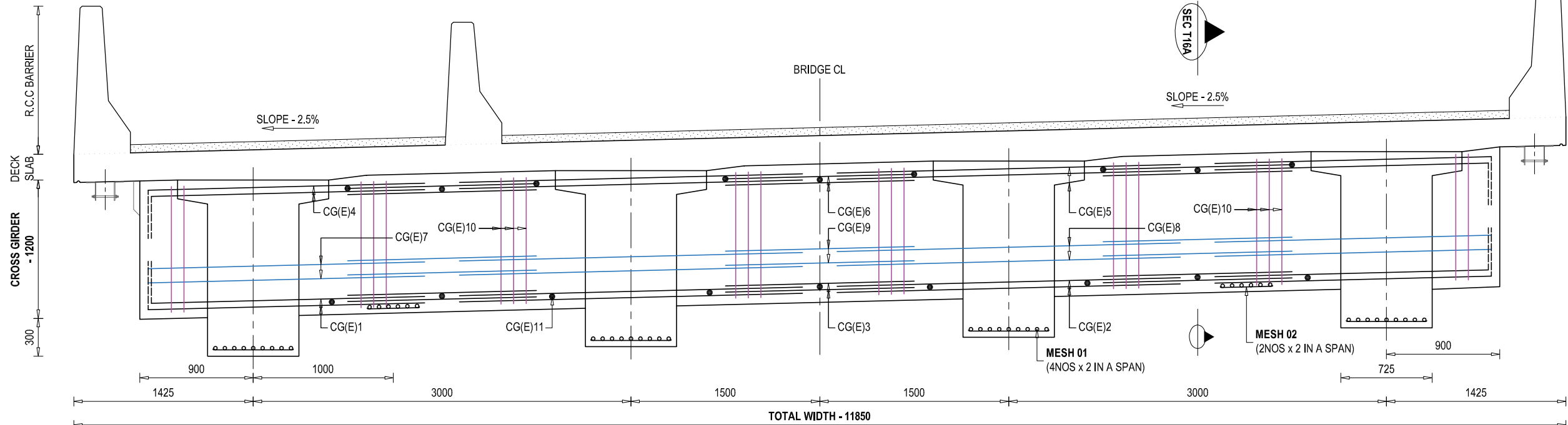
DESIGN CONSULTANTS
Joint Venture of
EPTISA Servicios De Ingeniera Madrid, Spain
STUP Consultants Private Limited Kolkata, India
In Association With
Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited

Designed By Mr. R.A.
Nec.No. 6431 CH/8/14
Checked By Mr. S.M.
Approved By Mr. H.B.

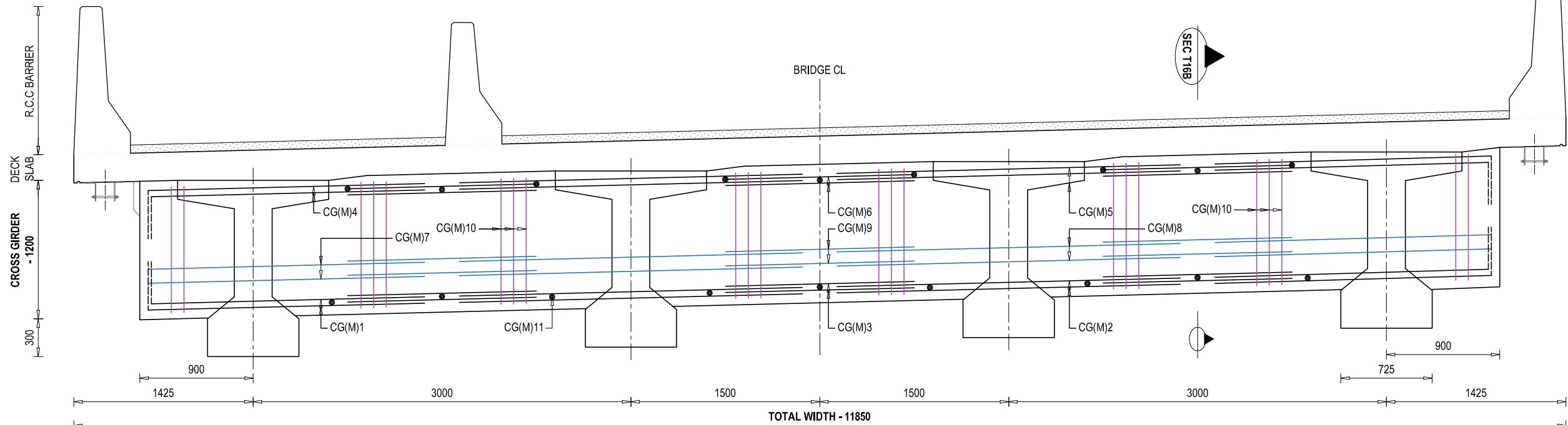
Drawing Name
MAIN GIRDER REINFORCEMENT DETAILS OF BRIDGE OVER RIVER SUKHAJAJOR
Reference Drawings
KDP/DPR/STR/BR/SUKHAJAJOR/DD-17

Scale:
AS SHOWN
Chainage:
258+735

Date:
24.04.2023
Drawing No.- KDP/DPR/STR/BR/SUKHAJAJOR/DD- 15
Sheet No. 2/2

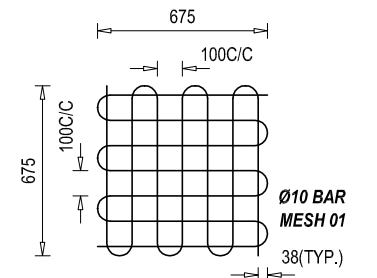


REINFORCEMENT DETAILS OF END CROSS GIRDER
SCALE - 1 : 50

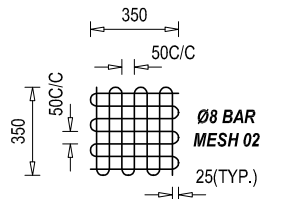


REINFORCEMENT DETAILS OF MID CROSS GIRDER
SCALE - 1 : 50

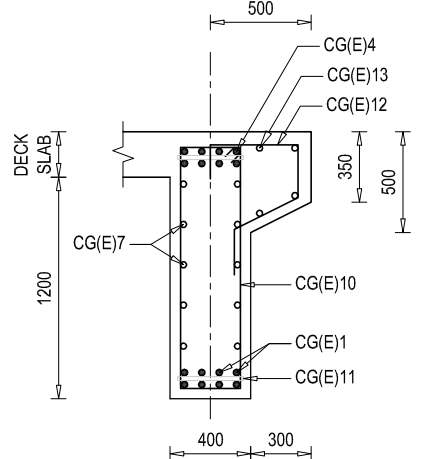
NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/SUKHAJAJOR/DD-4



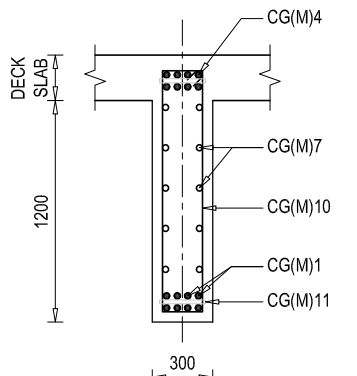
REINFORCEMENT DETAILS OF BEARING MESH
SCALE - 1 : 50



REINFORCEMENT DETAILS OF LIFTING MESH
SCALE - 1 : 50

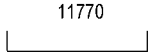
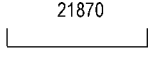
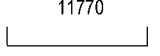
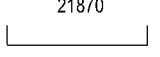
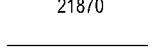


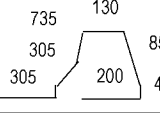
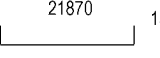
SECTIONAL REINFORCEMENT DETAILS OF END CROSS GIRDER - SEC T16A
SCALE - 1 : 50

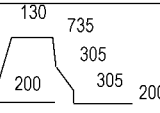
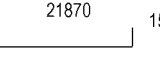


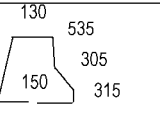
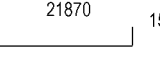
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SCALE - 1 : 50

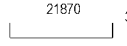
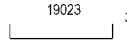
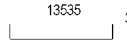
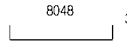
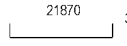
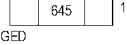
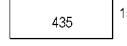
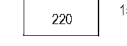
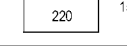
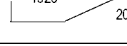
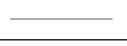
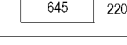
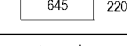
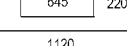
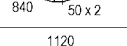
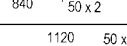
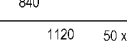
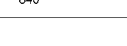
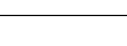
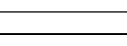
EMPLOYER Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	PROJECT NAME Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	DESIGN CONSULTANTS Joint Venture of EPTISA Servicios De Ingeniera Madrid, Spain STUP Consultants Private Limited Kolkatta, India In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited	Designed By Mr. R.A. Nec.No. 6431 CIVIL/14 Checked By Mr. S.M. Approved By Mr. H.B.	Drawing Name CROSS GIRDER REINFORCEMENT DETAILS OF BRIDGE OVER RIVER SUKHAJAJOR Reference Drawings KDP/DPR/STR/BR/SUKHAJAJOR/DD-17	Scale: AS SHOWN Chainage: 258+735	Date: 24.04.2023 Drawing No:- KDP/DPR/STR/BR/SUKHAJAJOR/DD- 16 Sheet No.1/1
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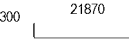
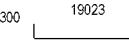
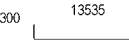
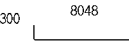
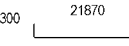
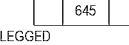
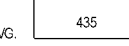
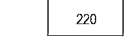
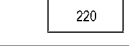
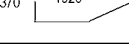
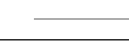
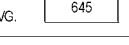
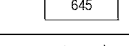
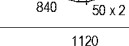
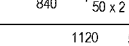
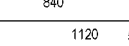
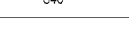
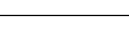
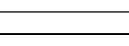
BAR BENDING SCHEDULE OF DECK SLAB (1SPAN)								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	DS01	150  150	16	150	12.070	80	1.580	1525.89
2	DS02	150  150	10	150	22.170	143	0.617	1956.98
3	DS03	150  150	16	150	12.070	147	1.580	2803.82
5	DS04	150  150	10	150	22.170	143	0.617	1956.98
6	DS05	 21870	16		21.870	8	1.580	276.48
TOTAL (KG) :								8520.15

BAR BENDING SCHEDULE OF R.C.C BARRIER (A) (1SPAN)								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	RC-A1		16	150	3.170	147	1.580	736.38
2	RC-A2	150  150	10	150	22.170	20	0.617	273.70
TOTAL (KG) :								1010.08

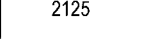
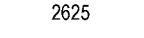
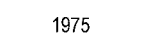
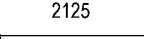
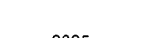
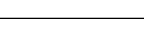
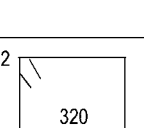
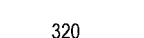
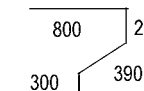
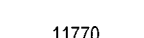
BAR BENDING SCHEDULE OF R.C.C BARRIER (B) (1SPAN)								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	RC-B1		16	150	3.170	147	1.580	736.38
2	RC-B2	150  150	10	150	22.170	20	0.617	273.70
TOTAL (KG) :								1010.08

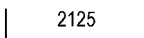
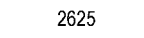
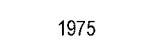
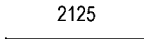
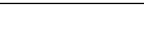
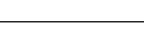
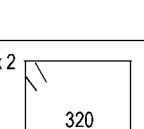
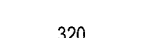
BAR BENDING SCHEDULE OF R.C.C SEPARATOR (1SPAN)								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	RS1		16	150	2.695	147	1.580	626.04
2	RS2	150  150	10	150	22.170	17	0.617	232.65
TOTAL (KG) :								858.69

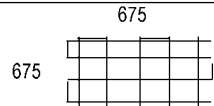
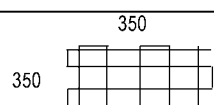
BAR BENDING SCHEDULE OF END MAIN GIRDER (1SPAN)								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	MG(E)1	300  300	32		22.470	12	6.321	1704.39
2	MG(E)2	300  300	32		19.623	6	6.321	744.22
3	MG(E)3	300  300	32		14.135	2	6.321	178.69
4	MG(E)4	300  300	32		8.648	2	6.321	109.33
5	MG(E)5	300  300	12		22.470	10	0.889	199.73
6	MG(E)6	480  1530 4 LEGGED	12	100	9.660	42	0.889	360.64
7	MG(E)7	480  1530 AVG. 435	12	100	5.325	32	0.889	151.47
8	MG(E)8A	480  1530	12	100	4.680	96	0.889	399.36
9	MG(E)8B	480  1530	12	150	4.680	38	0.889	158.08
10	MG(E)9	370  2000	12	200	4.290	32	0.889	122.03
11	MG(E)10	 18950	12	200	18.950	16	0.889	269.51
12	MG(E)11	550  300 AVG. 645 220	12	100	2.785	32	0.889	79.22
13	MG(E)12A	700  300 645 220	12	150	3.085	96	0.889	263.25
14	MG(E)12B	700  300 645 220	12	150	3.085	38	0.889	104.20
15	MG(E)13A	 70 840 50 x 2	12	100	3.040	166	0.889	448.57
16	MG(E)13B	 70 840 50 x 2	12	150	3.040	38	0.889	102.68
17	MG(E)14A	 50 x 2 840 270	12	100	3.440	166	0.889	507.59
18	MG14B	 50 x 2 840 270	12	150	3.440	38	0.889	116.20
19	MG(E)15	 21870	16		21.870	2	1.580	69.12
19	MG(E)16	 645	32	1500	0.645	45	6.321	183.47
TOTAL (KG) :								6271.75

BAR BENDING SCHEDULE OF MID MAIN GIRDER (1SPAN)								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	MG(M)1	300  300	32		22.470	12	6.321	1704.39
2	MG(M)2	300  300	32		19.623	6	6.321	744.22
3	MG(M)3	300  300	32		14.135	2	6.321	178.69
4	MG(M)4	300  300	32		8.648	2	6.321	109.33
5	MG(M)5	300  300	12		22.470	10	0.889	199.73
6	MG(M)6	480  1530 4 LEGGED	12	100	9.660	42	0.889	360.64
7	MG(M)7	480  1530 AVG. 435	12	100	5.325	32	0.889	151.47
8	MG(M)8A	480  1530	12	100	4.680	96	0.889	399.36
9	MG(M)8B	480  1530	12	150	4.680	38	0.889	158.08
10	MG(M)9	370  2000	12	200	4.290	32	0.889	122.03
11	MG(M)10	 18950	12	200	18.950	16	0.889	269.51
12	MG(M)11	550  300 AVG. 645 220	12	100	2.785	32	0.889	79.22
13	MG(M)12A	700  300 645 220	12	150	3.085	96	0.889	263.25
14	MG(M)12B	700  300 645 220	12	150	3.085	38	0.889	104.20
15	MG(M)13A	 70 840 50 x 2	12	100	3.040	166	0.889	448.57
16	MG(M)13B	 70 840 50 x 2	12	150	3.040	38	0.889	102.68
17	MG(M)14A	 50 x 2 840 270	12	100	3.440	166	0.889	507.59
18	MG14B	 50 x 2 840 270	12	150	3.440	38	0.889	116.20
19	MG(M)15	 21870	16		21.870	2	1.580	69.12
19	MG(M)16	 645	32	1500	0.645	45	6.321	183.47
TOTAL (KG) :								6271.75

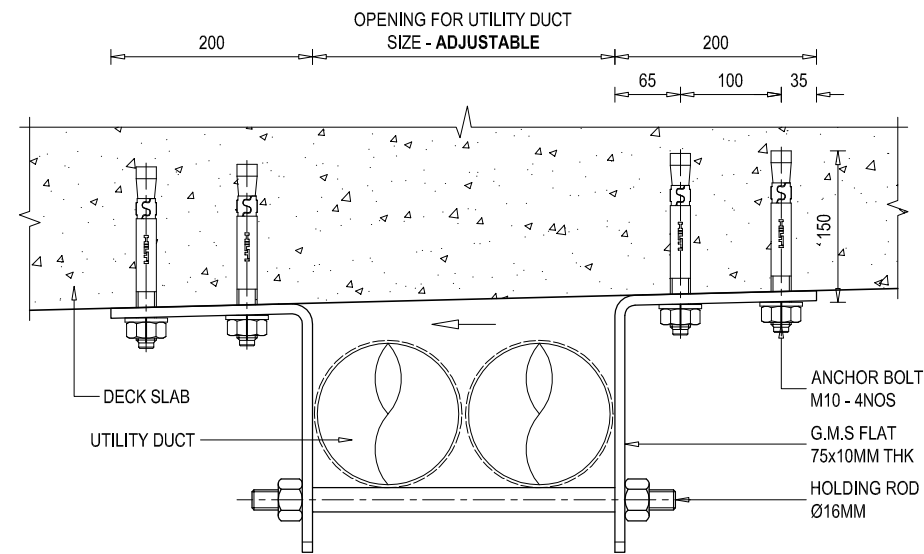
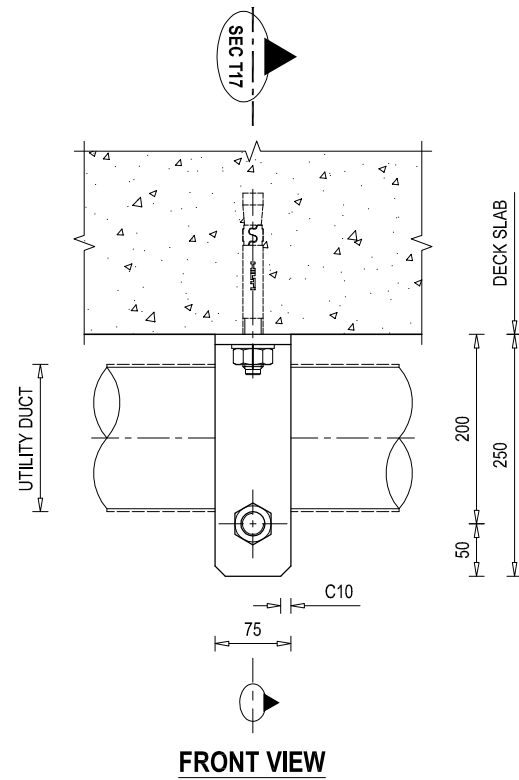
EMPLOYER		PROJECT NAME		DESIGN CONSULTANTS		Designed By		Drawing Name		Scale:		Date:	
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division		Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges		Joint Venture of		Mr. R.A.		SUPER STRUCTURE BAR BENDING DETAILS OF BRIDGE OVER RIVER SUKHAJAJOR		AS SHOWN		24.04.2023	
				EPTISA Servicios De Ingenieria Madrid, Spain		Nec.No. 6431 CIVIL/TA	Signature					Drawing No.- KDP/DPR/STR/BR/SUKHAJAJOR/DD- 17	
				STUP Consultants Private Limited Kolkata, India		Mr. S.M.		Reference Drawings		Chainage: 258+735		Sheet No. 1/2	
				In Association With		Mr. H.B.							
				Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited									

BAR BENDING SCHEDULE OF END CROSS GIRDER (1SPAN)								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	CG(E)1	300 	20		2.425	8	2.469	47.90
2	CG(E)2		20		2.625	8	2.469	51.85
3	CG(E)3		20		1.975	8	2.469	39.01
4	CG(E)4	300 	20		2.425	8	2.469	47.90
5	CG(E)5		20		2.625	8	2.469	51.85
6	CG(E)6		20		1.975	8	2.469	39.01
7	CG(E)7		12	150	2.125	8	0.889	15.11
8	CG(E)8		12	150	2.625	8	0.889	18.67
9	CG(E)9		12	150	1.975	8	0.889	14.04
10	CG(E)10	50 x 2  1320	12	200	1.740	39	0.889	60.32
11	CG(E)11		20	1000	0.320	18	2.469	14.22
12	CG(E)12		16	150	1.750	79	1.580	218.47
13	CG(E)13		12		11.770	6	0.889	62.77
TOTAL (KG) :								681.14

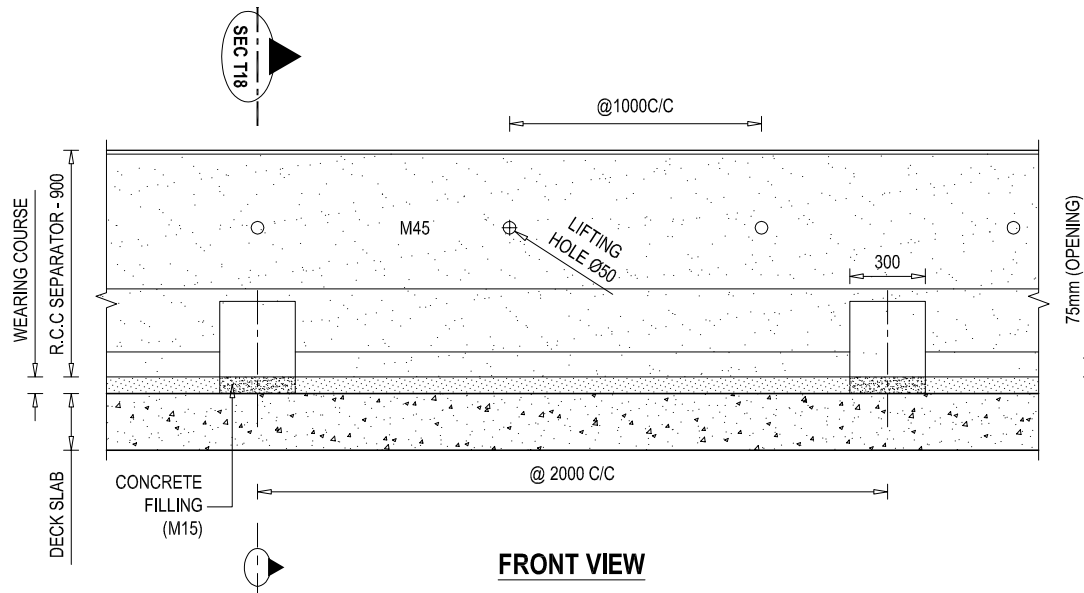
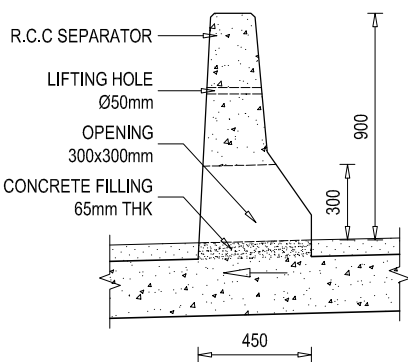
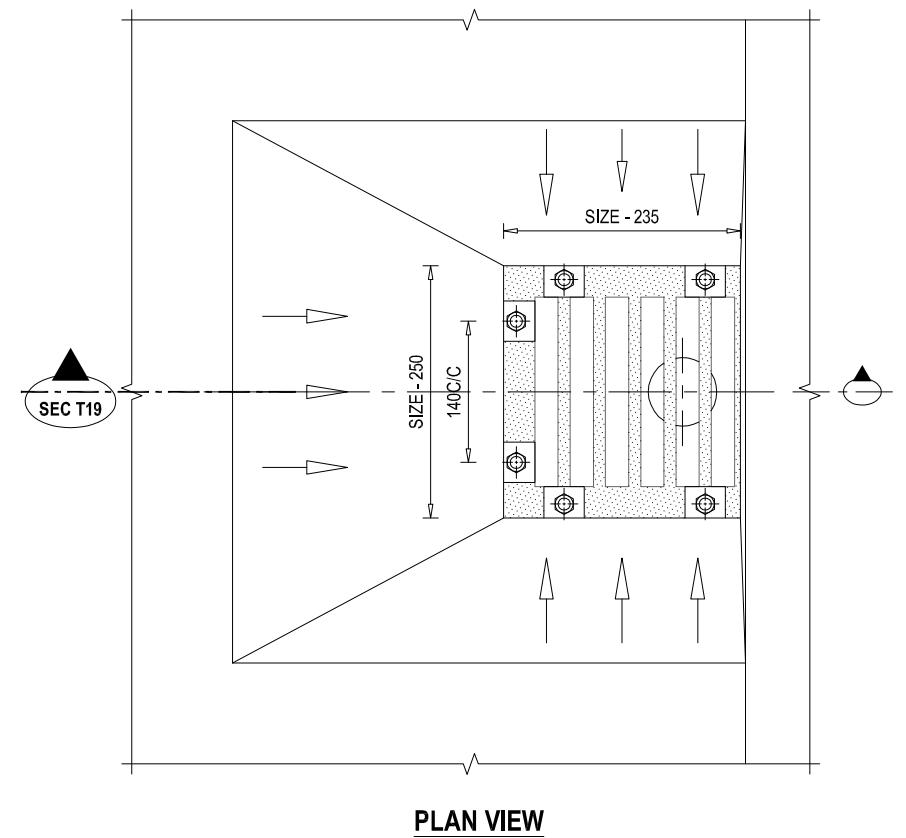
BAR BENDING SCHEDULE OF MID CROSS GIRDER (1SPAN)								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	CG(M)1	300 	20		1.920	8	2.469	37.93
2	CG(M)2		20		2.945	8	2.469	58.17
3	CG(M)3		20		2.295	8	2.469	45.33
4	CG(M)4	300 	20		1.920	8	2.469	37.93
5	CG(M)5		20		2.625	8	2.469	51.85
6	CG(M)6		20		1.975	8	2.469	39.01
7	CG(M)7		12	150	1.620	8	0.889	11.52
8	CG(M)8		12	150	2.625	8	0.889	18.67
9	CG(M)9		12	150	1.975	8	0.889	14.04
10	CG(M)10	50 x 2  1320	12	200	1.740	39	0.889	60.32
11	CG(M)11		20	1000	0.320	18	2.469	14.22
TOTAL (KG) :								389.00

BAR BENDING SCHEDULE OF MESH (1SPAN)								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	MESH 01	 @ 100	10		9.450	8	0.617	46.67
2	MESH 02	 @ 50	10		4.900	4	0.617	12.10
TOTAL (KG) :								58.77

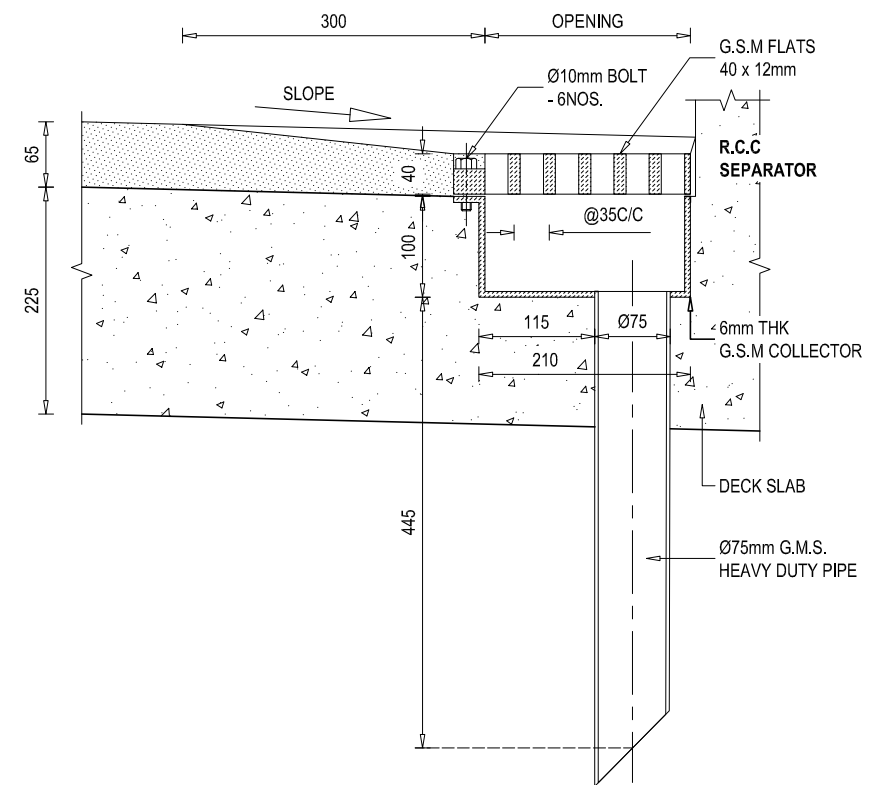
EMPLOYER		PROJECT NAME		DESIGN CONSULTANTS		Drawing Name		Scale:		Date:	
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division		Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges		Joint Venture of		Designed By	Mr. R.A.	AS SHOWN		24.04.2023	
				 EPTISA Servicios De Ingeniera Madrid, Spain	 STUP Consultants Private Limited Kolkata, India	Checked By	Mr. S.M.			Drawing No.- KDP/DPR/STR/BR/SUKHAJOR/DD- 17	
				In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited		Approved By	Mr. H.B.			Sheet No. 2/2	



**DETAILS OF GALVANIZED MILD STEEL (G.M.S)
UTILITY DUCT CLAMP**
SCALE - 1 : 10

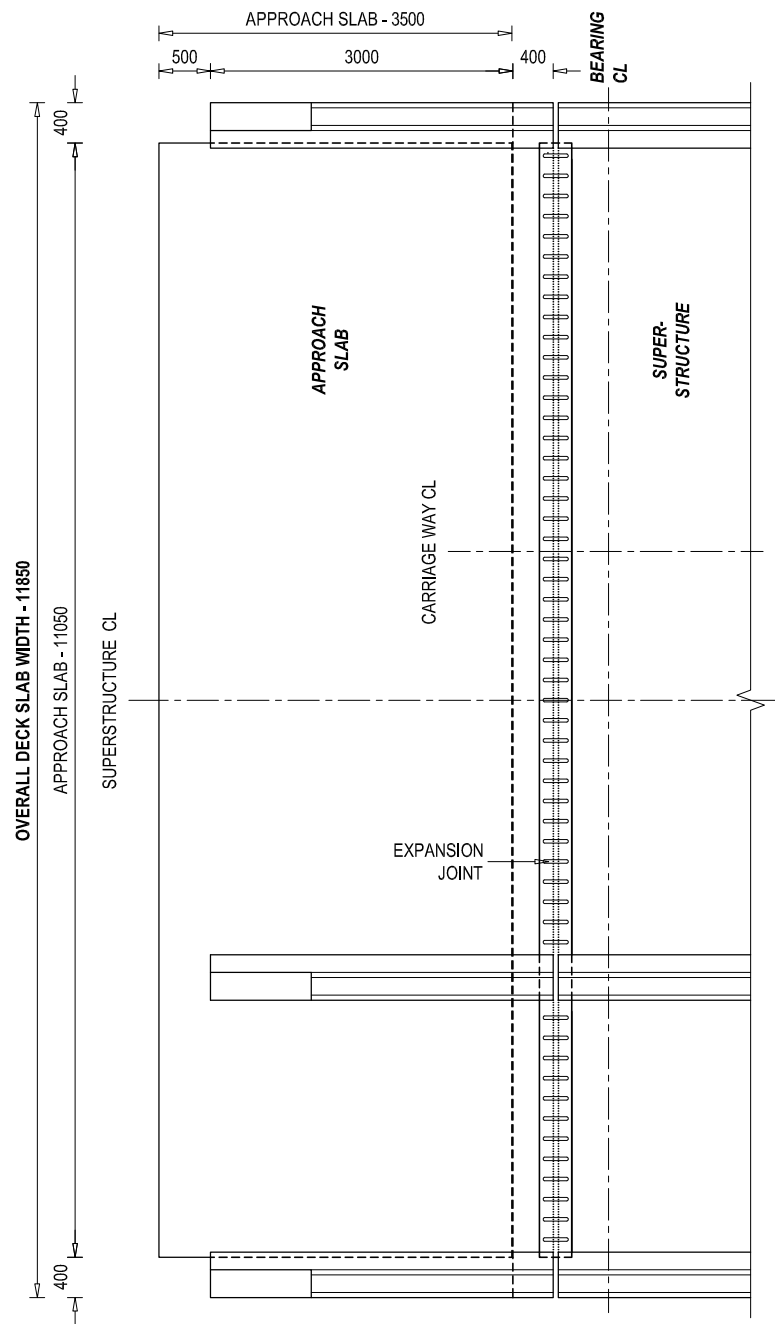


**DETAIL ELEVATION VIEW AT R.C.C SEPARATOR
& IT'S DRAIN OPENING**
SCALE - 1 : 40

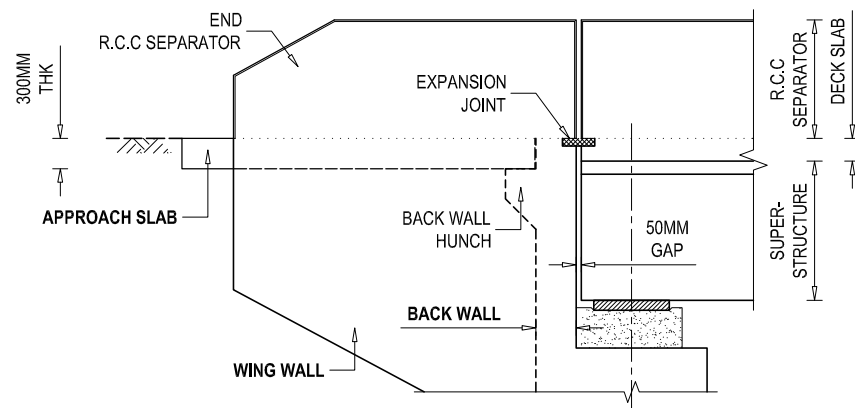


**DETAILS OF GALVANIZED MILD STEEL (G.M.S)
DRAINAGE SPOUT**
SCALE - 1 : 10

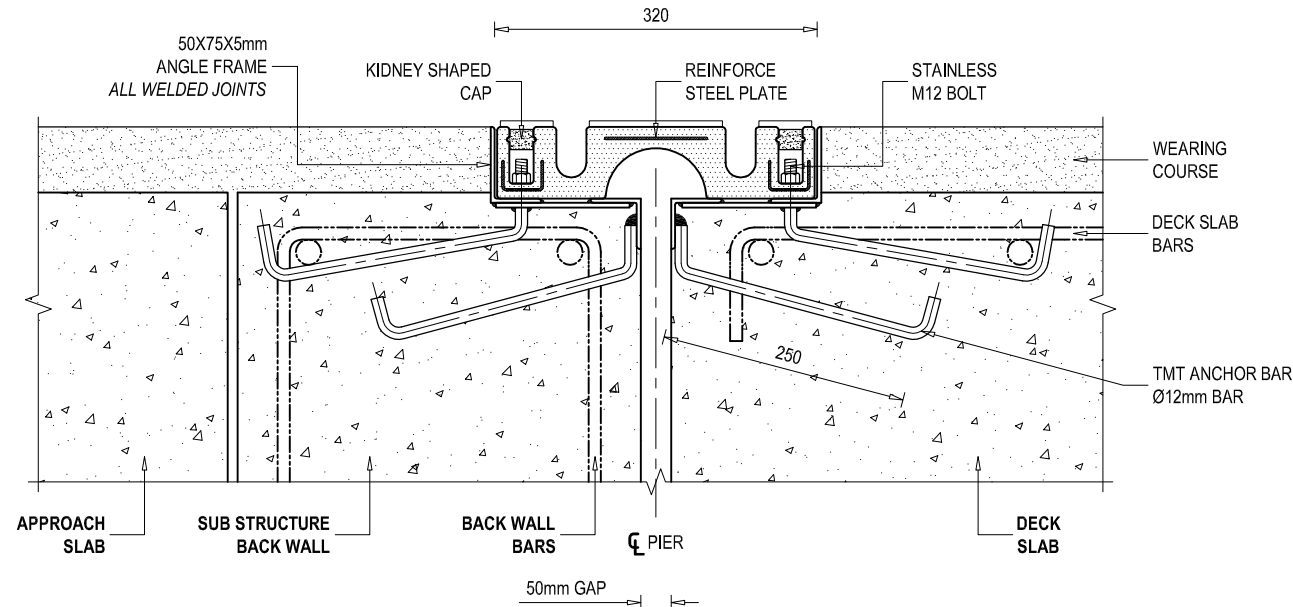
EMPLOYER Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	PROJECT NAME Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathaiya Road Section (130 KM) of Mahendra Highway and Bridges	DESIGN CONSULTANTS Joint Venture of EPTISA Servicios De Ingeniera Madrid, Spain STUP Consultants Private Limited Kolkata, India In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited	Designed By Mr. R.A. Nec.No. 6431 C/ML/V Checked By Mr. S.M. Approved By Mr. H.B.	Drawing Name MISCELLANEOUS DETAILS OF BRIDGE OVER RIVER SUKHAJOUR Reference Drawings	Scale: AS SHOWN Chainage: 258+735	Date: 22.04.2023 Drawing No:- KDP/DPR/STR/BR/SUKHAJOUR/DD-18 Sheet No.1 /2
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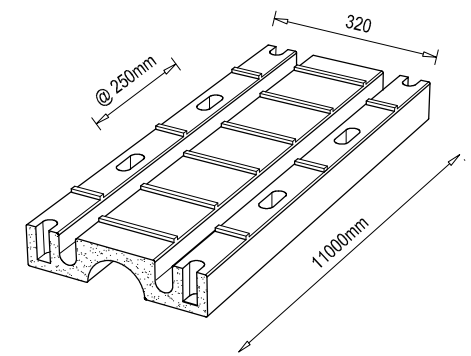
**PLAN VIEW AT EXPANSION JOINT, END R.C.C
SEPARATOR & APPROACH SLAB**



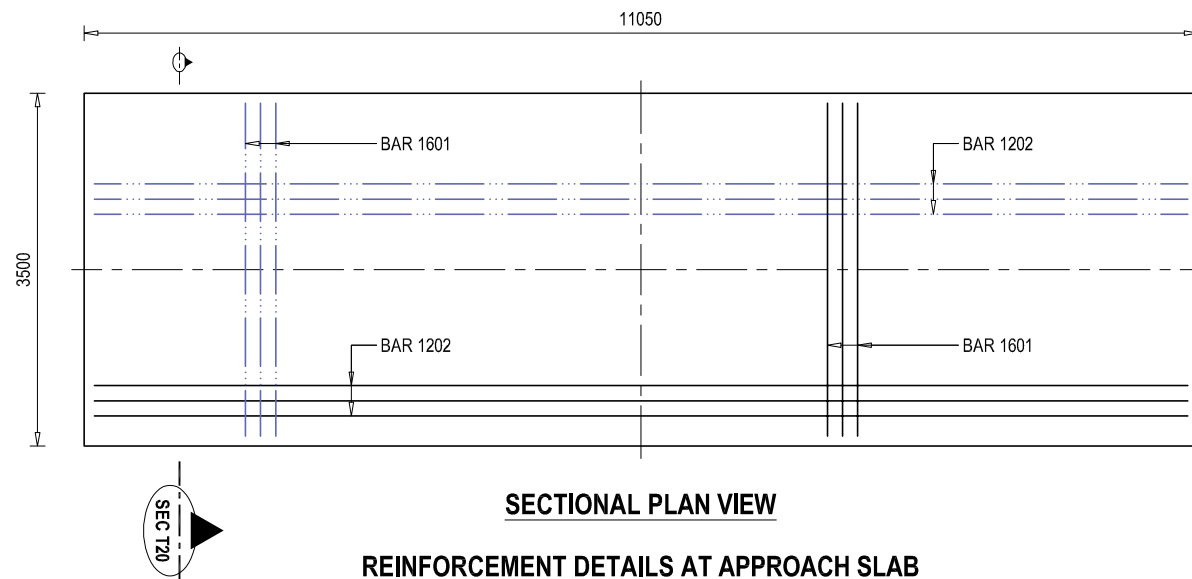
ELEVATION VIEW



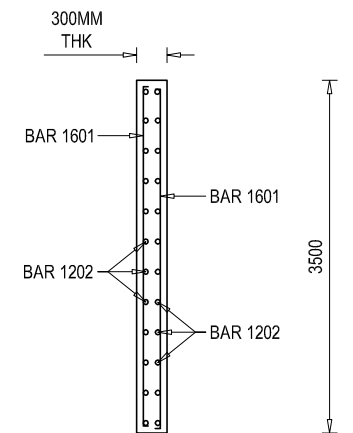
SEAL TYPE EXPANSION JOINTS ARRANGEMENT IN A CARRIAGEWAY
SCALE - 1 : 10 @ A3 PAPER



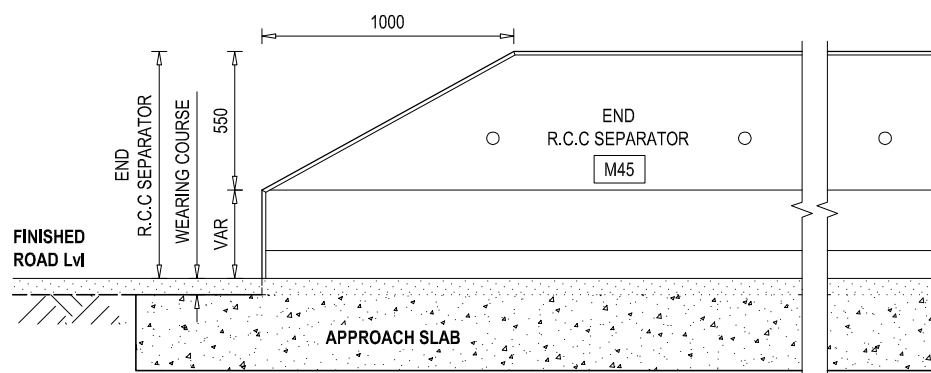
**EXPANSION JOINT ISOMETRIC VIEW
- SEAL TYPE**
SCALE - NON



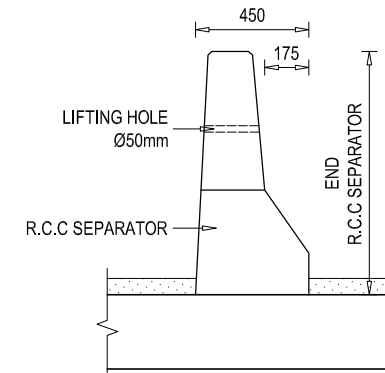
SECTIONAL PLAN VIEW
REINFORCEMENT DETAILS AT APPROACH SLAB
SCALE - 1 : 100 @ A3 PAPER



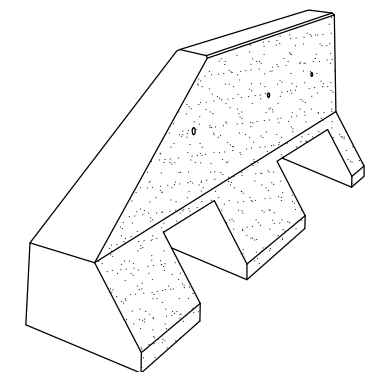
SECTIONAL ELEVATION VIEW AT SEC T20



ELEVATION VIEW OF END R.C.C SEPARATOR
SCALE - 1 : 40 @ A3 PAPER

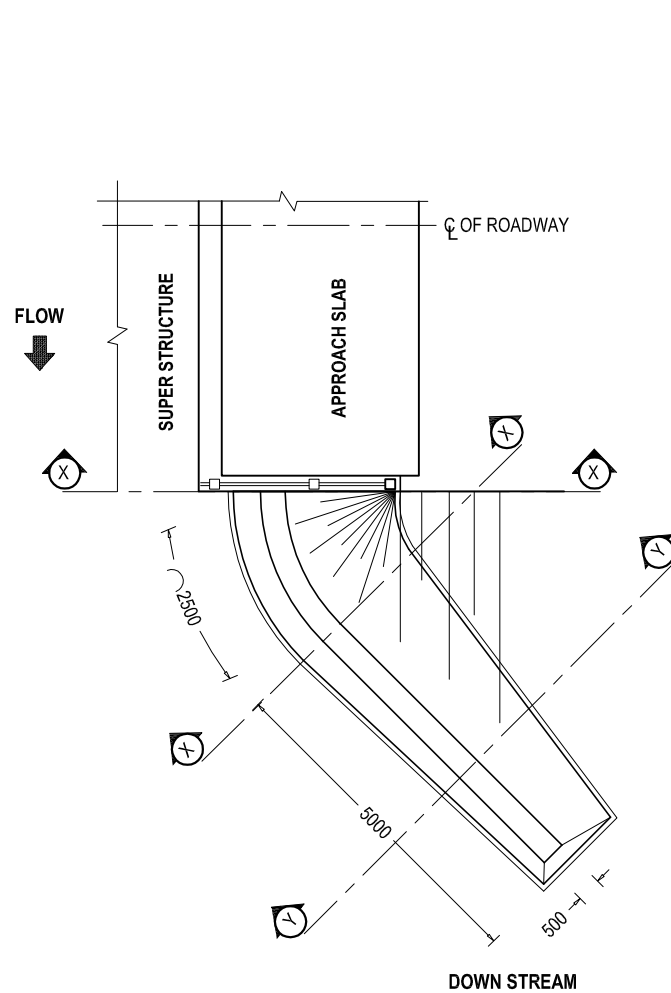


SIDE VIEW
SCALE - 1 : 40 @ A3 PAPER

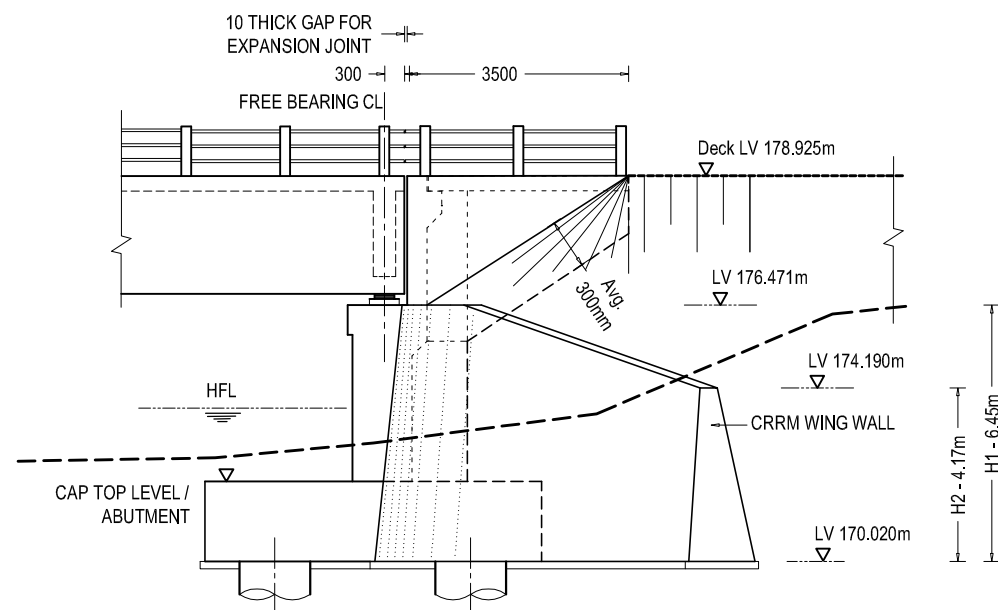
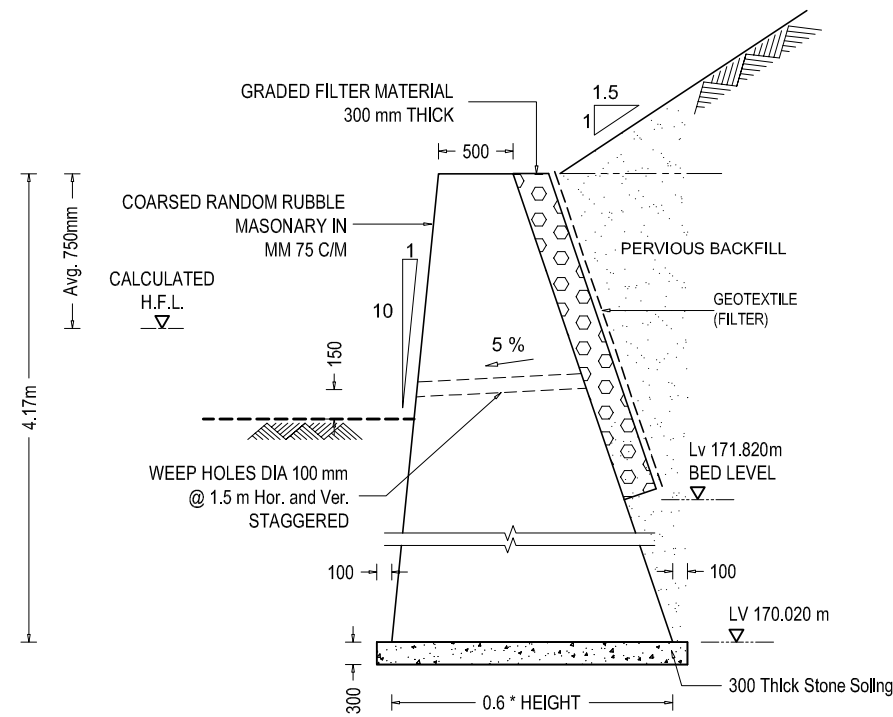


END R.C.C SEPARATOR ISOMETRIC VIEW
SCALE - NON

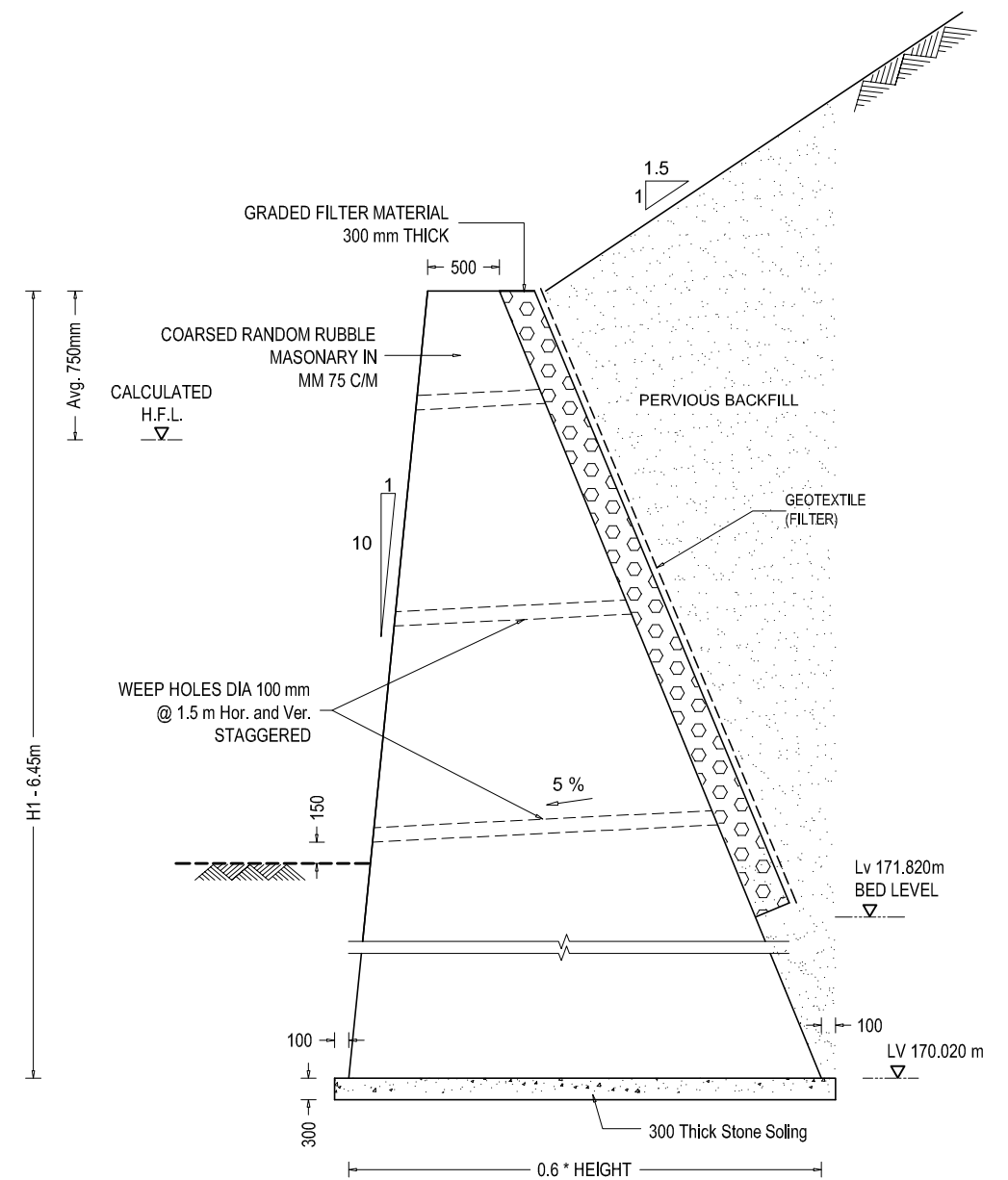
EMPLOYER Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	PROJECT NAME Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	DESIGN CONSULTANTS Joint Venture of EPTISA Servicios De Ingenieria Madrid, Spain STUP Consultants Private Limited Kolkata, India In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited	Designed By Mr. R.A. Nec.No. 6431 CRM/V Signature Checked By Mr. S.M. Signature Approved By Mr. H.B. Signature	Drawing Name MISCELLANEOUS DETAILS OF BRIDGE OVER RIVER SUKHAJAJOR Reference Drawings	Scale: AS SHOWN Chainage: 258+735	Date: 22.04.2023 Drawing No:- KDP/DPR/STR/BR/SUKHAJAJOR/DD-18 Sheet No.2/2
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NOTE : AT DOWN STREAM ONLY



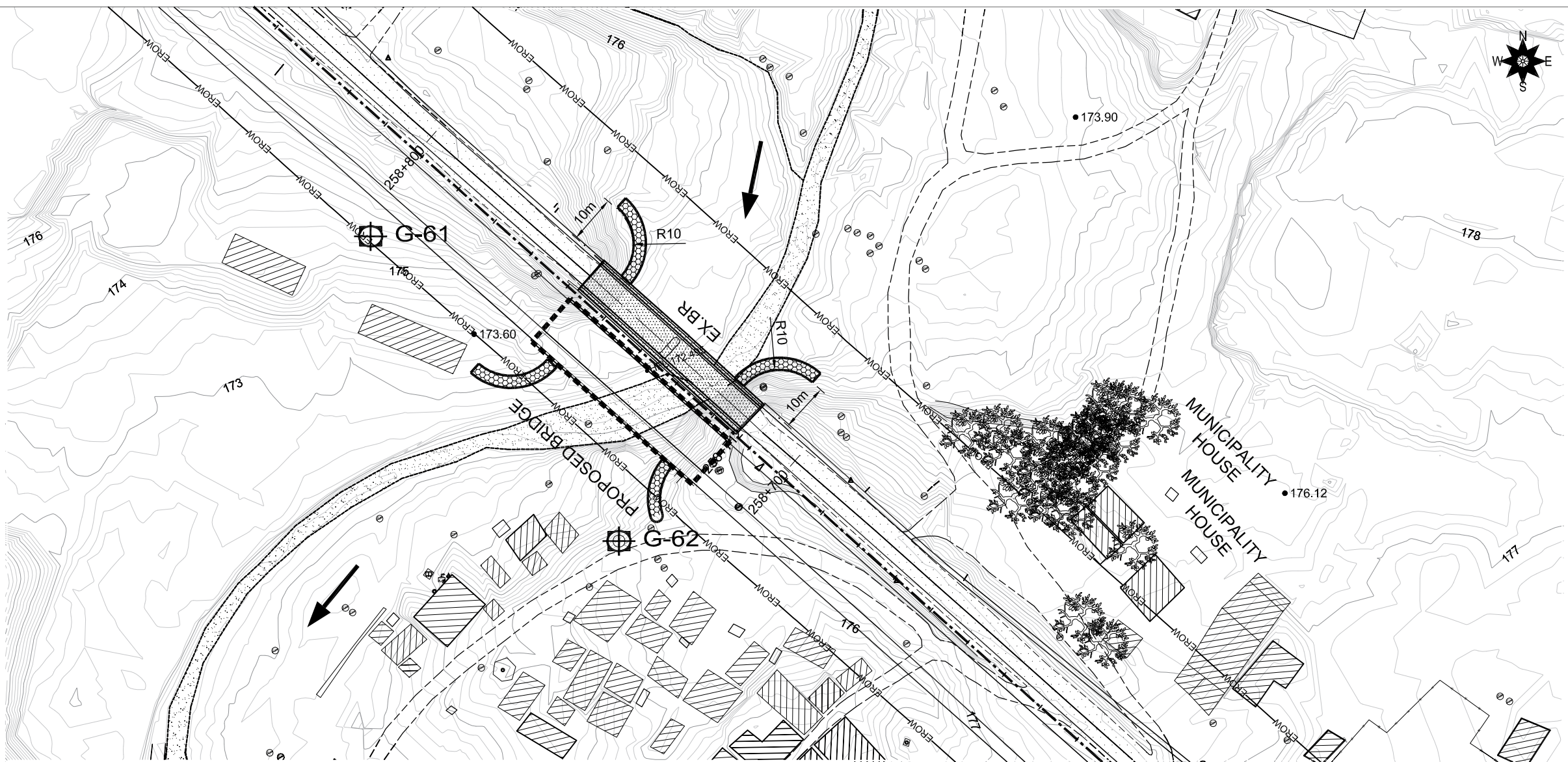
WING WALL ELEVATION



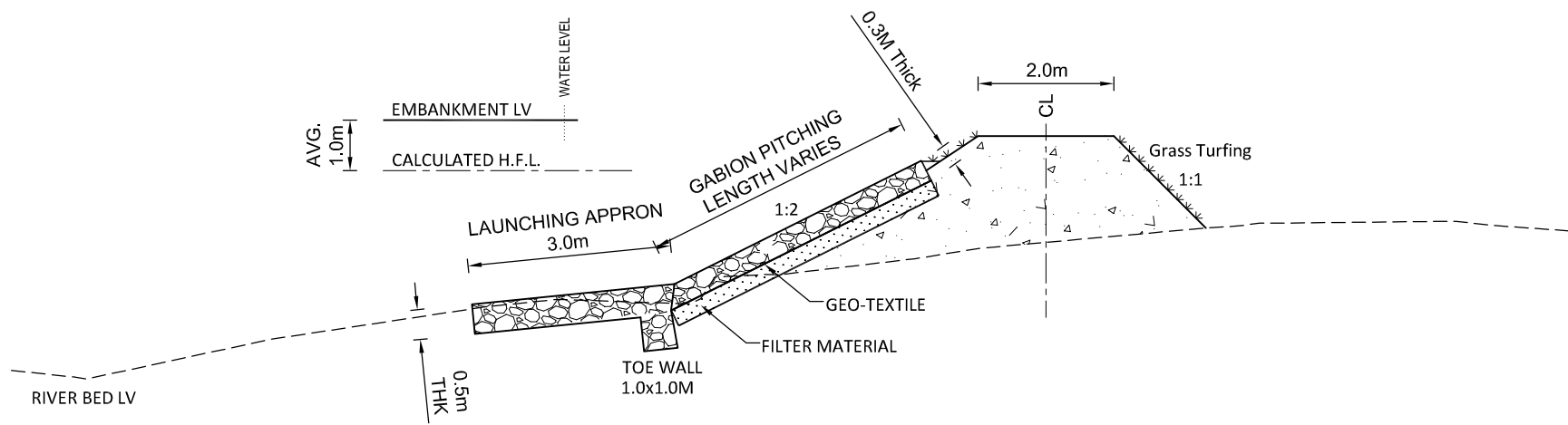
STONE MASONRY WING WALL SECTION X - X



EMPLOYER	PROJECT NAME	DESIGN CONSULTANTS	Designed By	Mr. R.A.	Drawing Name	Scale:	Date:
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of  EPTISA Servicios De Ingenieria Madrid, Spain  STUP Consultants Private Limited Kolkata, India In Association With Udaya Consultancy, Geocom International, Sundar Kirti Consultant and Rays Consultant Private Limited	Checked By	Mr. S.M.	WING WALL DETAILS OF BRIDGE OVER RIVER SUKHAJAJOR Reference Drawings	AS SHOWN Chainage: 258+735	22.04.2023
			Approved By	Mr. H.B.			Drawing No.- KDP/DPR/STR/BR/SUKHAJAJOR/DD-19
							Sheet No. 1 / 1

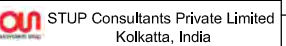


TOPOGRAPHIC MAP



SECTION OF EMBANKMENT

SCALE - 1x : 5x

EMPLOYER	PROJECT NAME	DESIGN CONSULTANTS	Designed By	Mr. R.A.	Signature	Drawing Name	Scale:	Date:
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of  EPTISA Servicios De Ingenieria Madrid, Spain  STUP Consultants Private Limited Kolkatta, India In Association With Udaya Consultancy, Geocom International, Sundar Kirti Consultant and Rays Consultant Private Limited	Checked By	Mr. S.M.	Signature	RIVER TRAINING WORKS OR BRIDGE OVER RIVER SUKHAJAJOR	AS SHOWN	22.04.2023
			Approved By	Mr. H.B.	Signature	Reference Drawings	Chainage:	Drawing No.- KDP/DPR/STR/BR/SUKHAJAJOR/DD- 20
							258+735	Sheet No.1/1

Bearing Design Data for 22m Span and 11.85m width

Load Condition	Items	Under	On each Neoprene Bearing	Unit
Under No Live Load	V	NO EQ.	53.02	Ton
		EQ.	60.98	Ton
	H _L	NO EQ.	-	Ton
		EQ.	11.93	Ton
	H _T	NO EQ.	-	Ton
		EQ.	11.93	Ton
	θ	NO EQ.	0.00234	radian
		EQ.	0.00269	radian
Δ		13.64	mm	
Under Maximum Live Load	V	NO EQ.	94.08	Ton
		EQ.	103.26	Ton
	H _L	NO EQ.	-	Ton
		EQ.	0.00	Ton
	H _T	NO EQ.	-	Ton
		EQ.	0.00	Ton
	θ	NO EQ.	0.003723	radian
		EQ.	0.00428	radian
Δ		22.76	mm	

 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	PROJECT NAME Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathalaya Road Section (130 KM) of Mahendra Highway and Bridges	DESIGN CONSULTANTS		Designed By	Mr. R.A. Nec.No.6431 CIVIL/AY		Drawing Name BEARING DESIGN DATA OR BRIDGE OVER RIVER SUKHAJOR	Scale: AS SHOWN	Date: 22.04.2023
		Joint Venture of		Checked By	Mr. S.M.				Drawing No.- KDP/DPR/STR/BR/SUKHAJOR/DD- 21
		In Association With		Approved By	Mr. H.B.		Reference Drawings -	Chainage: 258+735	Sheet No.1/1