



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- Phuljor
Volume-2
Detailed Drawing

April, 2023

Joint Venture Of:

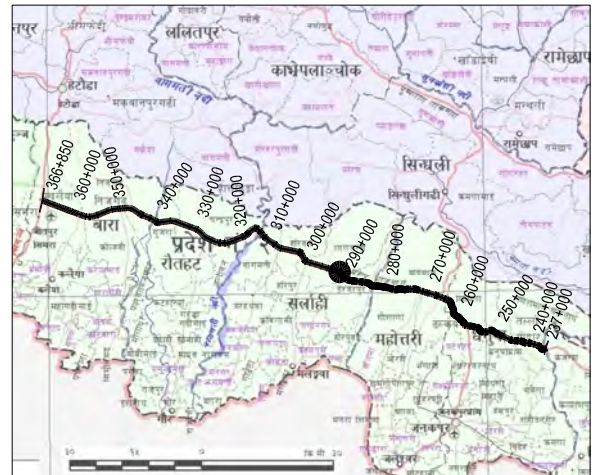
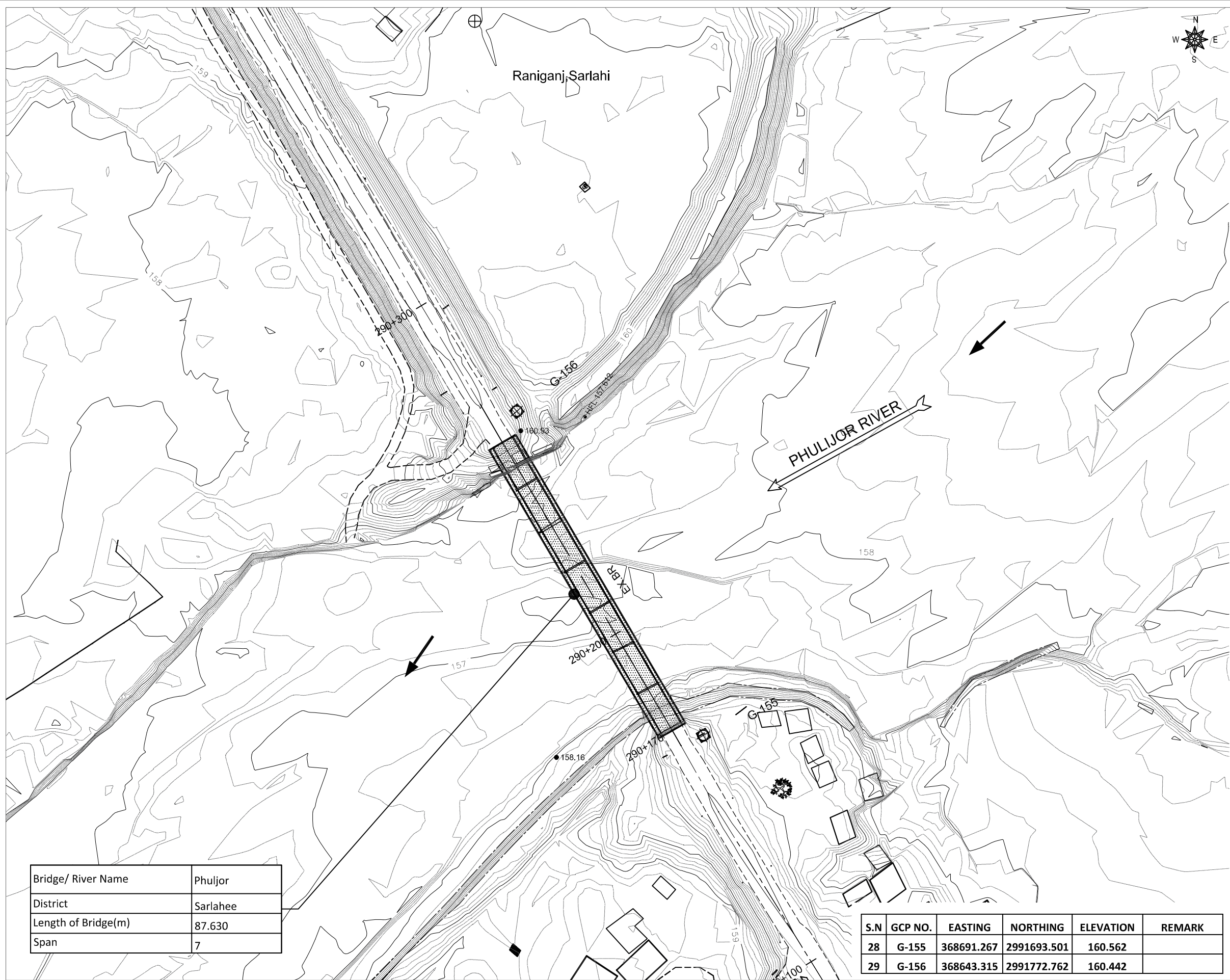
eptisa EPTISA Servicios De Ingenieria
Madrid, Spain

STUP STUP Consultants Private Limited
India

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

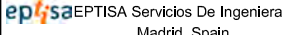
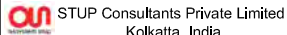
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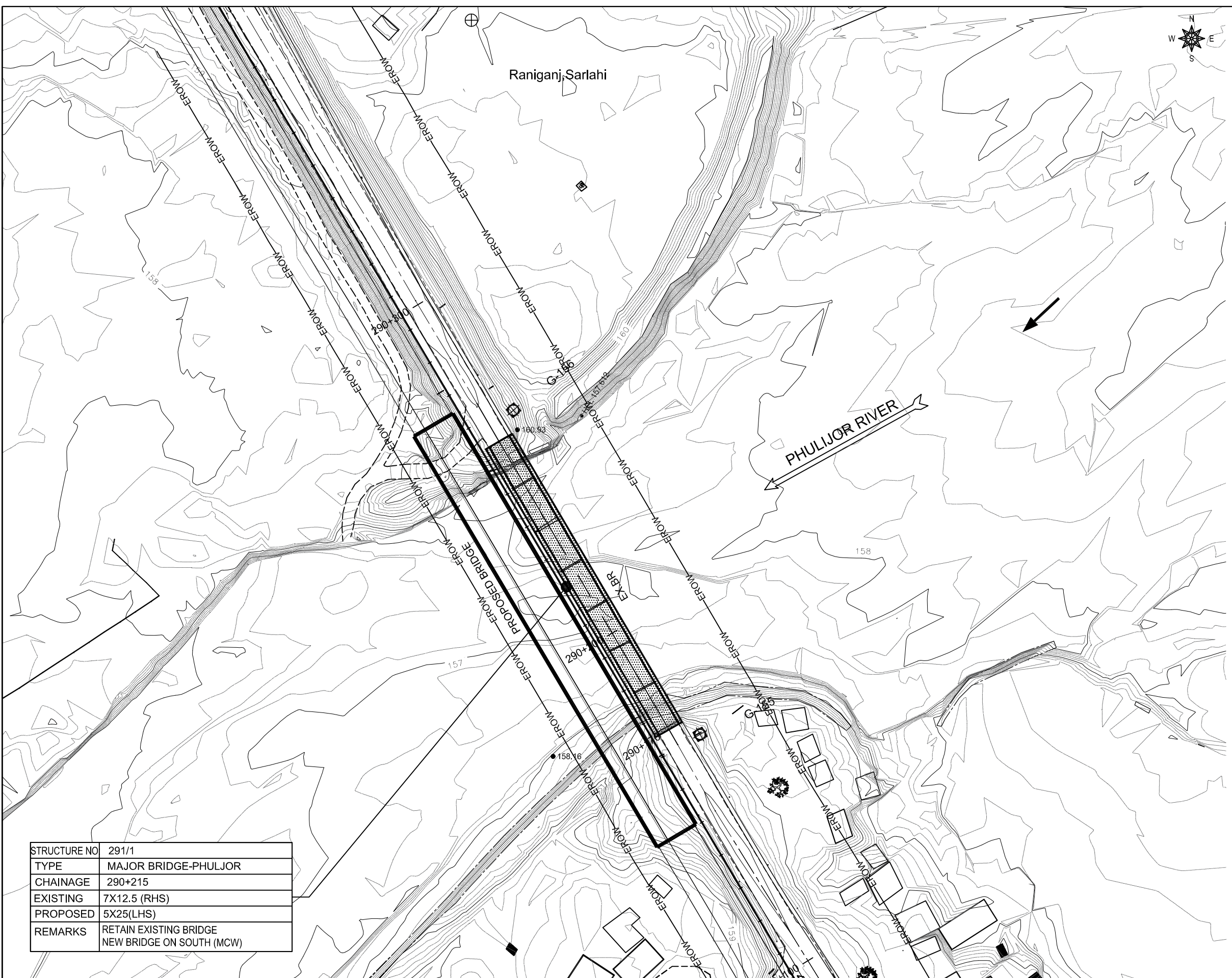
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DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL
MAIN FOOT TRAIL		ANIMAL FARM	
PLACE NAME		BAMBOO	
POLICE STATION		BIO GAS	
PETROL PUMP		BUS WAITING STATION	
Pond/ Water Body		BRIDGE	
POULTRY FARM		CONTOUR	
PROPERTY BOUNDARY		CANAL	
ROAD INFORMATION BOARD		CULVERT	
RIVER		CONTROL POINT (G)	
		CRUSHER	
SHED		DELINETOR	
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	

S.N	GCP NO.	EASTING	NORTHING	ELEVATION	REMARK
28	G-155	368691.267	2991693.501	160.562	
29	G-156	368643.315	2991772.762	160.442	

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  EPTISA Servicios De Ingenieria Madrid, Spain  STUP Consultants Private Limited Kolkatta, India		DETAILED SURVEY TOPOGRAPHICAL MAP(EXISTING CONDITION) OF BRIDGE OVER PHULJOR		1:1000		2.05.2023	
				In Association With Udaya Consultancy, Geocom International, Sundar Kirti Consultant and Rays Consultant Private Limited		Reference Drawings		Chainage: 290+215		Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD- 2	
										Sheet No. 1 / 2	
Designed By		Mr. R.A.									
Checked By		Mr. S.M.									
Approved By		Mr. H.B.									



PROJECT KEY MAP			
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)	
		CRUSHER	
SHED		DELINETOR	
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	

STRUCTURE NO	291/1
TYPE	MAJOR BRIDGE-PHULJOR
CHAINAGE	290+215
EXISTING	7X12.5 (RHS)
PROPOSED	5X25(LHS)
REMARKS	RETAIN EXISTING BRIDGE NEW BRIDGE ON SOUTH (MCW)

EMPLOYER	PROJECT NAME	DESIGN CONSULTANTS	Designed By	Checked By	Approved 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 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	Mr. R.A. Nec.No. 6431 CIVIL/24	Mr. S.M.	Mr. H.B.	DETAILED SURVEY TOPOGRAPHICAL MAP(WITH PROPOSED BRIDGE) OF BRIDGE OVER PHULJOR Reference Drawings	1:1000 Chainage: 290+215	2.05.2023 Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD- 3 Sheet No.1 / 1
			Signature	Signature	Signature			

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) - 447.69 CUMecs
2. HFL - 159.390 M
3. FREE BOARD (MINIMUM) - 1.2 M
4. MAXIMUM SCOUR LEVEL:
ABUTMENT - 154.010M
PIER - 151.080M

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

D. STRUCTURAL AND OTHER DATA: -

1. SPAN ARRANGEMENT: 5 X 25 = 125 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 - 222.96 TON
B) PIER- 1200 DIA BORED CAST-IN-SITU PILE
DESIGN WORKING LOAD ON PILE - 193.70 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 : 57.2Ø
b) FOR M 35 GRADE CONCRETE : 51.48Ø
c) FOR M 40 GRADE CONCRETE : 48.62Ø

(WHERE Ø 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%	57.2Ø	51.48Ø	48.62Ø	45.76Ø
25%≤LAPPED BAR <33%	65.78Ø	62.65Ø	55.91Ø	52.62Ø
33%≤LAPPED BAR <50%	80.08Ø	72.07Ø	68.07Ø	64.06Ø
50%≤LAPPED BAR	85.8Ø	77.22Ø	72.93Ø	68.64Ø

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 18Ø.
19. SHARP EDGES OF CONCRETE TO BE CHAMFERED MINIMUM 50 X 50

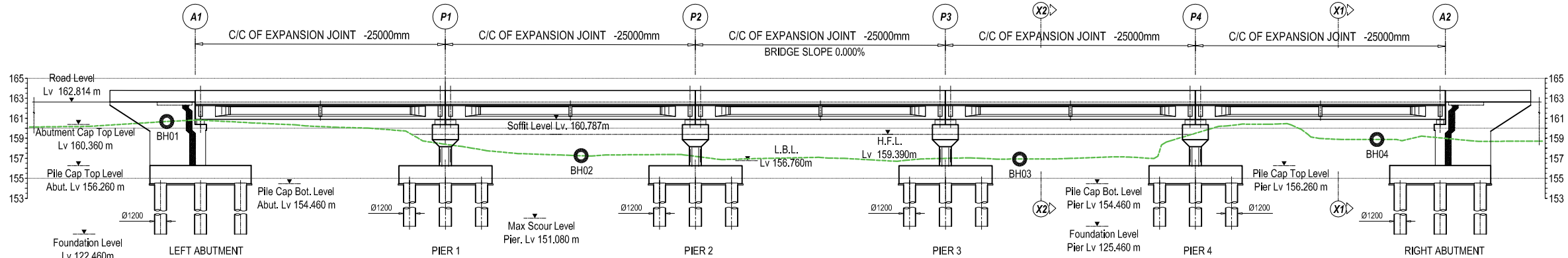
EMPLOYER	PROJECT NAME	DESIGN CONSULTANTS	Designed By	Mr. R.A.	Signature	Drawing Name	Scale:	Date:
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) 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 Krti Consultant and Rays Consultant Private Limited	Checked By	Mr. S.M.	Signature	GENERAL NOTES OF BRIDGE OVER RIVER PHULJOR	AS SHOWN	05.05.2023
			Approved By	Mr. H.B.	Signature	Reference Drawings	Chainage:	Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD- 4
							290+215	Sheet No. 1 / 1



TO KAMALA

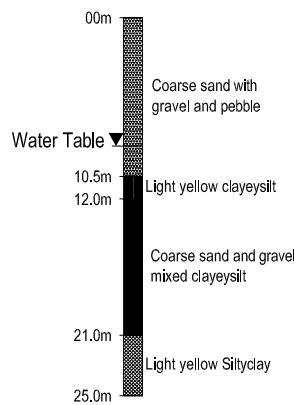


TO PATHALAIYA

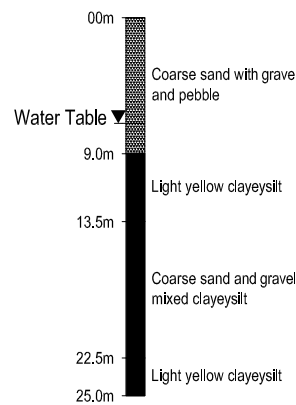


PROPOSED BRIDGE GENERAL ARRANGEMENT

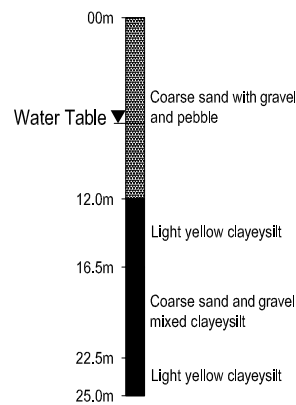
Bore Hole at Left Bank (BH01)/ RL 161m



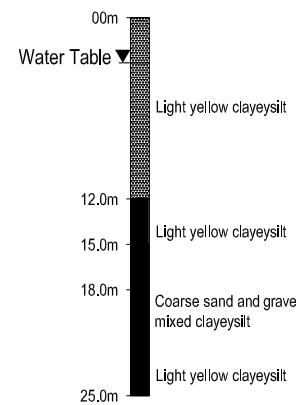
Bore Hole (BH02)/ RL 157m



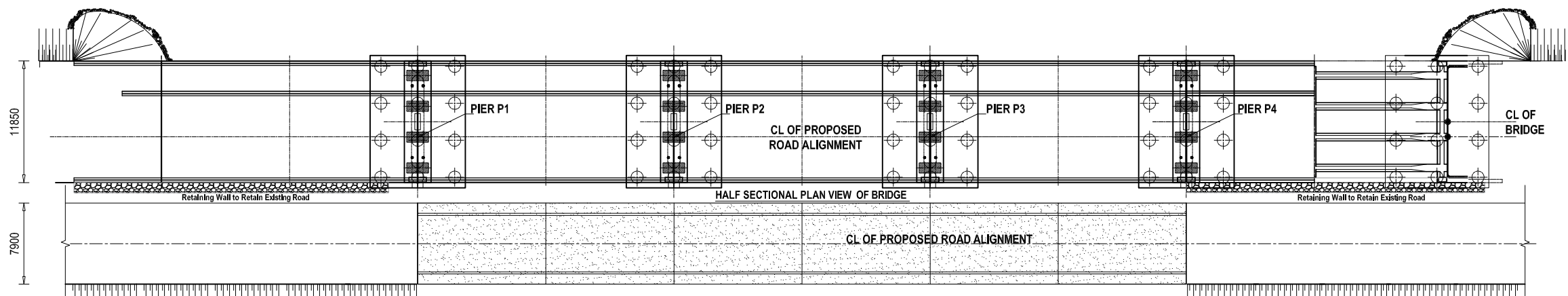
Bore Hole (BH03)/ RL 157m



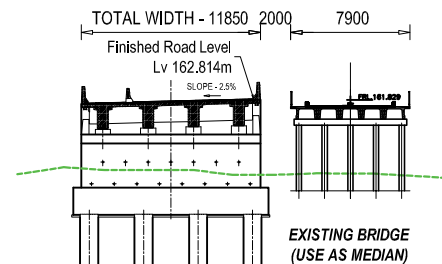
Bore Hole (BH04)/ RL 158.5m



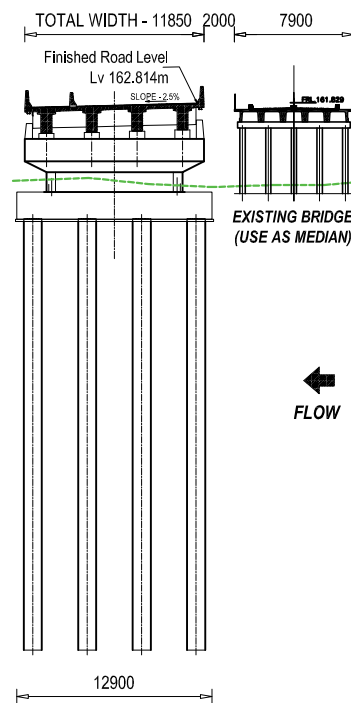
Finished Road Level(D/S)	LEFT ABUTMENT	162.814	PIER 1	162.814	PIER 2	162.814	PIER 3	162.814	PIER 4	162.814	RIGHT ABUTMENT	162.814
Finished Road Level (Existing Bridge)		161.829		161.829		161.829		161.829		161.829		161.829
Existing Ground Level(D/S)		160.814		158.698		157.000		156.988		159.492		159.330
Existing Ground Lv		161.256		158.324		158.526		157.320		160.238		159.993
Chainage		290+152.5		290+177.5		290+202.5		290+227.5		290+252.5		290+277.5



PLAN VIEW



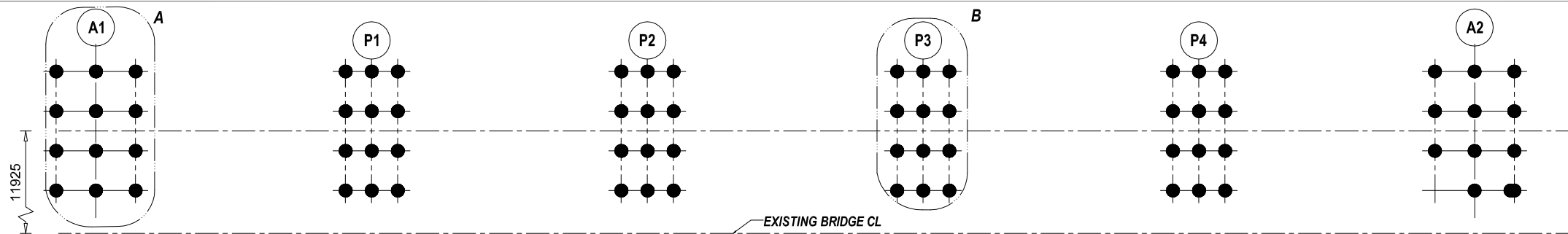
SECTIONAL VIEW OF ABUTMENT AT X1 - X1



SECTIONAL VIEW OF PIER AT X2-X2

(SCALE 1:500 @ A3)

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-Pathalaya Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of			Nec.No. 6431 CRM/V				
				 EPTISA Servicios De Ingenieria Madrid, Spain	 STUP Consultants Private Limited Kolkata, India	Checked By	Mr. S.M.				
				In Association With			Udaya Consultancy, Geocom International, Sundar Kirti Consultant and Rays Consultant Private Limited		Approved By	Mr. H.B.	

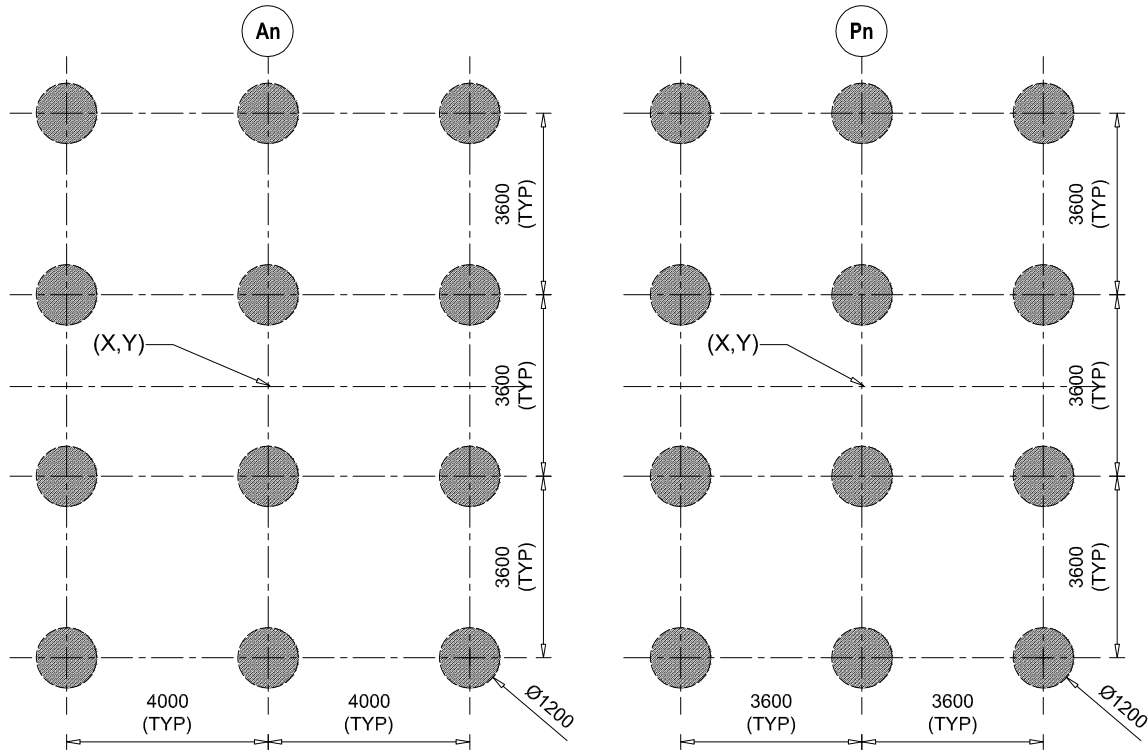


CO ORDINATES OF PILE LOCATION OF PROPOSED BRIDGE

SN.	ABUTMENT/PIER	EASTING (X)	NORTHING (Y)
1	ABUTMENT (A1)	368671.35	2991658.987
2	PIER (P1)	368658.613	2991680.499
3	PIER (P2)	368645.877	2991702.012
4	PIER (P3)	368633.152	2991723.531
5	PIER (P4)	368620.439	2991745.057
6	ABUTMENT (A2)	368607.725	2991766.583

DETAILS AT PILE LAYOUT

SCALE - 1:500



DETAILS AT A

SCALE - 1:150

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	33650	25	300	33.950	9	3.858	1178.82
2	PA2	11809	25		11.809	9	3.858025	410.0347
3	PA3	23041	12	300	23.341	9	0.889	186.73
4	PA4	Dia. 1034	16	115	3.448	42	1.580	228.87
5	PA5	Dia. 1034	12	115	3.448	237	0.889	726.44
TOTAL (KG) :								2730.89
No. of Pile								12.00
TOTAL WEIGHT (KG) :								32770.70

DETAILS AT B

SCALE - 1:150

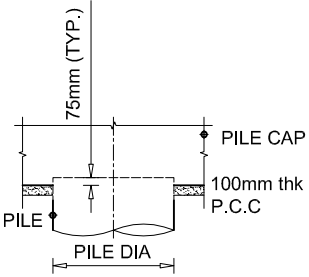
BAR BENDING SCHEDULE OF PIER PILE

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	30650	32	300	30.950	15	6.321	2934.52
2	PP2	15373	32		15.373	15	6.320988	1457.588
3	PP3	Dia. 1034	16	100	3.448	48	1.580	261.56
4	PP4	Dia. 1034	12	100	3.448	242	0.889	741.77
TOTAL (KG) :								5395.44
No. of Pile								12.00
TOTAL WEIGHT (KG) :								64745.25

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

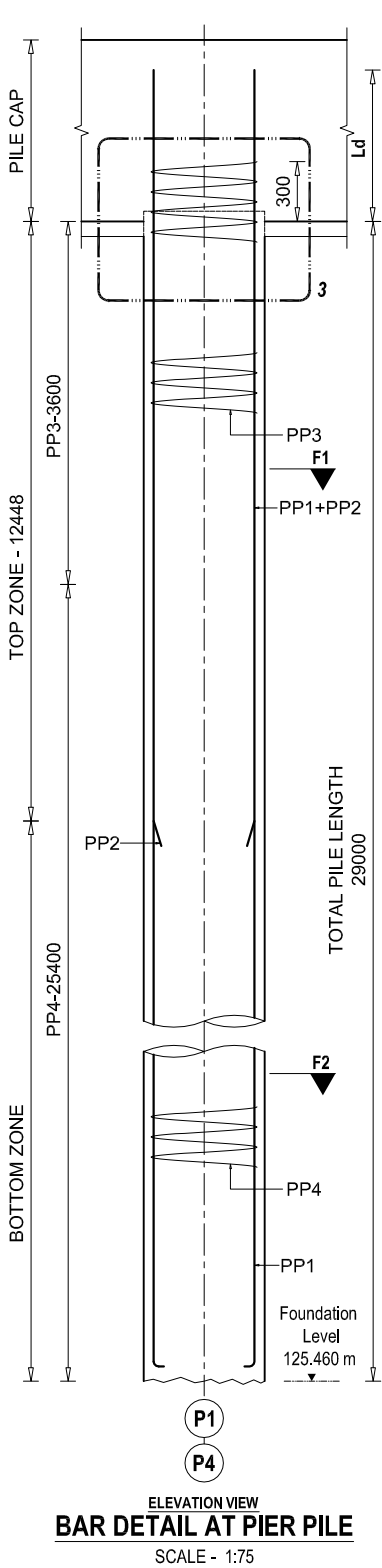
PILE CAPACITY

SN.	CAPACITY (Ton)
1 ABUTMENT	222.96
2 PIER	193.70



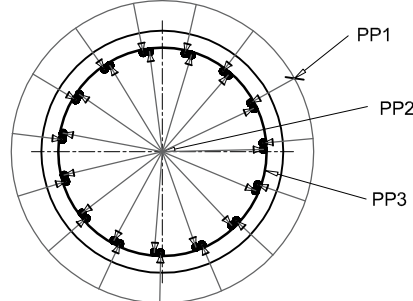
DETAIL AT 3 AND 4

SCALE - 1:75



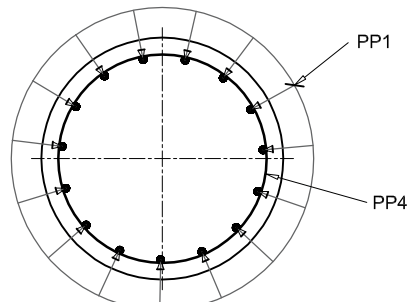
BAR DETAIL AT PIER PILE

SCALE - 1:75



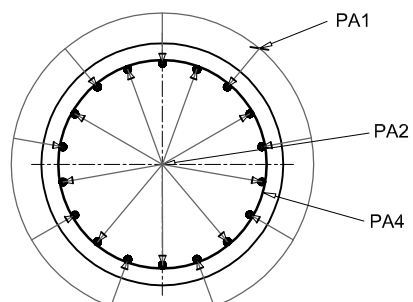
SECTIONAL VIEW AT F1 - F1

SCALE - 1:40



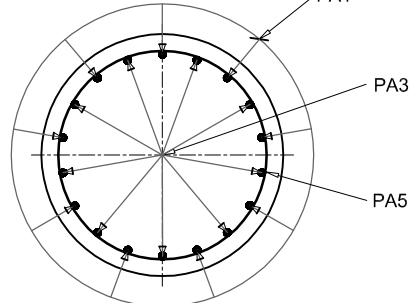
SECTIONAL VIEW AT F2 - F2

SCALE - 1:40



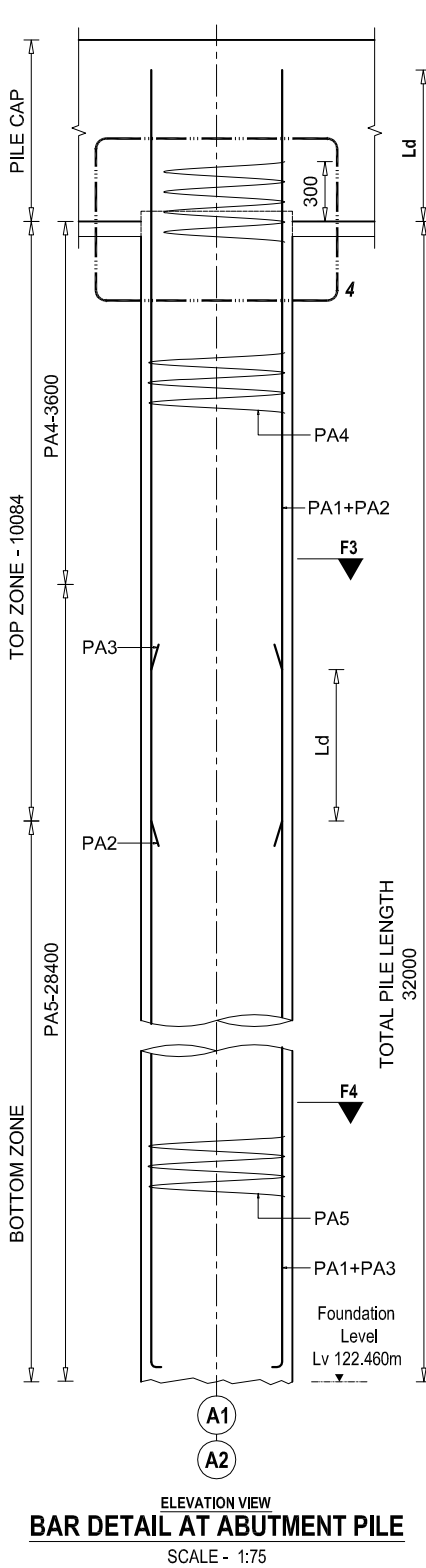
SECTIONAL VIEW AT F3 - F3

SCALE - 1:40



SECTIONAL VIEW AT F4 - F4

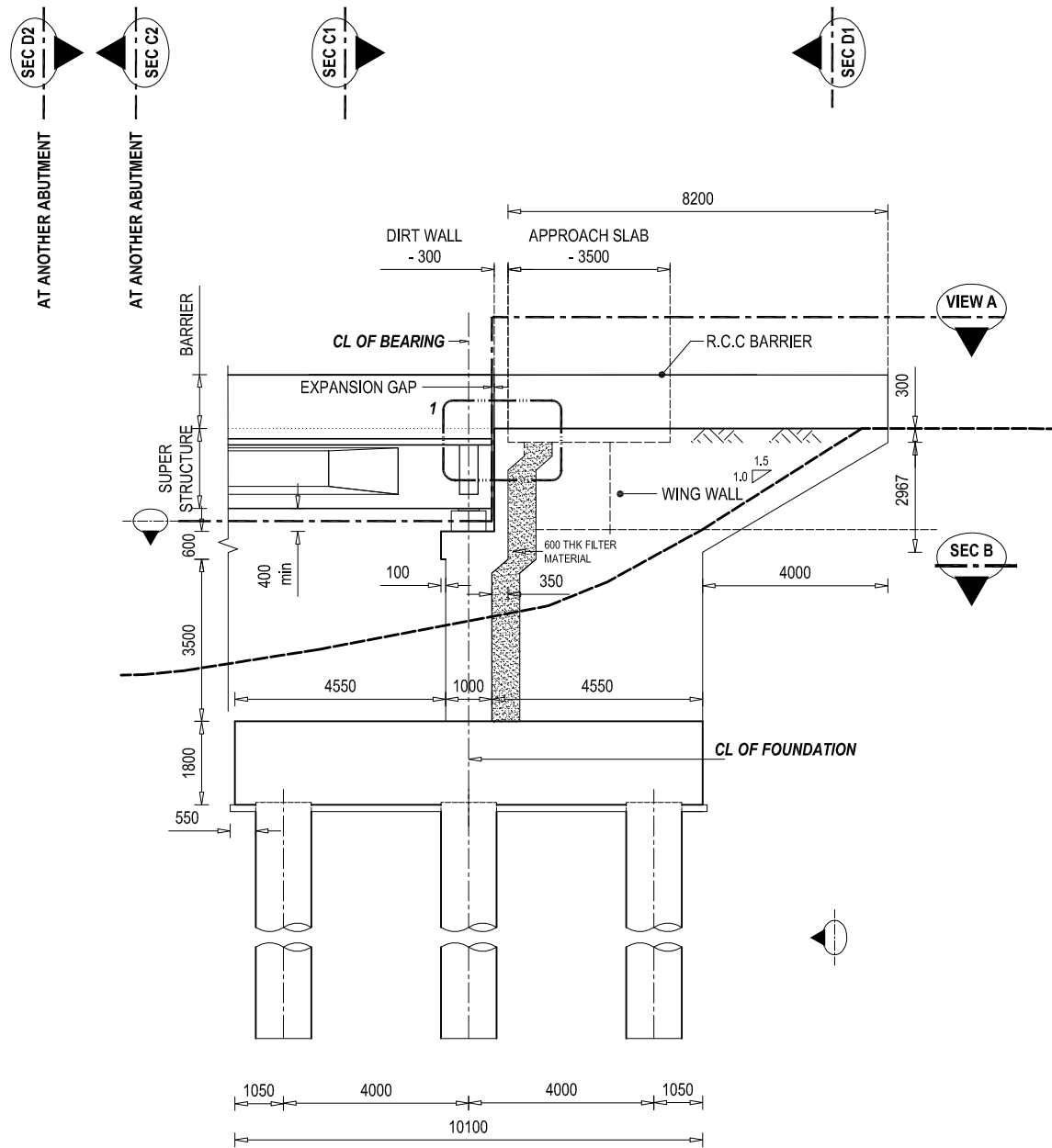
SCALE - 1:40



BAR DETAIL AT ABUTMENT PILE

SCALE - 1:75

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 Kamata-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 Krti Consultant and Rays Consultant Private Limited	Checked By	Mr. S.M.	LAYOUT AND DETAIL OF PILE FOUNDATION FOR BRIDGE OVER RIVER PHULJOR Reference Drawings KDP/DPR/STR/BR/ PHULJOR/DD-9	Chainage: 290+215	Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-6 Sheet No. 1/1
			Approved By	Mr. H.B.			



OUTLINE DETAILS OF ABUTMENT
SCALE - 1: 150

NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/PHULJOR/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

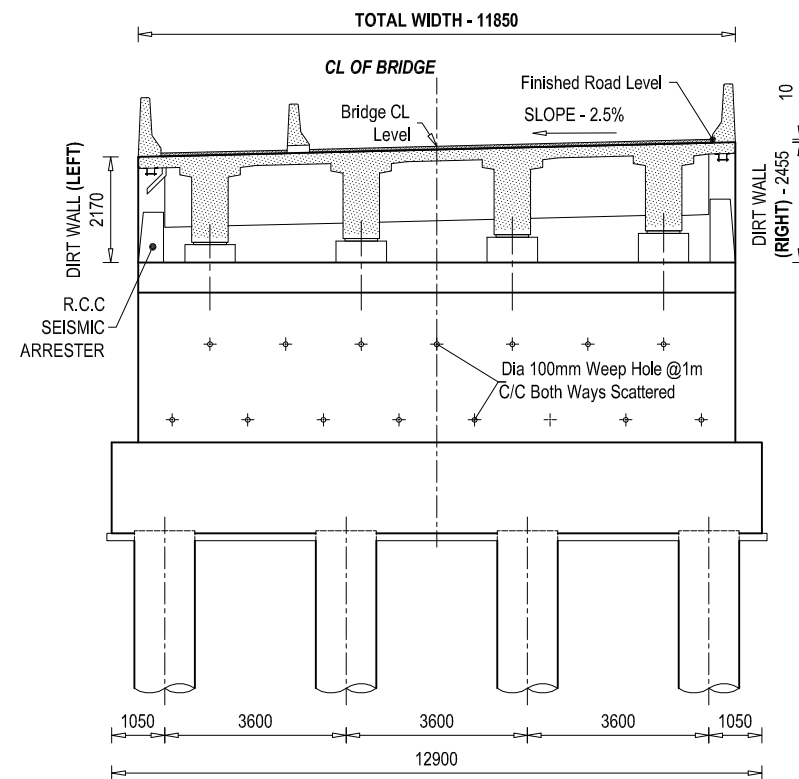
DESIGN CONSULTANTS
Joint Venture of
ep4sa EPTISA Servicios De Ingeniera Madrid, Spain
STUP Consultants Private Limited Kolkata, India
In Association With
Udaya Consultancy, Geocom International, Sundar Kirti Consultant and Rays Consultant Private Limited

Designed By Mr. R.A.
Nec.No. 5431 CRM/W
Checked By Mr. S.M.
Approved By Mr. H.B.

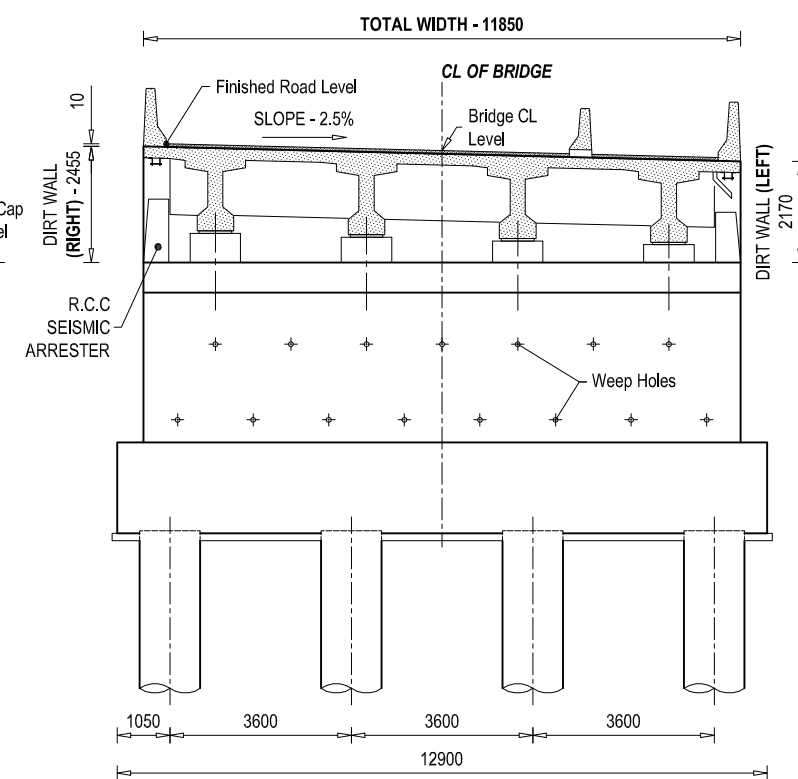
Drawing Name
ABUTMENT DETAILS OF BRIDGE OVER RIVER PHULJOR
Reference Drawings
KDP/DPR/STR/BR/PHULJOR/DD-3

Scale:
AS SHOWN
Chainage:
290+215

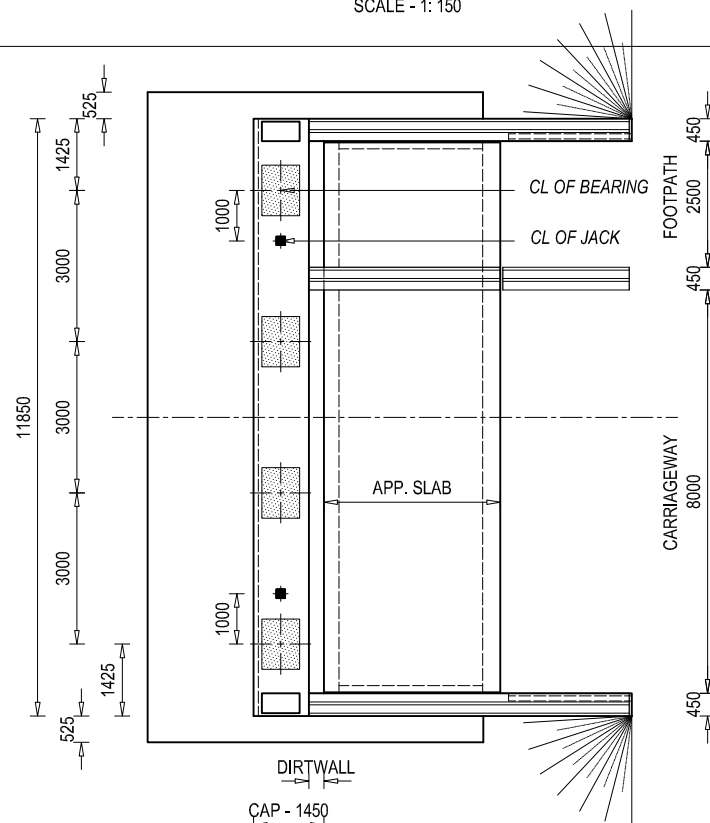
Date:
2.05.2023
Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-7
Sheet No. 1 / 2



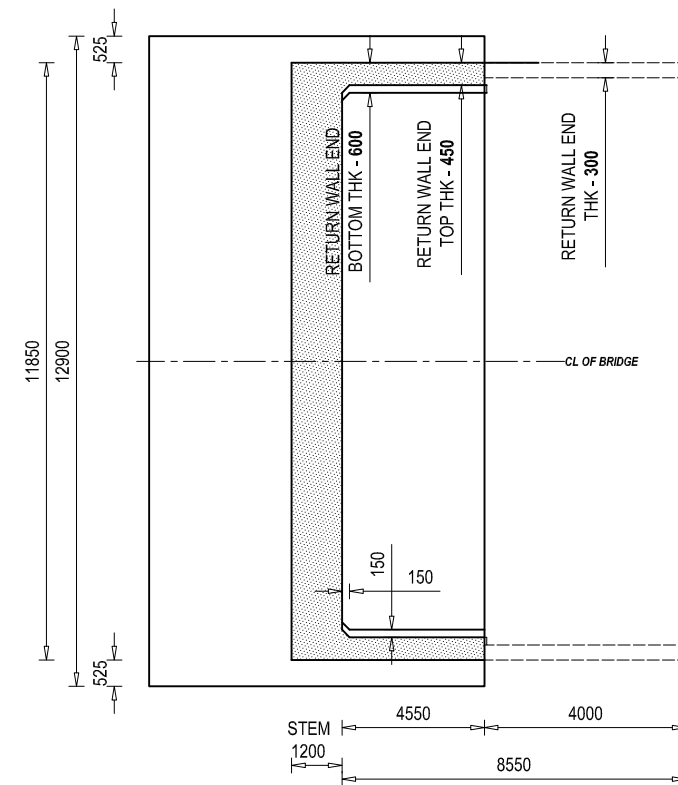
SECTIONAL VIEW AT C1 - C1
SCALE - 1: 150



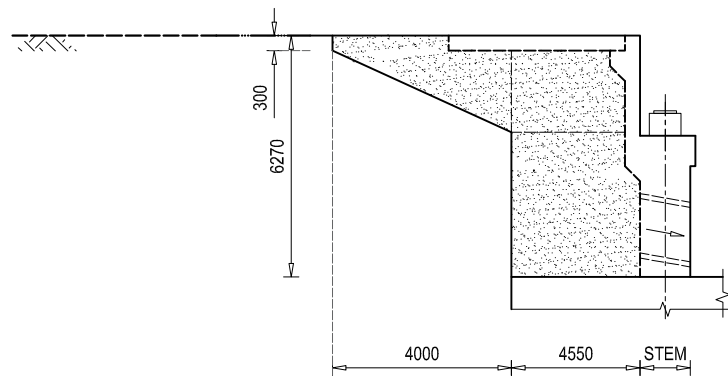
SECTIONAL VIEW AT C2 - C2
SCALE - 1: 150



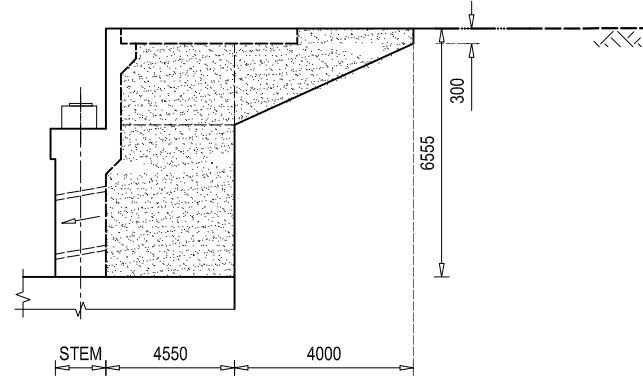
VIEW AT A
SCALE - 1: 150



SECTIONAL VIEW AT B - B
SCALE - 1: 150

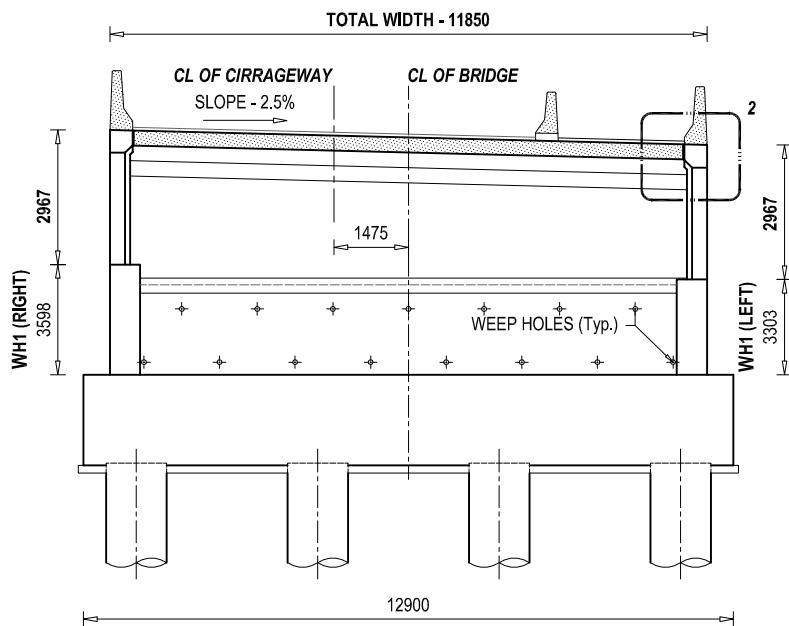


VIEW AT E1
SCALE - 1: 150

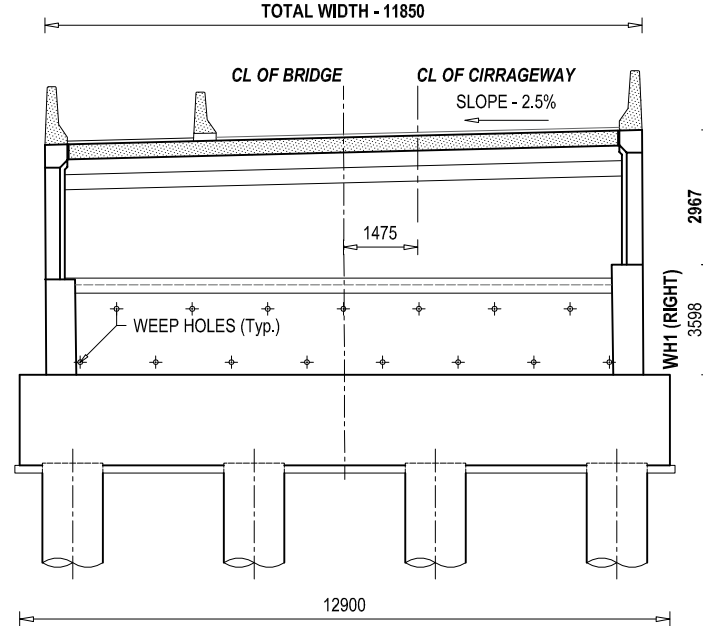


VIEW AT E2
SCALE - 1: 150

DETAIL AT RETURN WALL

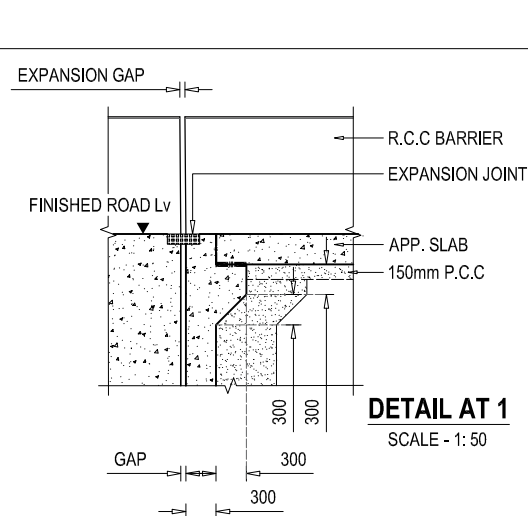


SECTIONAL VIEW AT D1 - D1
SCALE - 1: 150



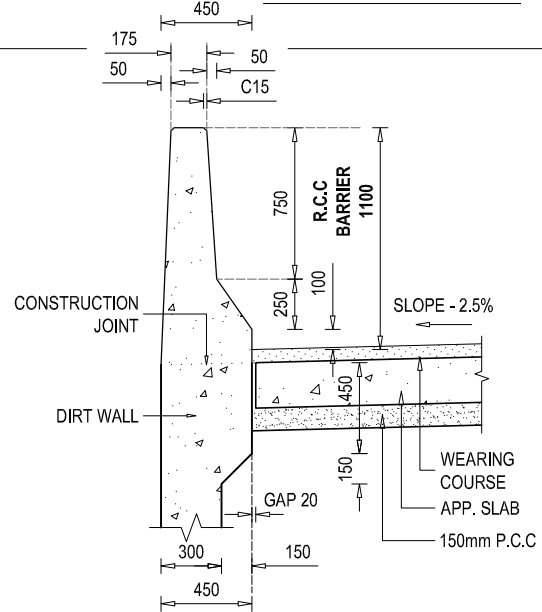
SECTIONAL VIEW AT D2 - D2
SCALE - 1: 150

DETAIL AT DIRT WALL

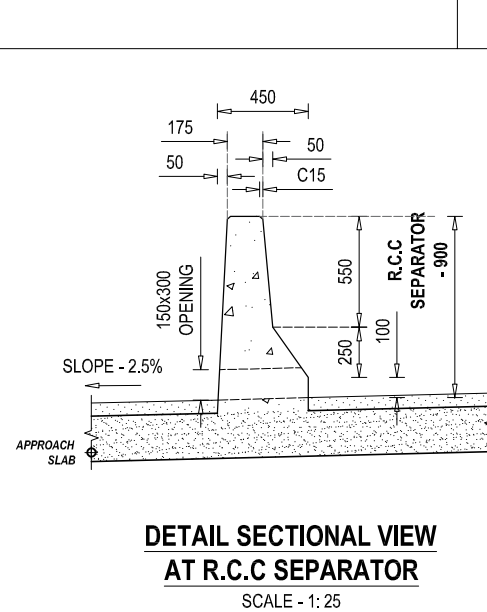


DETAIL AT 1
SCALE - 1: 50

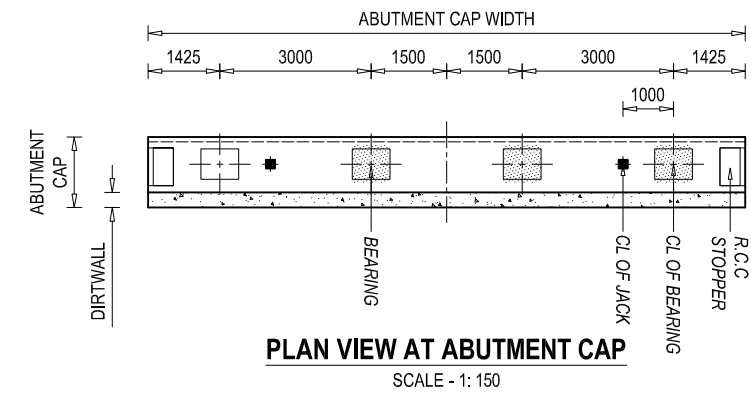
NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/PHULJOR/DD-4



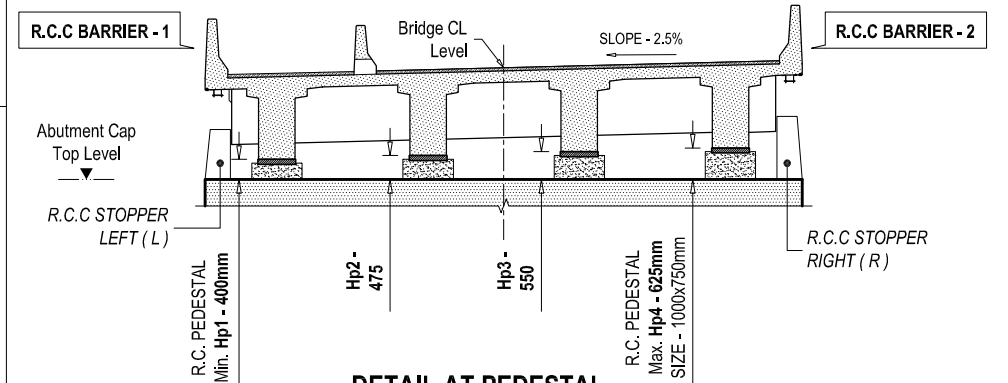
**DETAIL SECTIONAL VIEW
AT R.C.C BARRIER - 1**
SCALE - 1: 25



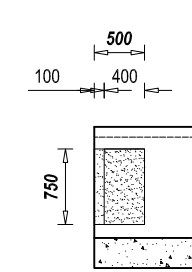
**DETAIL SECTIONAL VIEW
AT R.C.C SEPARATOR**
SCALE - 1: 25



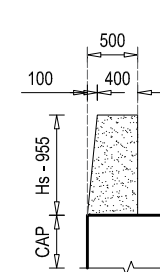
PLAN VIEW AT ABUTMENT CAP
SCALE - 1: 150



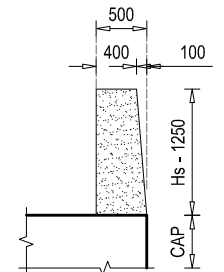
DETAIL AT PEDESTAL
SCALE - 1: 150



**R.C.C SEISMIC ARRESTER
PLAN VIEW**



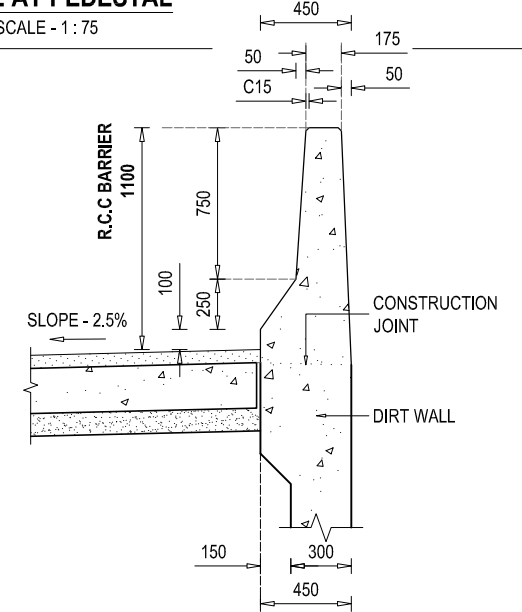
**R.C.C SEISMIC ARRESTER - LEFT
ELEVATION VIEW**



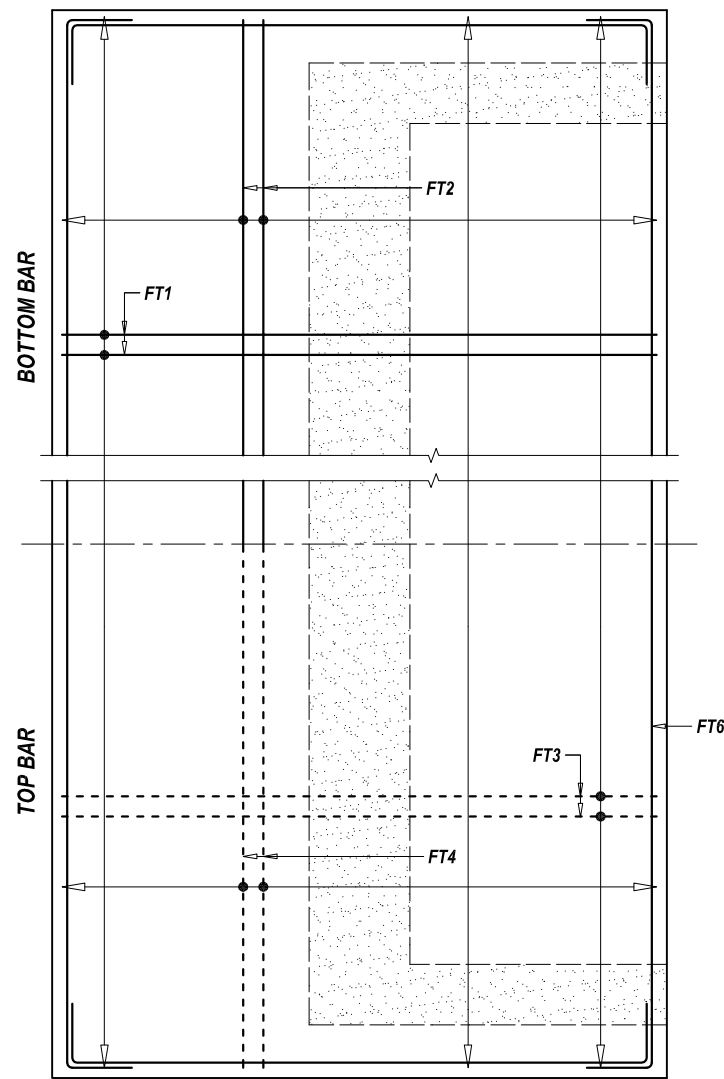
**R.C.C SEISMIC ARRESTER - RIGHT
ELEVATION VIEW**

DETAIL AT PEDESTAL
SCALE - 1: 75

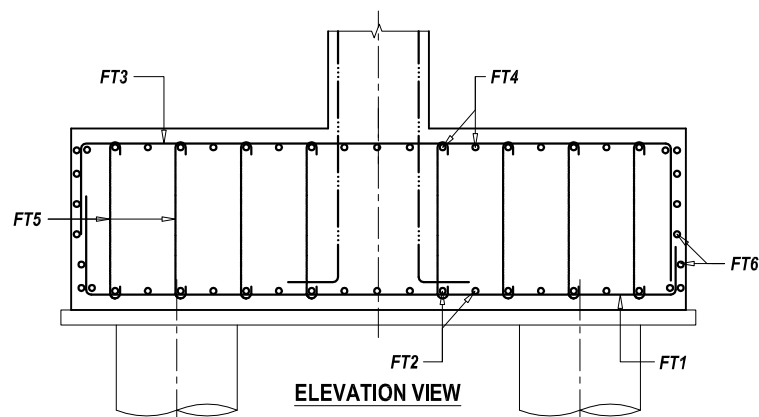
**DETAIL SECTIONAL
VIEW AT R.C.C BARRIER - 2**
SCALE - 1: 25



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-Pathlajaya 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 Kritt Consultant and Rays Consultant Private Limited	Designed By Mr. R.A. Nec.No. 5431 CML/W Signature Checked By Mr. S.M. Signature Approved By Mr. H.B. Signature	Drawing Name ABUTMENT DETAILS OF BRIDGE OVER RIVER PHULJOR Reference Drawings KDP/DPR/STR/BR/PHULJOR/DD-3	Scale: AS SHOWN Chainage: 290+215	Date: 05.05.2023 Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-7 Sheet No. 2 / 2
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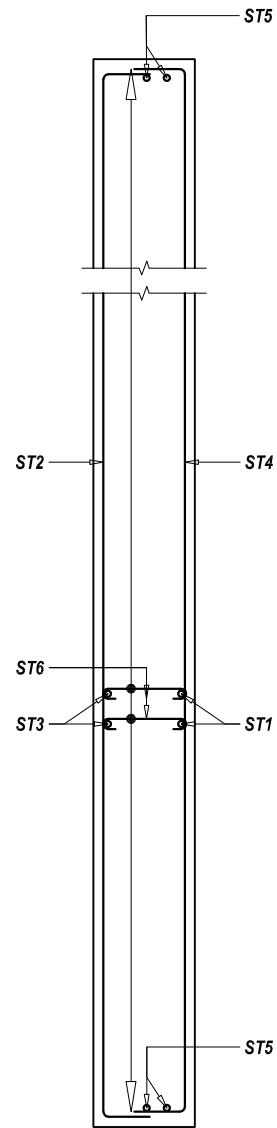


PLAN VIEW

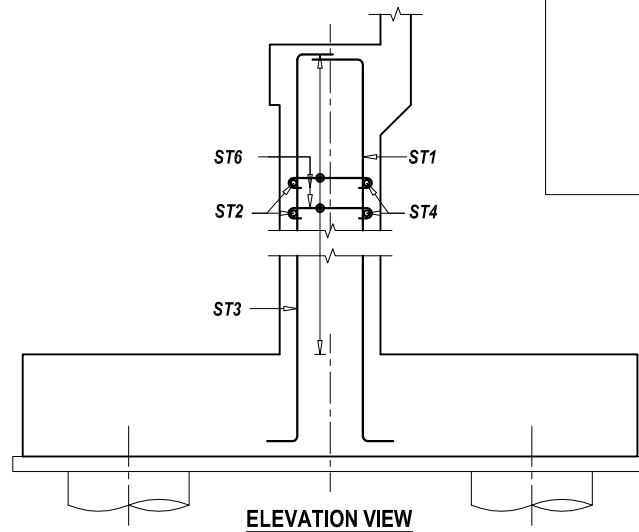


BAR DETAIL OF PILE CAP
SCALE - 1 : 75

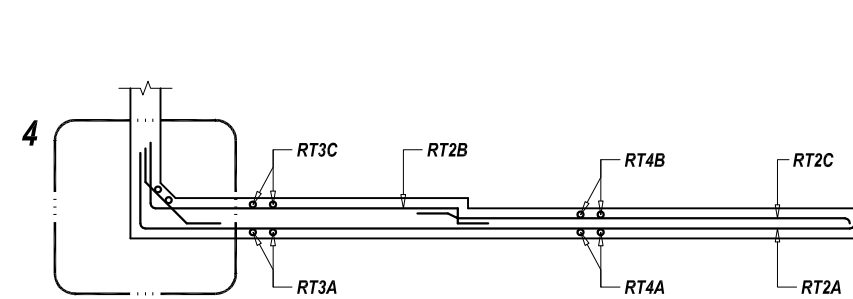
NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/PHULJOR/DD-4



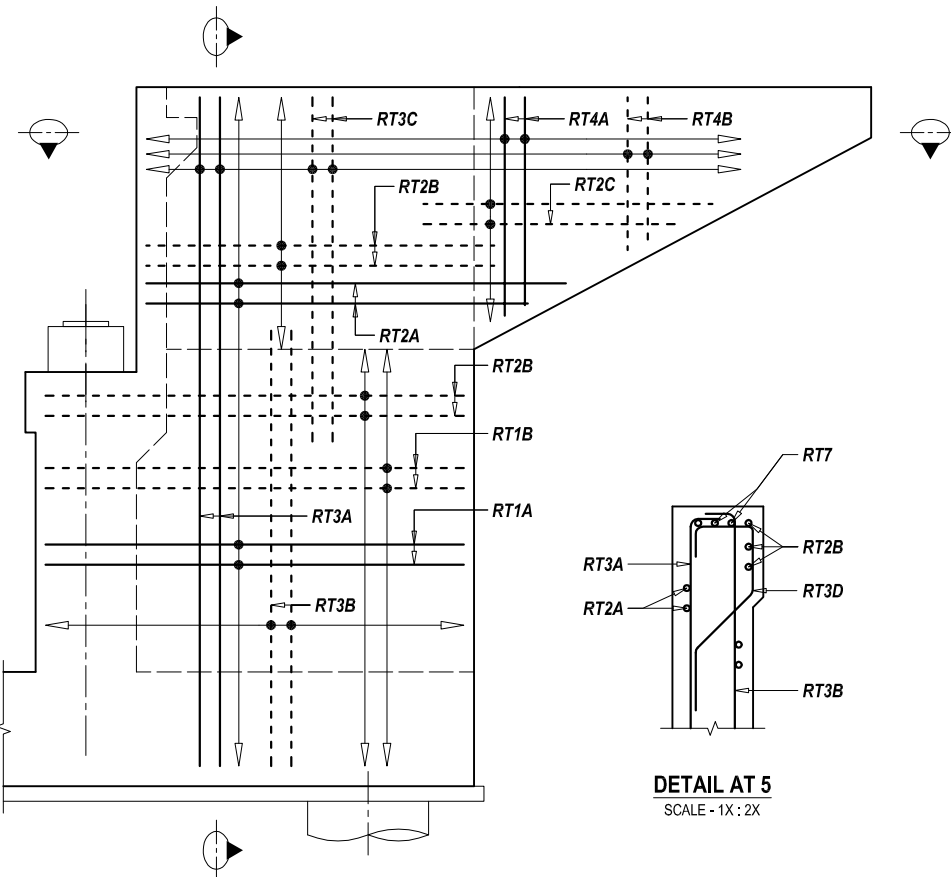
SECTIONAL PLAN VIEW



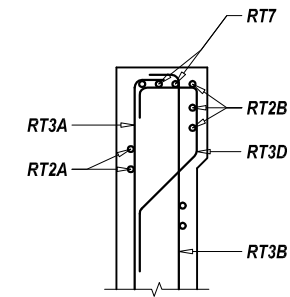
BAR DETAIL AT ABUTMENT STEM
SCALE - 1 : 75



SECTIONAL PLAN VIEW

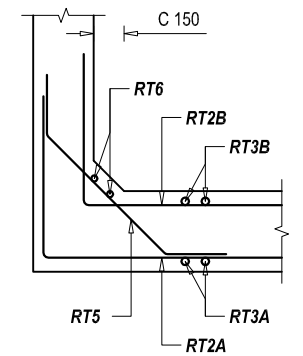


ELEVATION VIEW

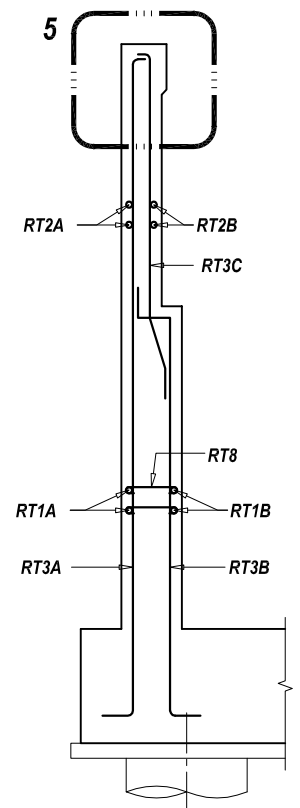


DETAIL AT 5
SCALE - 1X : 2X

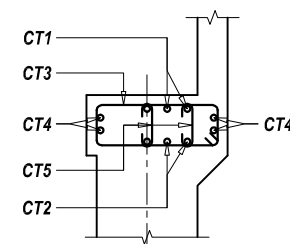
BAR DETAIL AT RETURN WALL
SCALE - 1 : 75



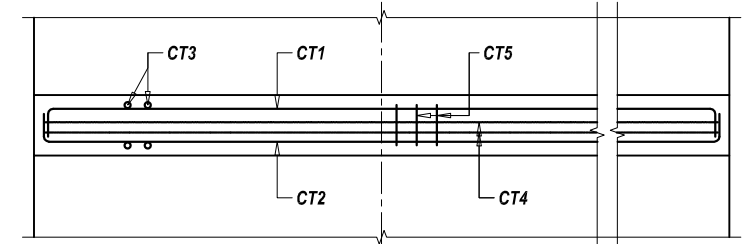
DETAILS AT 4



SECTIONAL SIDE VIEW



ELEVATION VIEW

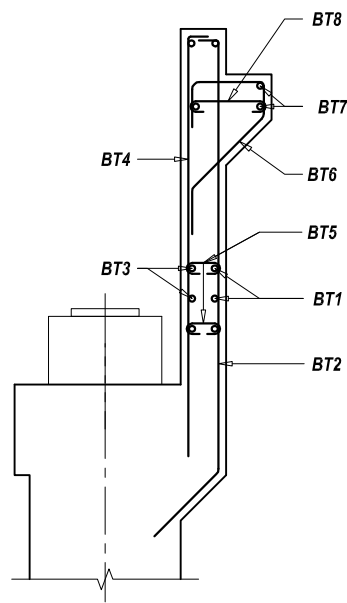


FRONT VIEW

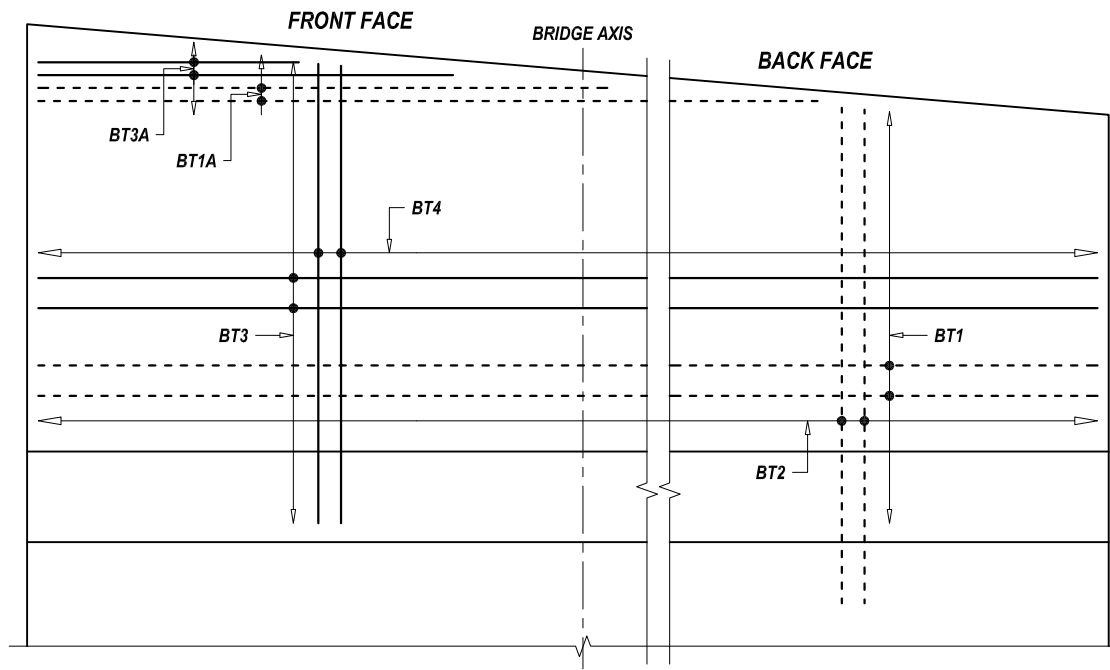
BAR DETAIL AT ABUTMENT CAP
SCALE - 1 : 75

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

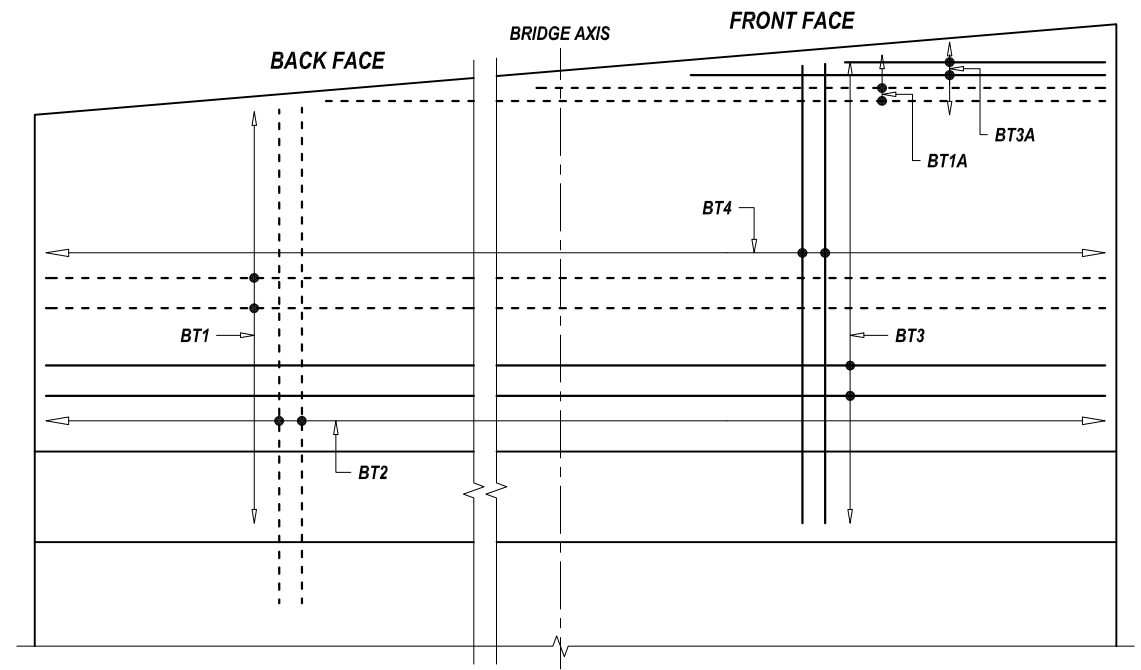
EMPLOYER	PROJECT NAME	DESIGN CONSULTANTS	Designed By	Mr. R.A.	Signature	Drawing Name	Scale:	Date:
Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of EPTISA Servicios De Ingeniera 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.	Signature	ABUTMENT REINFORCEMENT DETAILS OF BRIDGE OVER RIVER PHULJOR	AS SHOWN	05.05.2023
			Approved By	Mr. H.B.	Signature	Reference Drawings KDP/DPR/STR/BR/PHULJOR/DD-3	Chainage: 290+215	Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-8 Sheet No. 1 / 2



SECTIONAL SIDE VIEW



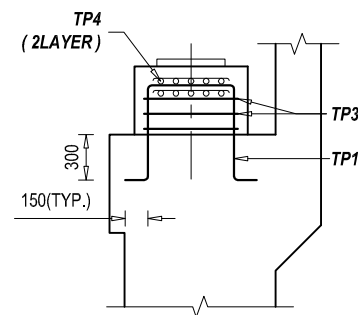
ELEVATION VIEW / VIEW AT D1



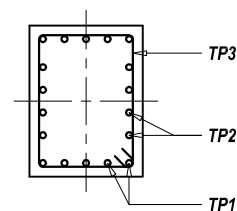
ELEVATION VIEW / VIEW AT D2

BAR DETAIL AT DIRT WALL

SCALE - 1 : 50

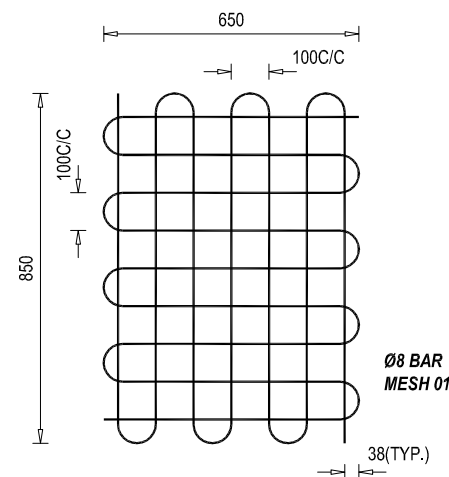


SECTIONAL SIDE VIEW



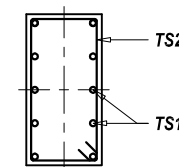
SECTIONAL PLAN VIEW
BAR DETAIL AT PEDESTAL

SCALE - 1 : 50

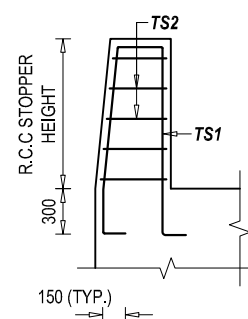


REINFORCEMENT DETAILS OF
BEARING MESH

SCALE - 1 : 50

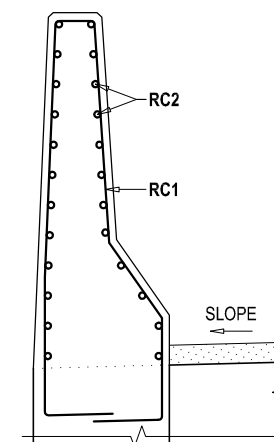


SECTIONAL PLAN VIEW



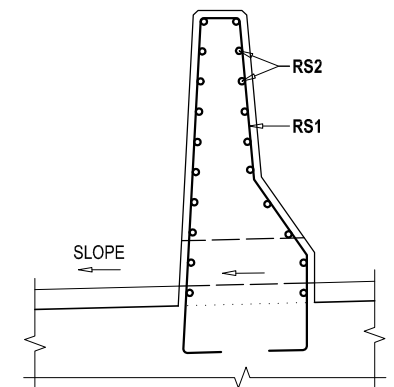
R.C.C STOPPER LEFT
ELEVATION VIEW

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

SCALE - 1 : 25

--- 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/PHULJOR/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 Ingeniera Madrid, Spain  STUP Consultants Private Limited Kolkata, India In Association With Udaya Consultancy, Geocom International, Sundar Kritt Consultant and Rays Consultant Private Limited	Signature	Signature	ABUTMENT REINFORCEMENT DETAILS OF BRIDGE OVER RIVER PHULJOR Reference Drawings KDP/DPR/STR/BR/PHULJOR/DD-9	AS SHOWN Chainage: 290+215	05.05.2023
			Checked By	Mr. S.M.			Drawing No.-
			Approved By	Mr. H.B.			KDP/DPR/STR/BR/PHULJOR/DD-8
				Signature			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		16	200	12.000	17	1.580	322.37
2	BT 1A		16	200	6.000	3	1.580	28.44
3	BT 2		16	125	3.403	96	1.580	516.25
4	BT 3		16	200	12.000	13	1.580	246.52
5	BT 3A		16	200	6.000	3	1.580	28.44
6	BT 4		12	125	3.028	96	0.889	258.39
7	BT 5		12	500	0.350	96	0.889	29.87
8	BT 6		12	200	1.826	61	0.889	99.01
9	BT 7		16		11.700	5	1.580	92.44
10	BT 8		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		16	150	12.300	11	1.580	213.81
2	CT 2		16	150	12.300	11	1.580	213.81
3	CT 3		16	150	3.700	80	1.580	467.75
4	CT 4		12	150	12.300	8	0.889	87.47
5	CT 5		12	Long. 150 Trans.300	0.650	382	0.889	220.71
TOTAL (KG) :								1203.55

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		25		6.827	90	3.858	2370.49
2	ST 2		16	190	12.700	19	1.580	381.31
3	ST 3		25		6.827	90	3.858	2370.49
4	ST 4		16	190	12.700	19	1.580	381.31
5	ST 5		16		6.827	14	1.580	151.04
6	ST 6		12	Ver. 475 Hor.475	1.050	200	0.889	186.67
TOTAL (KG) :								5841.30

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		25		11.750	100	3.858	4533.18
2	FT 2		20		14.550	80	2.469	2874.07
3	FT 3		16		11.750	100	1.580	1856.79
4	FT 4		16		14.550	80	1.580	1839.41
5	FT 5		10	Long. 260 Trans.420	1.850	1162	0.617	1326.98
6	FT 6		16	200	45.520	8	1.580	575.46
TOTAL (KG) :								13005.89

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		16	150	2.850	6	1.580	27.02
1	TP 2		16	150	2.350	8	1.580	29.71
2	TP 3		16	150	3.500	3	1.580	16.59
1	TP 4		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		16	150	3.280	6	1.580	31.10
2	TS2-L		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		16	150	3.785	6	1.580	35.89
2	TS2-R		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-Dhakkebar-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 Kriti Consultant and Rays Consultant Private Limited	Mr. R.A. Nec.No. 6431 CRM/W				ABUTMENT BAR BENDING SCHEDULE OF BRIDGE OVER RIVER PHULJOR		AS SHOWN		05.05.2023	
				Mr. S.M.				Reference Drawings		Chainage:		Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-9	
				Mr. H.B.						290+215		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		12	150	6.000	44	0.889	234.67
2	RT1B		12	150	6.000	44	0.889	234.67
3	RT2A		12	150	8.650	21	0.889	161.47
4	RT2B		12	150	6.300	21	0.889	117.60
5	RT2C		12	150	4.475	21	0.889	83.53
6	RT3A		12	150	8.843	32	0.889	251.53
7	RT3B		20	150	6.876	32	2.469	543.29
8	RT3C		20	150	4.192	32	2.469	331.22
9	RT3D		20	150	1.210	56	2.469	167.31
10	RT4A		12	150	1.784	50	0.889	79.27
11	RT4B		20	150	1.784	50	2.469	220.19
12	RT5		12	150	1.470	65	0.889	84.93
13	RT6		12		6.593	2	0.889	11.72
14	RT7		20		5.6	4	2.469	55.31
15	RT8		12	200	0.650	40	0.889	23.11
TOTAL (KG) :								2599.81

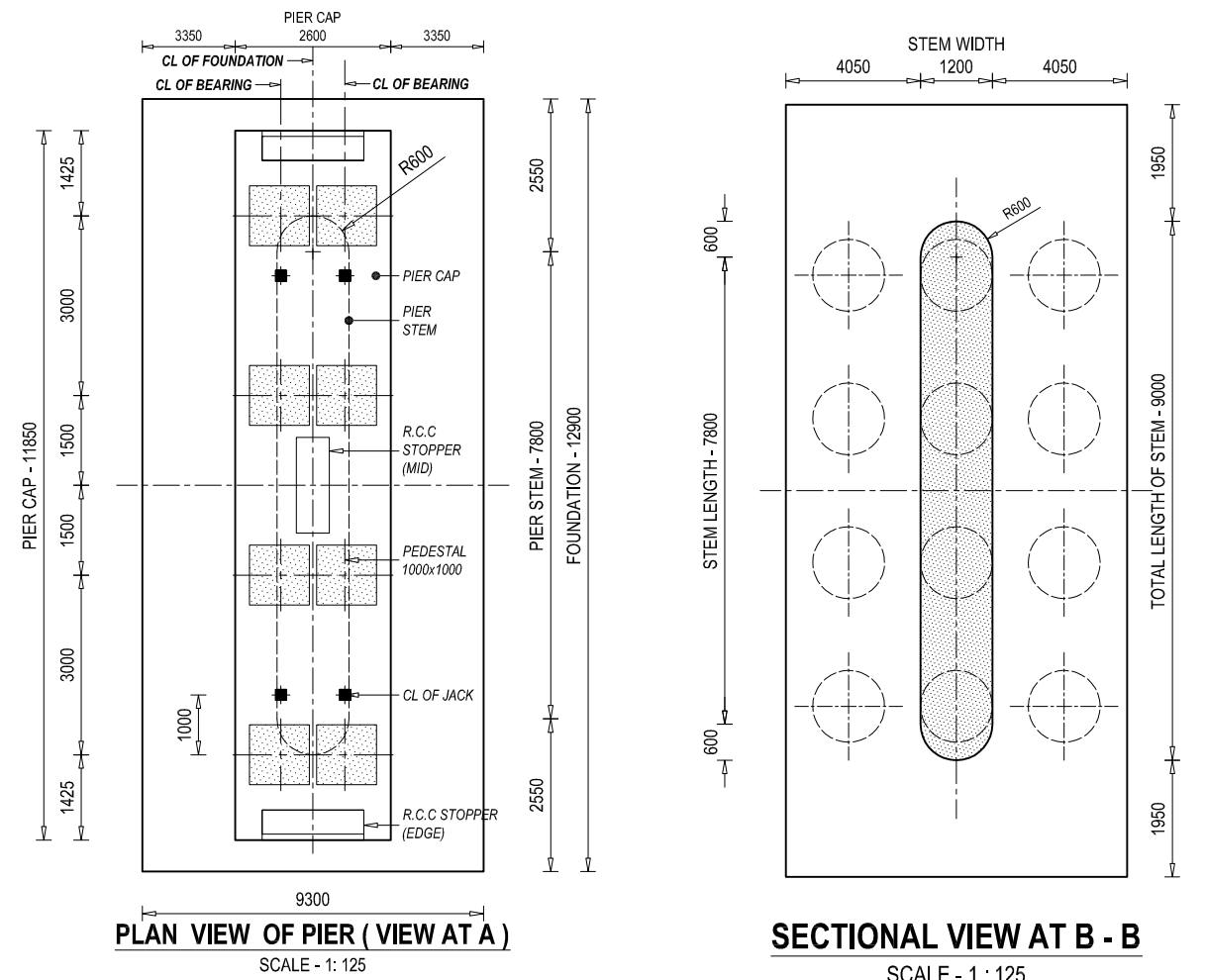
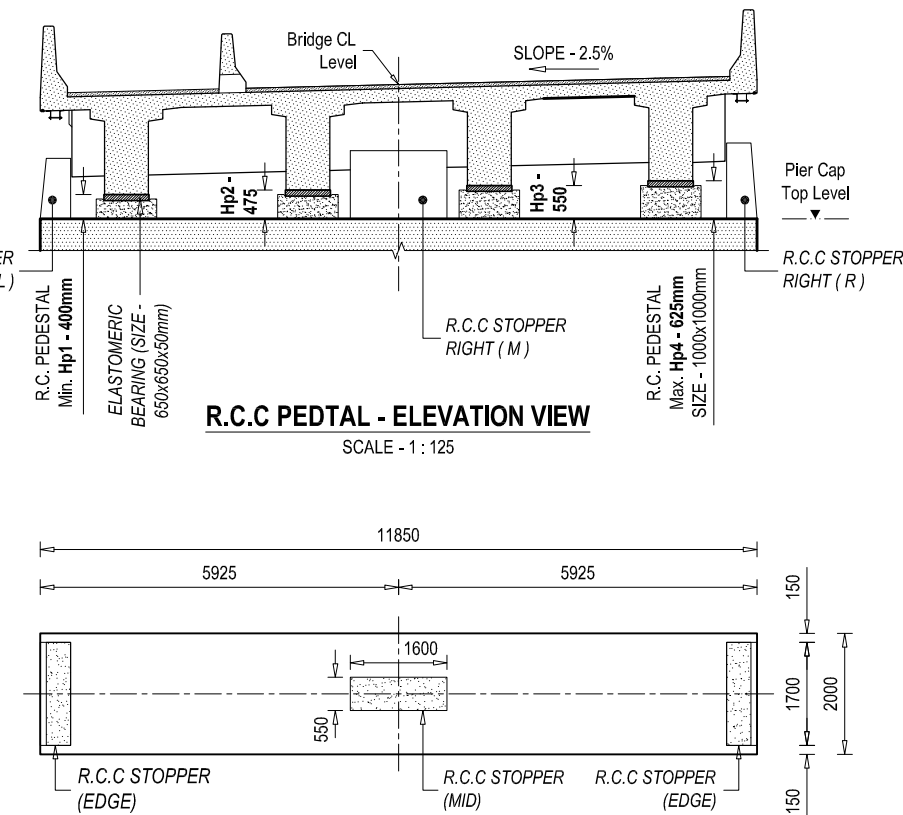
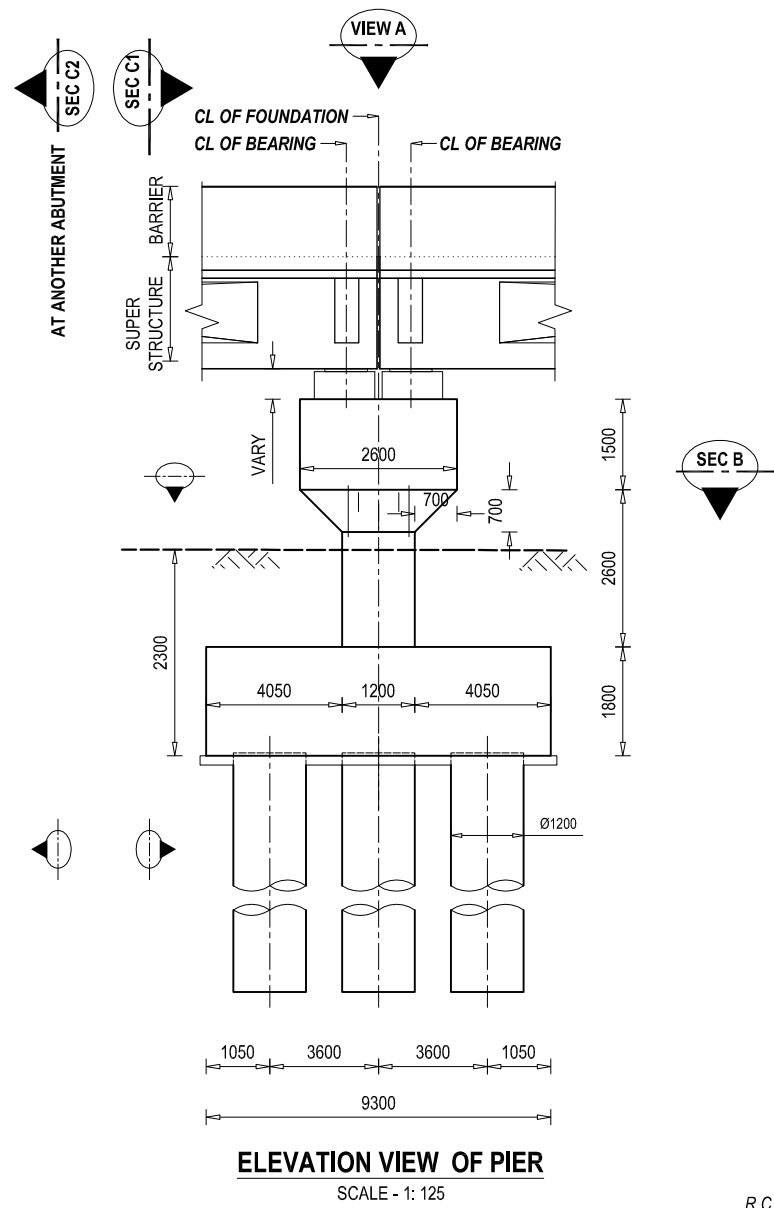
BAR BENDING SCHEDULE OF RETURN WALL - RIGHT								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	RT1A		12	150	6.000	42	0.889	224.00
2	RT1B		12	150	6.000	42	0.889	224.00
3	RT2A		12	150	8.650	21	0.889	161.47
4	RT2B		12	150	6.300	21	0.889	117.60
5	RT2C		12	150	4.475	21	0.889	83.53
6	RT3A		12	150	8.547	32	0.889	243.11
7	RT3B		20	150	6.580	32	2.469	519.90
8	RT3C		20	150	4.192	32	2.469	331.22
9	RT3D		20	150	1.210	56	2.469	167.31
10	RT4A		12	150	1.784	50	0.889	79.27
11	RT4B		20	150	1.784	50	2.469	220.19
12	RT5		12	150	1.470	65	0.889	84.93
13	RT6		12		6.297	2	0.889	11.19
14	RT7		20		5.6	4	2.469	55.31
15	RT8		12	200	0.650	36	0.889	20.80
TOTAL (KG) :								2543.83

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	55	1.580	275.52
2	RC2		10	150	8.400	20	0.617	103.70
TOTAL (KG) :								379.22

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		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		16	150	11.170	48	1.580	847.27
2	1202		12	150	3.620	150	0.889	482.67
TOTAL (KG) :								1329.93

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-Pathlajya Road Section (130 KM) of Mahendra Highway and Bridges		Joint Venture of		Mr. R.A.		ABUTMENT BAR BENDING SCHEDULE OF BRIDGE OVER RIVER PHULJOR		AS SHOWN		05.05.2023	
				EPTISA Servicios De Ingeniera Madrid, Spain		Mr. S.M.						Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-9	
				In Association With Udaya Consultancy, Geocom International, Sundar Kritt Consultant and Rays Consultant Private Limited		Mr. H.B.		Reference Drawings		Chainage: 290+215		Sheet No. 2 / 2	



NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/PHULJOR/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-Dhalkabar-Pathlajay Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of ep4sa EPTISA Servicios De Ingeniera Madrid, Spain and STUP Consultants Private Limited Kolkata, India In Association With Udaya Consultancy, Geocom International, Sundar Kritt Consultant and Rays Consultant Private Limited	Mr. R.A. Nec.No. 6431 CIVIL/W Signature	PIER DETAILS OF BRIDGE OVER RIVER PHULJOR	AS SHOWN	03.08.2023
			Checked By Mr. S.M. Signature	Reference Drawings KDP/DPR/STR/BR/PHULJOR/DD-12	Chainage: 290+215	Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-10
			Approved By Mr. H.B. Signature			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		20		3.950	50	2.469	487.65
2	CT2		20		13.200	18	2.469	586.67
3	CT3		20		3.950	50	2.469	487.65
4	CT4		20		13.200	18	2.469	586.67
5	CT5		16		28.500	11	1.580	495.41
6	CT6		16	X: 280 Y: 480	1.550	225	1.580	551.11
7	CT7		16	150	1.550	137	1.580	335.57
8	CT8		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		25		10.950	98	3.858	4140.05
2	FT2		25		14.550	50	3.858	2806.71
3	FT3		25		10.950	98	3.858	4140.05
4	FT4		25		14.550	50	3.858	2806.71
5	FT5		12	Long. 370 Trans. 250	1.85	1262	0.889	2075.29
6	FT6		16	200	43.900	8	1.580	554.98
TOTAL (KG) :								16523.79

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		16	150	3.280	13	1.580	67.38
2	TS2-L		12	150	4.300	7	0.889	26.76
TOTAL (KG) :								94.14

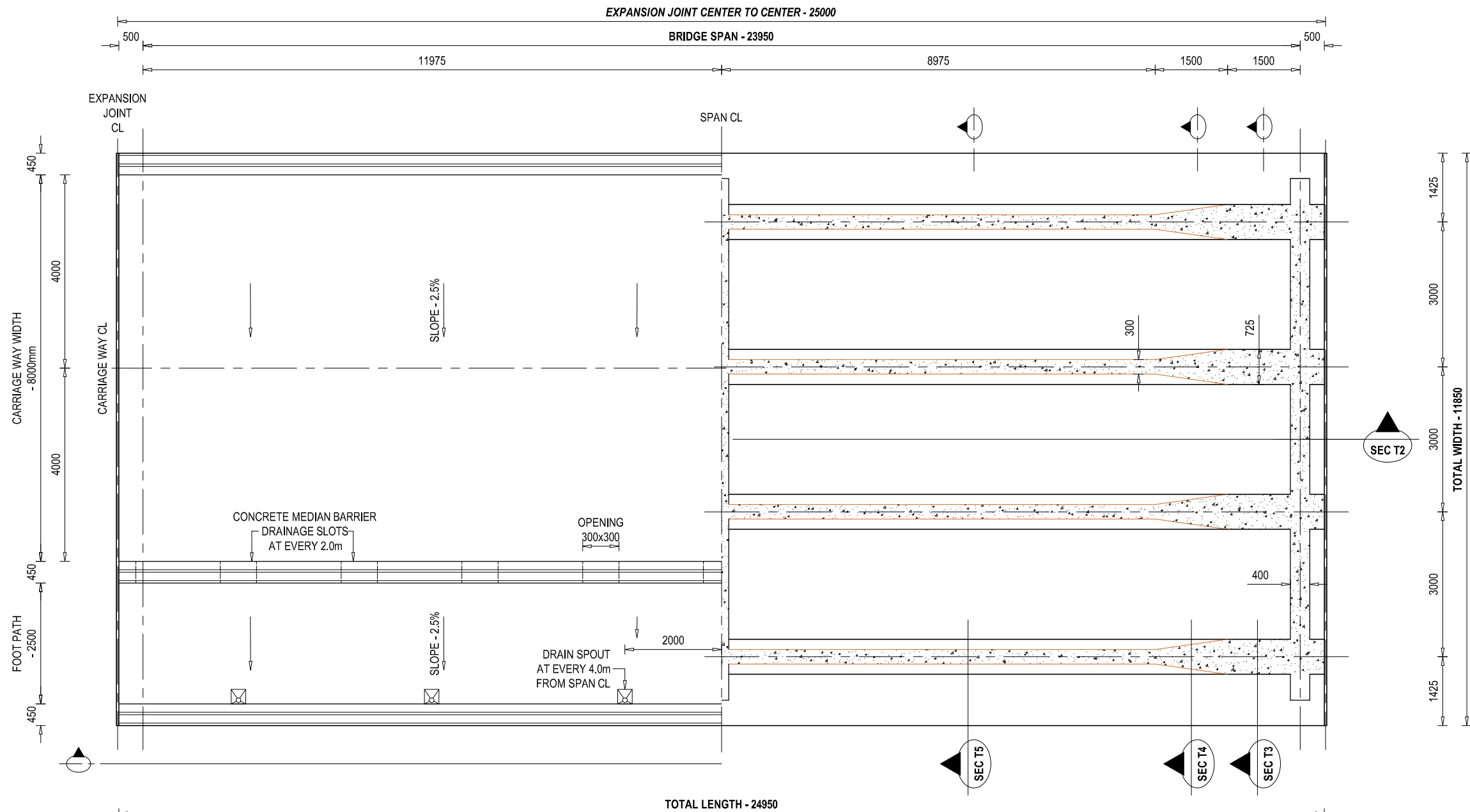
BAR BENDING SCHEDULE OF RCC SEISMIC ARRESTER - RIGHT								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	TS1-R		16	150	3.785	13	1.580	77.76
2	TS2-R		12	150	4.300	9	0.889	34.40
TOTAL (KG) :								112.16

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		25		6.950	50	3.858	1340.66
2	ST2		16	200	7.850	13	1.580	161.26
3	ST3		25		6.950	50	3.858	1340.66
4	ST4		16	200	7.850	13	1.580	161.26
5	ST5		25		6.950	12	3.858	321.76
5	ST6		16	200	3.325	26	1.580	136.61
6	ST7		16	Ver. 150 Hor. 400	1.250	414	1.580	817.78
TOTAL (KG) :								4280.00

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		16	150	2.850	8	1.580	36.03
2	TP2		16	150	2.850	8	1.580	36.03
3	TP3		16	150	4.000	3	1.580	18.96
4	TP4		10		26.000	2	0.617	32.10
TOTAL (KG) :								123.12
TOTAL NOS OF PEDESTAL :								4.00
TOTAL WEIGHT (KG) :								492.48

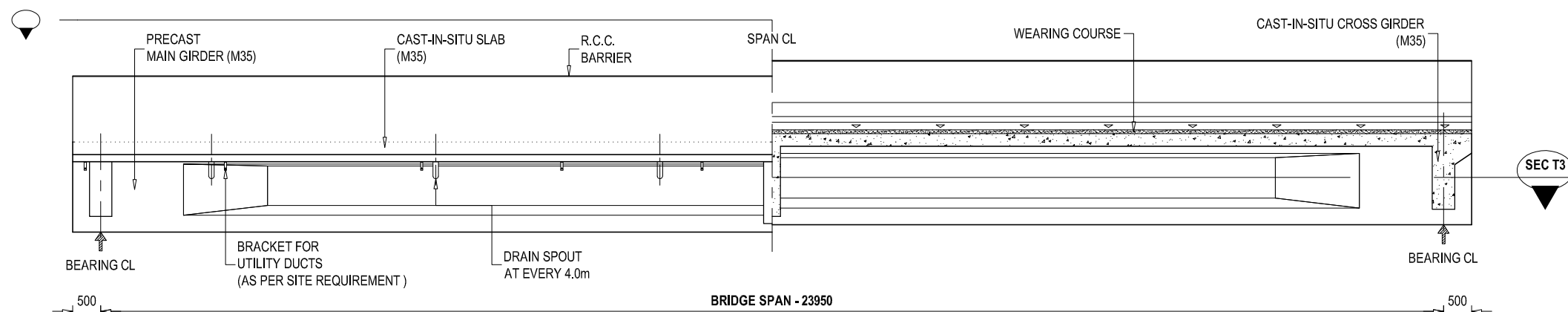
BAR BENDING SCHEDULE OF RCC SEISMIC ARRESTER - MID								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	TU1		16	150	3.546	13	1.580	72.85
2	TU2		12	150	4.200	8	0.889	29.87
TOTAL (KG) :								102.71

EMPLOYER		PROJECT NAME		DESIGN CONSULTANTS		Drawing Name		Scale:		Date:	
		Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathalaya Road Section (130 KM) of Mahendra Highway and Bridges		Joint Venture of EPTISA Servicios De Ingenieria Madrid, Spain STUP Consultants Private Limited Kolkatta, India		Designed By	Mr. R.A. Nec.No. 6431 CIVIL/W	AS SHOWN		03.08.2023	
						Checked By	Mr. S.M.			Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-12	
						Approved By	Mr. H.B.			Sheet No.1/1	



HALF SECTIONAL PLAN VIEW OF SUPERSTRUCTURE AT SEC T1

SCALE - 1 : 100 @ A3 PAPER

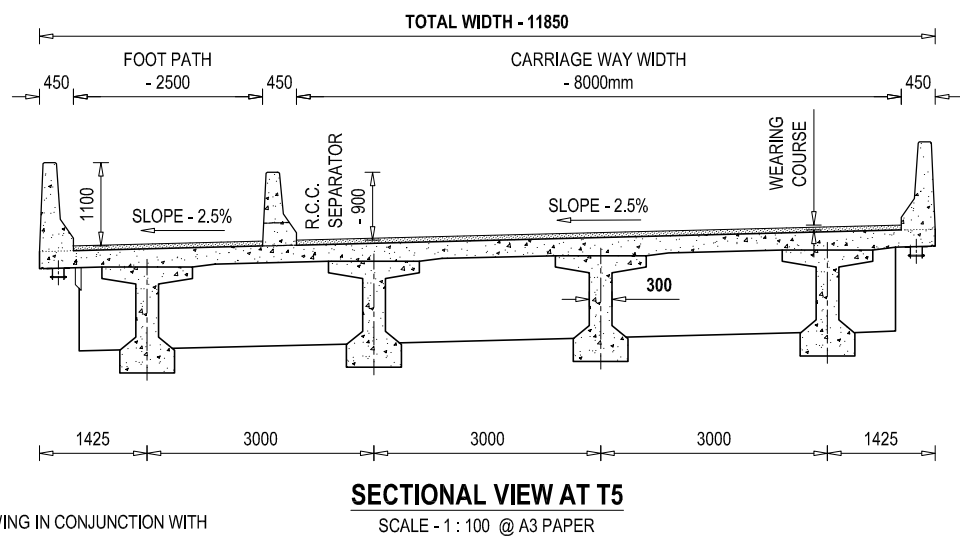
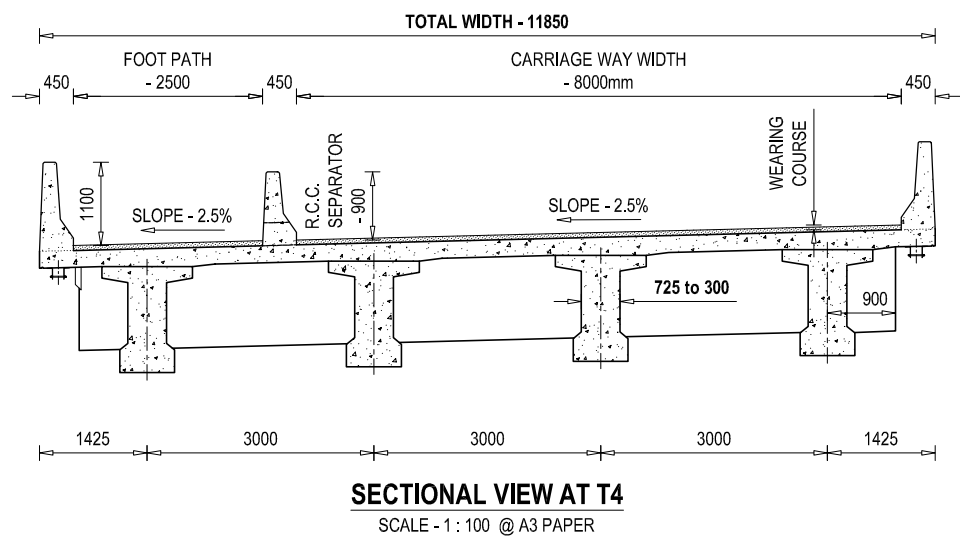
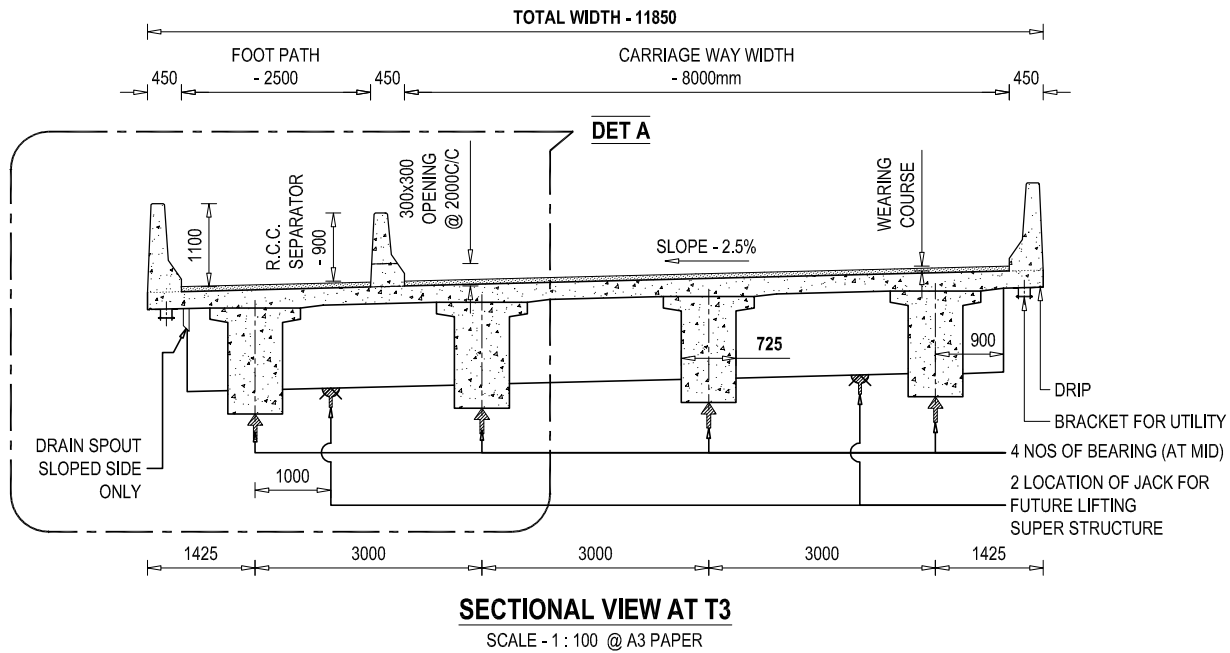


HALF ELEVATION SECTIONAL VIEW OF SUPERSTRUCTURE AT SEC T2

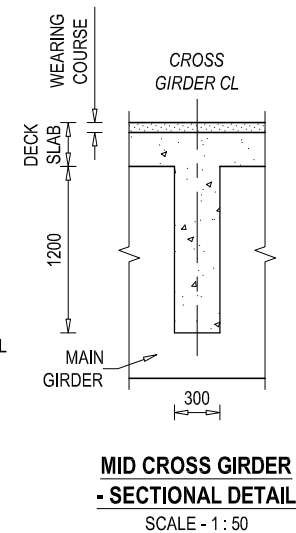
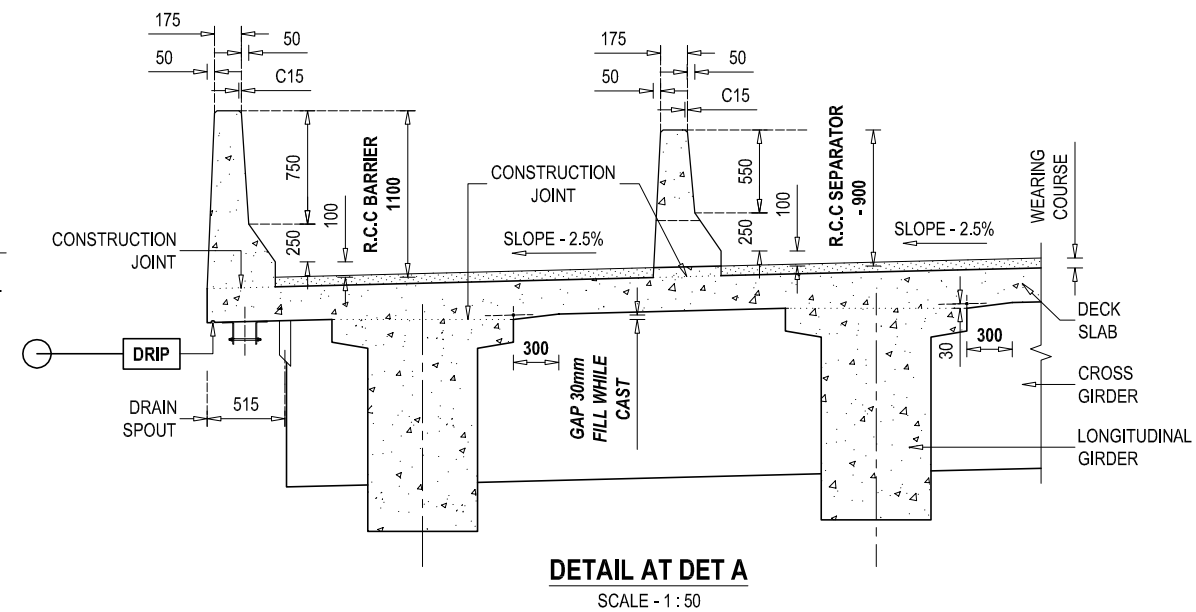
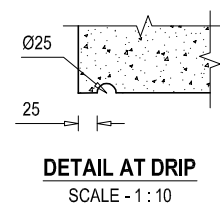
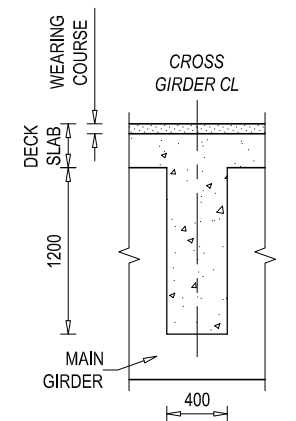
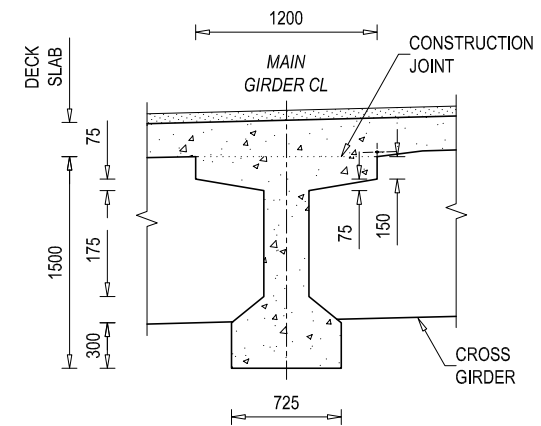
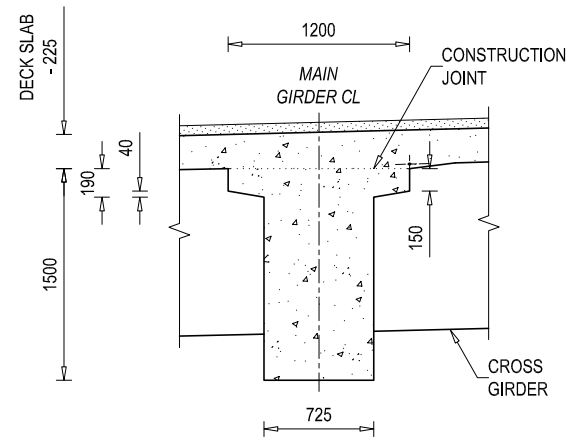
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NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/PHULJOR/DD-4

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 Ingeniera 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 PHULJOR	AS SHOWN	02.06.2023
			Approved By	Mr. H.B.	Reference Drawings KDP/DPR/STR/BR/PHULJOR/DD-17	Chainage: 290+215	Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-13
							Sheet No. 1 / 2



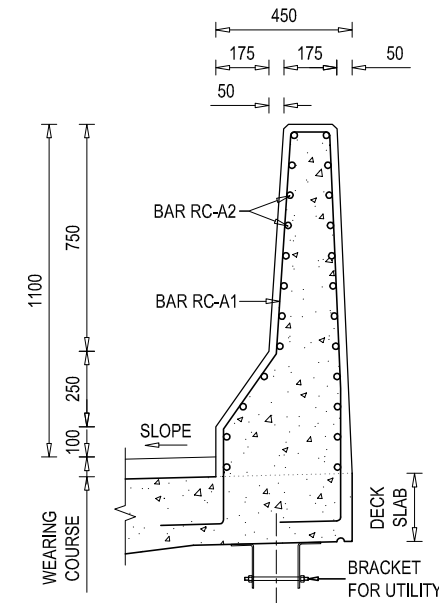
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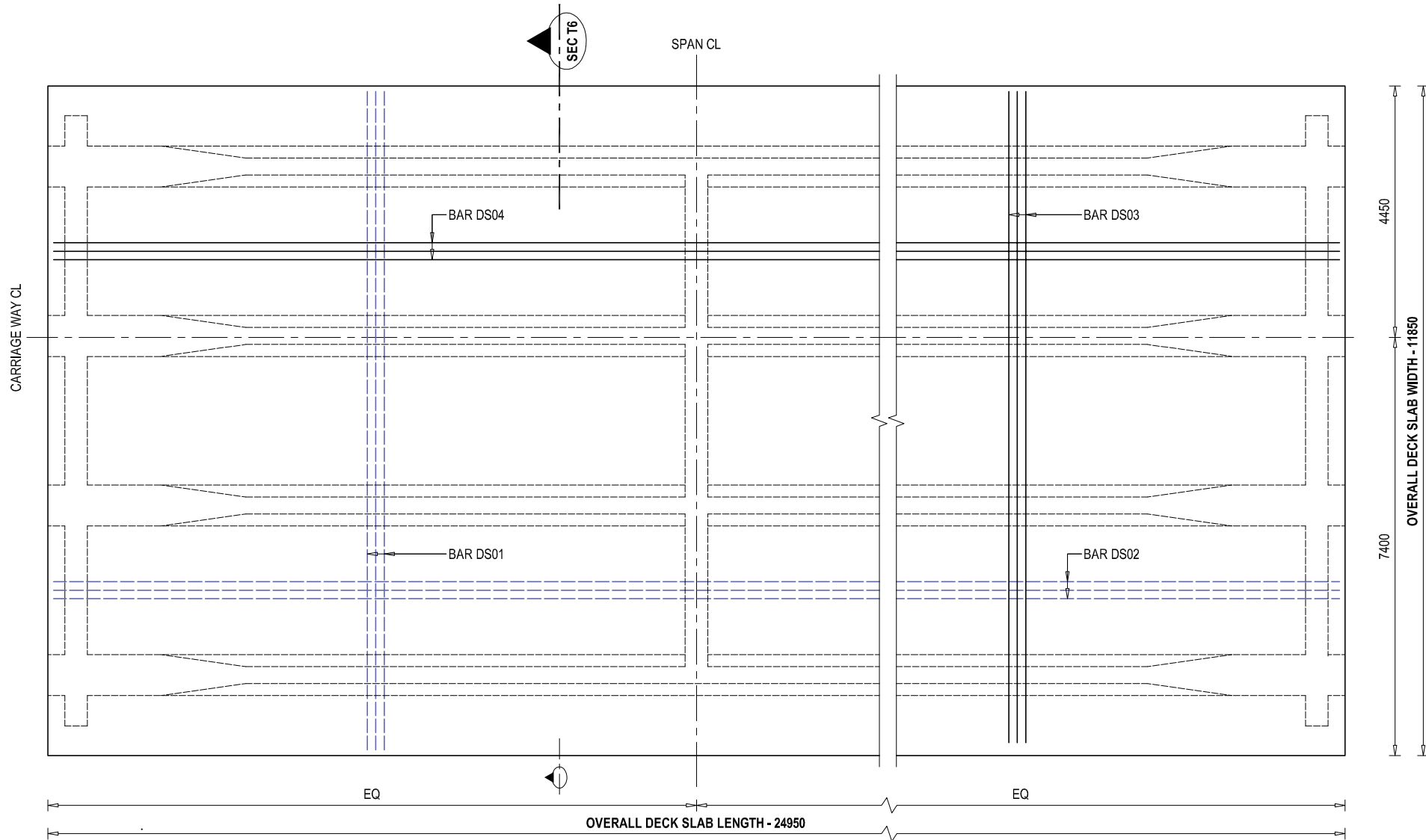
EMPLOYER Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	PROJECT NAME Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	DESIGN CONSULTANTS Joint Venture of EPTISA Servicios De Ingeniera Madrid, Spain STUP Consultants Private Limited 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 'A' Checked By Mr. S.M. Approved By Mr. H.B.	Drawing Name SUPER STRUCTURE DETAILS OF BRIDGE OVER RIVER PHULJOR Reference Drawings KDP/DPR/STR/BR/PHULJOR/DD-17	Scale: AS SHOWN Chainage: 290+215	Date: 02.06.2023 Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-13 Sheet No. 2 / 2
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LEGEND FOR REINFORCEMENT BAR

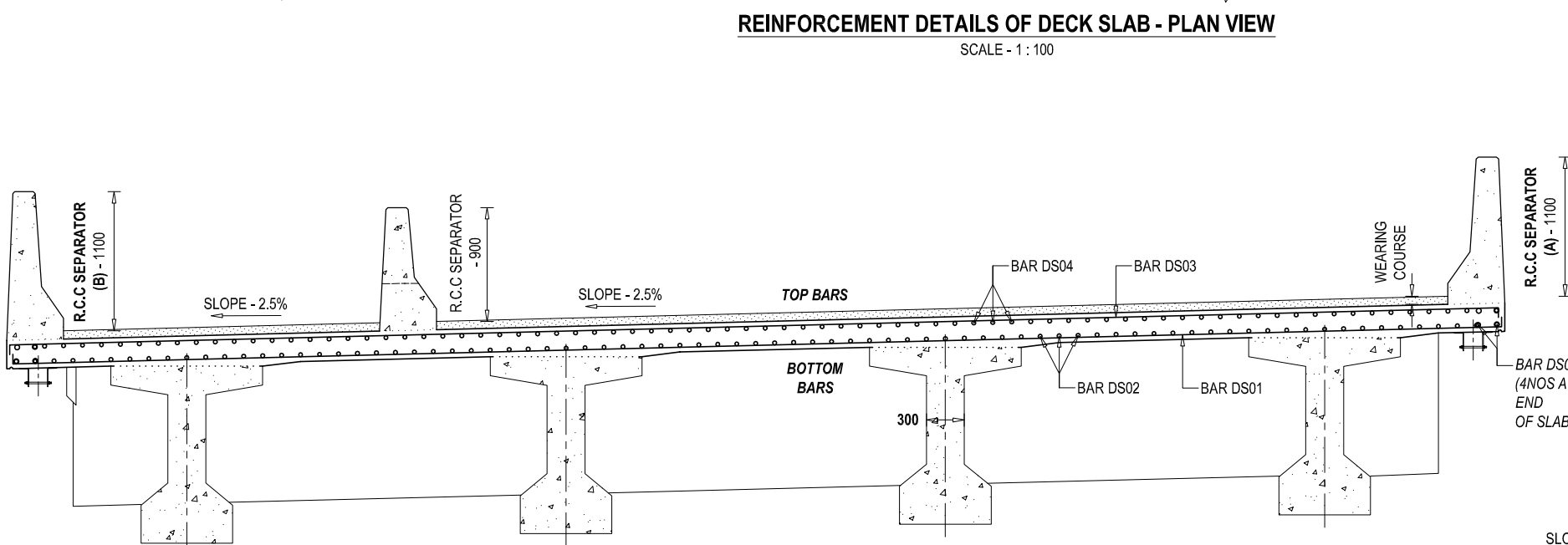
CODE	FULL FORM	
DS	- DECK SLAB	CG - CROSS GIRDER
RB	- R.C.C BARRIER	AS - APPROACH SLAB
RS	- R.C.C SEPARATOR	ST - STOPPER
MG	- MAIN GIRDER	** - ***
— TOP BAR OR NEAR FACE REINFORCEMENT		
- - - BOTTOM BAR OR FAR FACE REINFORCEMENT		



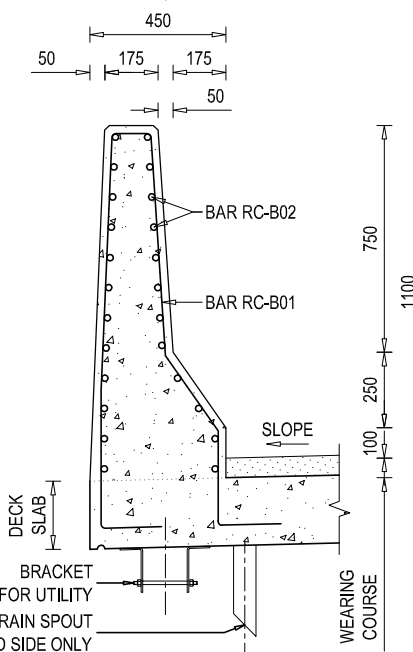
REINFORCEMENT DETAILS OF R.C.C BARRIER (A)- SECTIONAL VIEW
SCALE - 1 : 25



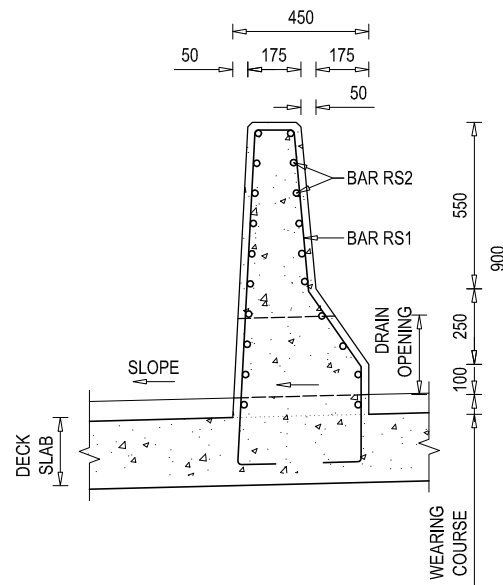
REINFORCEMENT DETAILS OF DECK SLAB - PLAN VIEW
SCALE - 1 : 100



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



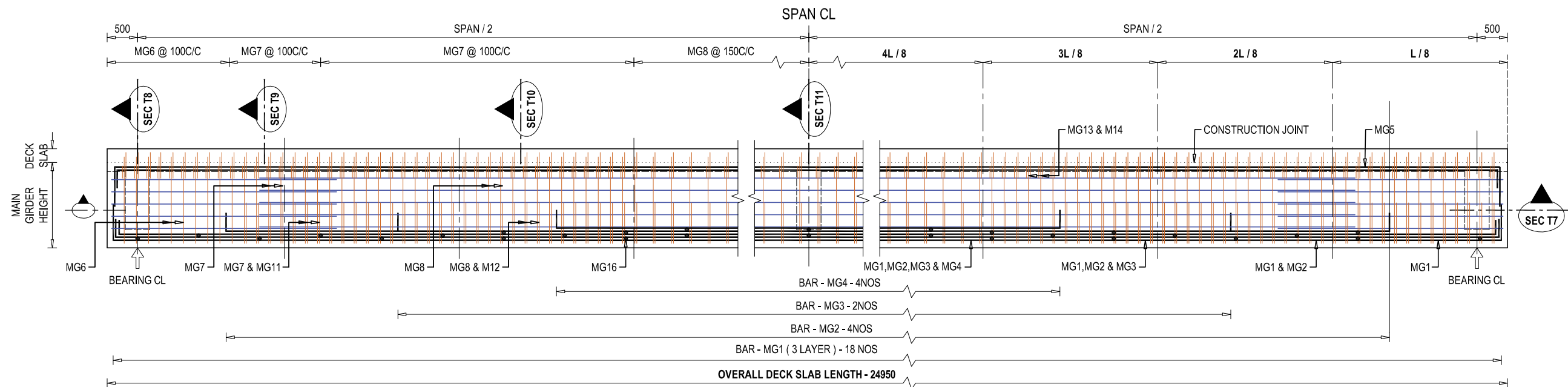
REINFORCEMENT DETAILS OF R.C.C BARRIER (B)- SECTIONAL VIEW
SCALE - 1 : 25



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

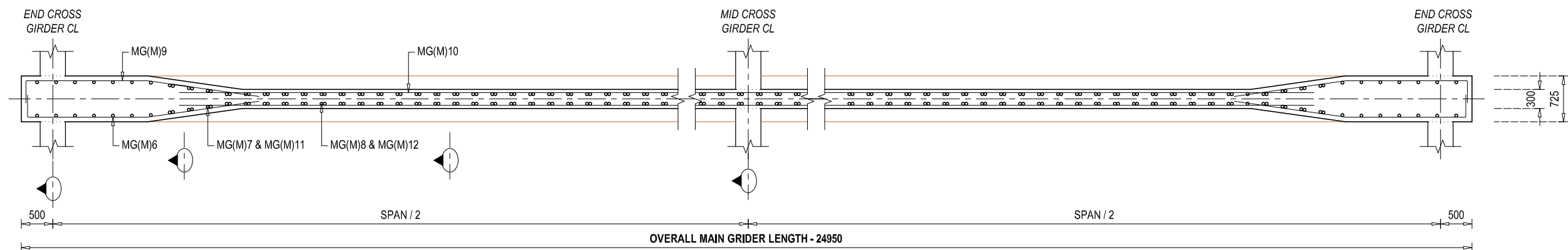
NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/PHULJOR/DD-4

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 Ingeniera 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.	DECK SLAB DETAILS OF BRIDGE OVER RIVER PHULJOR	AS SHOWN	02.06.2023
			Approved By	Mr. H.B.	Reference Drawings KDP/DPR/STR/BR/PHULJOR/DD-17	Chainage: 290+215	Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-14
							Sheet No. 1 / 1



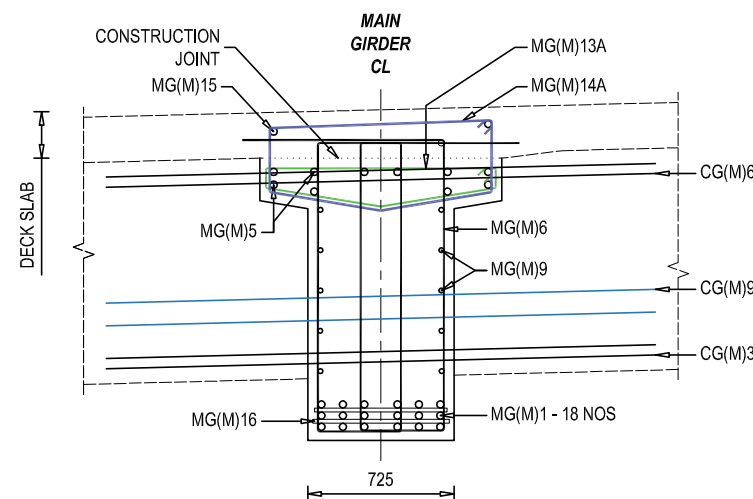
REINFORCEMENT DETAILS OF MAIN GIRDER - SECTIONAL ELEVATION VIEW

SCALE - 1 : 75



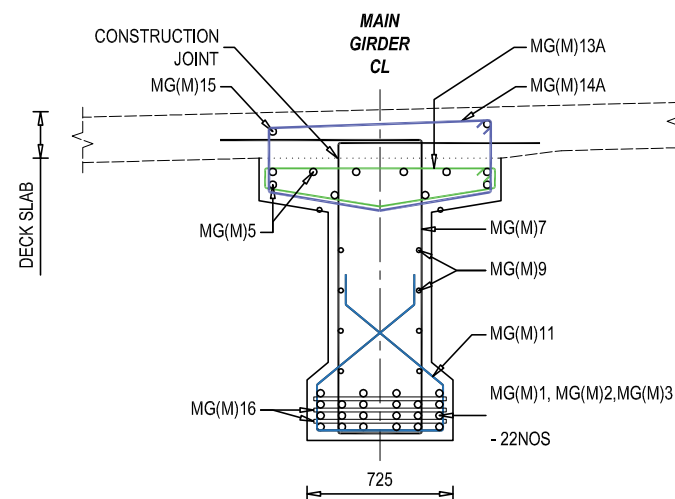
REINFORCEMENT DETAILS OF MAIN GIRDER (MID) - SECTIONAL PLAN VIEW AT T7(M)

SCALE - 1 : 75



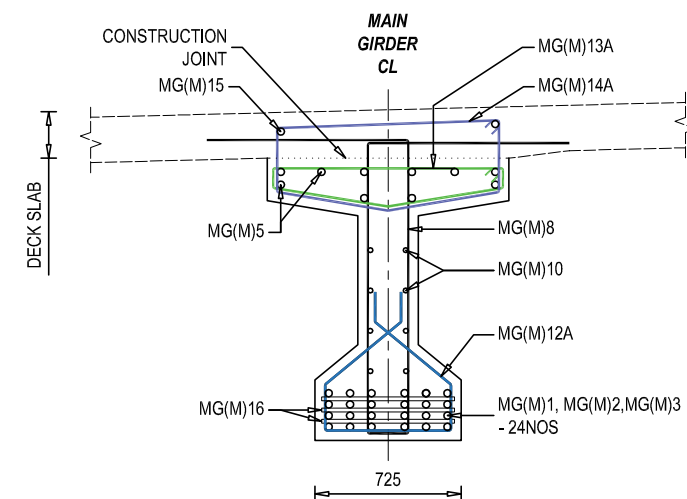
REINFORCEMENT DETAILS OF MAIN GIRDER
SECTIONAL VIEW AT T8

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/PHULJOR/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

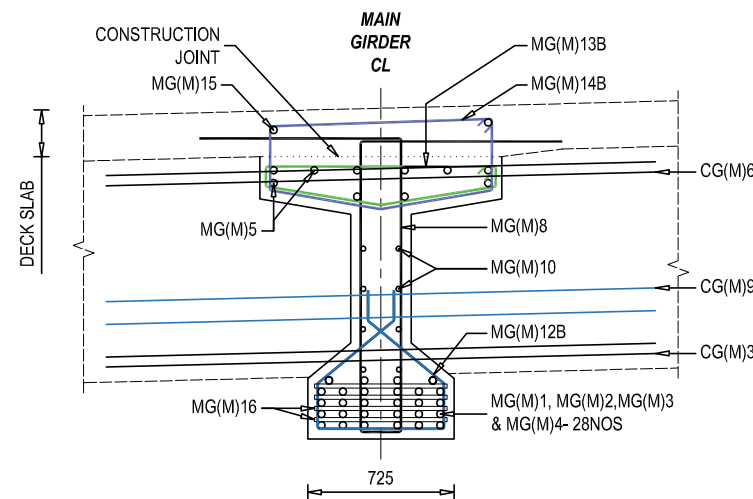
DESIGN CONSULTANTS
Joint Venture of
EPTISA Servicios De Ingeniera
Madrid, Spain
STUP Consultants Private Limited
Kolkata, India
In Association With
Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays
Consultant Private Limited

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

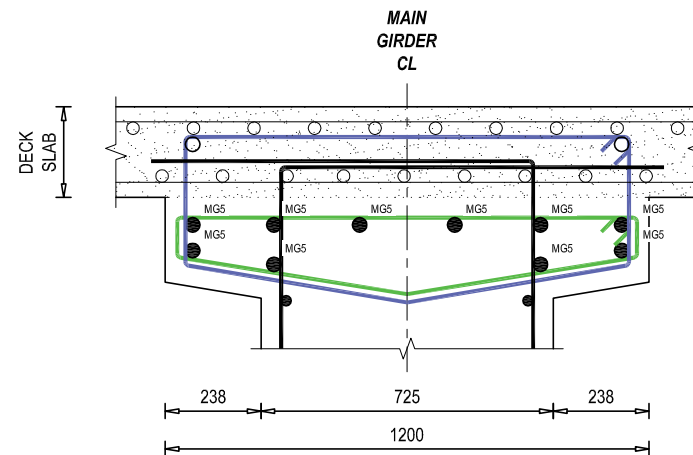
Drawing Name
MAIN GIRDER REINFORCEMENT DETAILS OF BRIDGE OVER
RIVER PHULJOR
Reference Drawings
KDP/DPR/STR/BR/PHULJOR/DD-17

Scale:
AS SHOWN
Chainage:
290+215

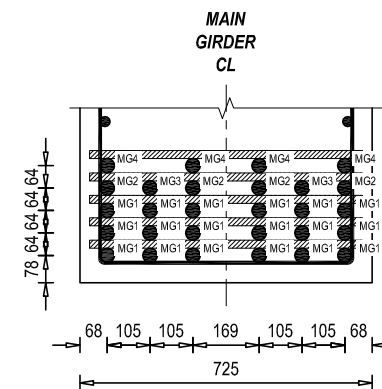
Date:
02.06.2023
Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-15
Sheet No. 1 / 2



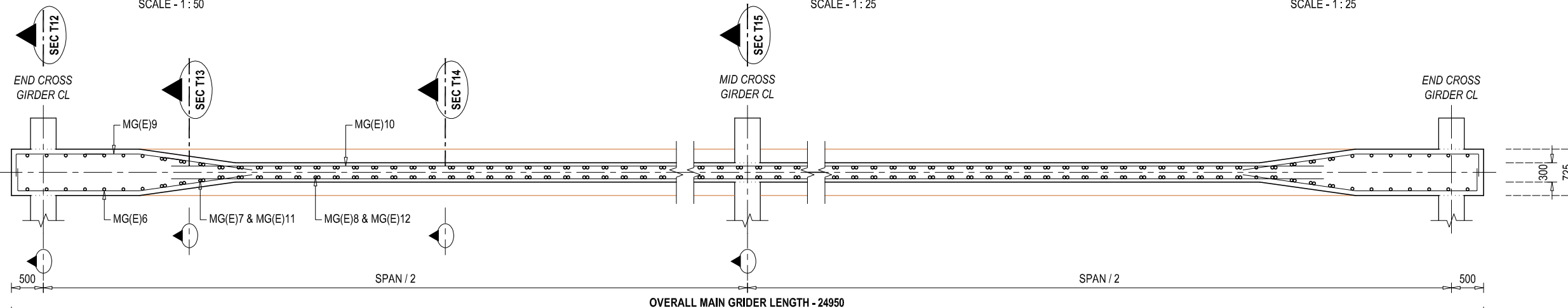
**REINFORCEMENT DETAILS OF MAIN GIRDER
SECTIONAL VIEW AT T11**
SCALE - 1 : 50



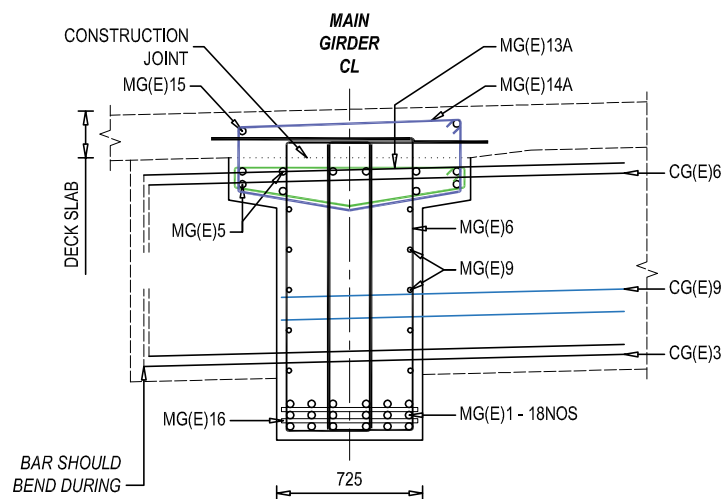
**TOP BAR WEB REINFORCEMENT DETAILS
OF MAIN GIRDER**
SCALE - 1 : 25



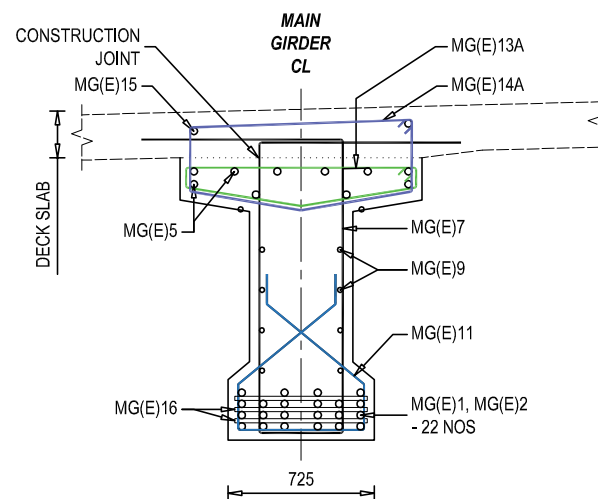
**BOTTOM BAR WEB REINFORCEMENT DETAILS
OF MAIN GIRDER**
SCALE - 1 : 25



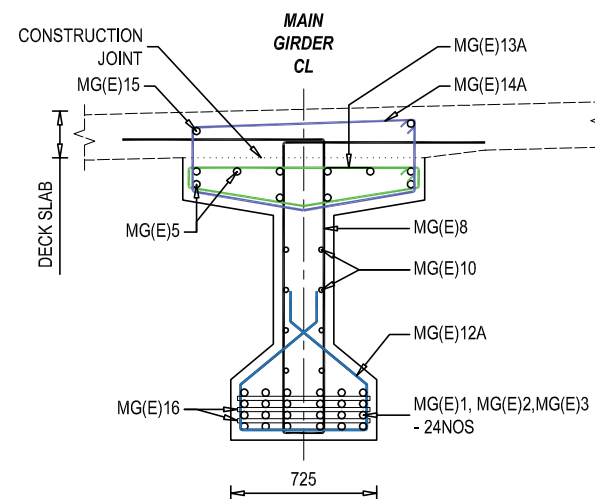
REINFORCEMENT DETAILS OF MAIN GIRDER (END) - SECTIONAL PLAN VIEW AT T7(E)
SCALE - 1 : 75



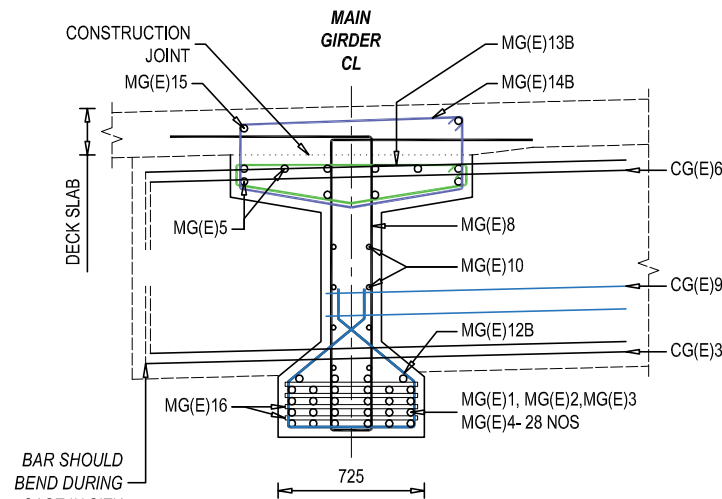
**REINFORCEMENT DETAILS OF MAIN GIRDER
SECTIONAL VIEW AT T12**
SCALE - 1 : 50



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



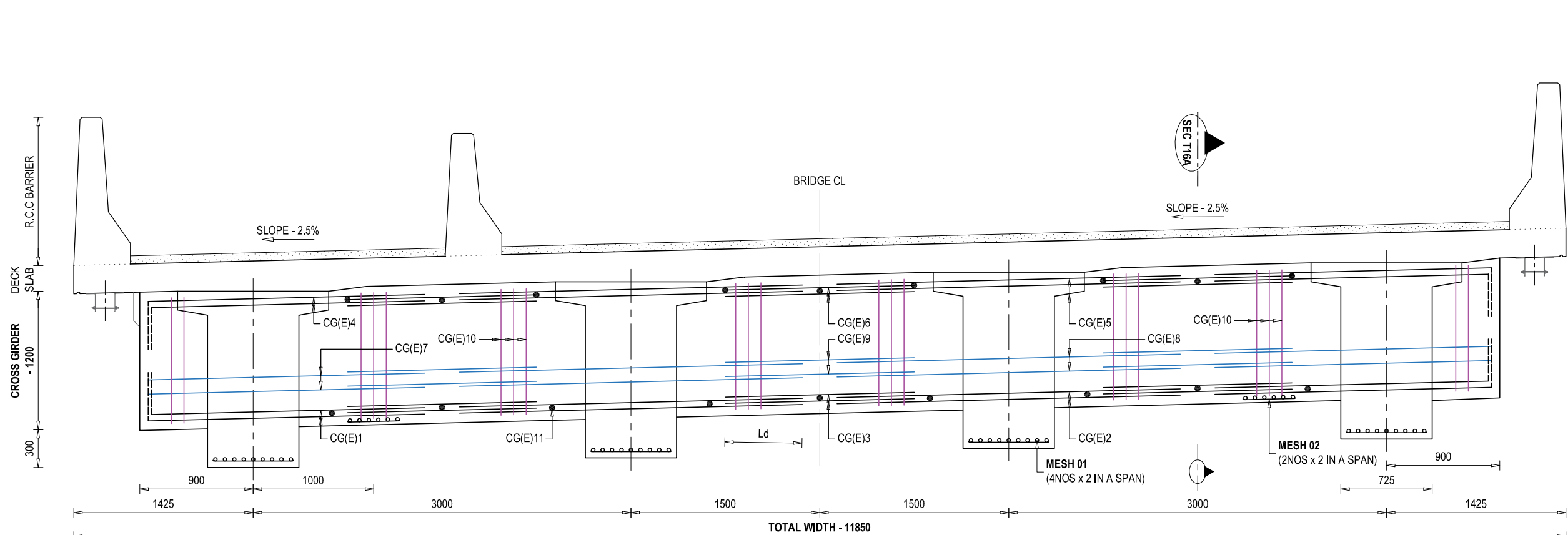
**REINFORCEMENT DETAILS OF MAIN GIRDER
SECTIONAL VIEW AT T14**
SCALE - 1 : 50



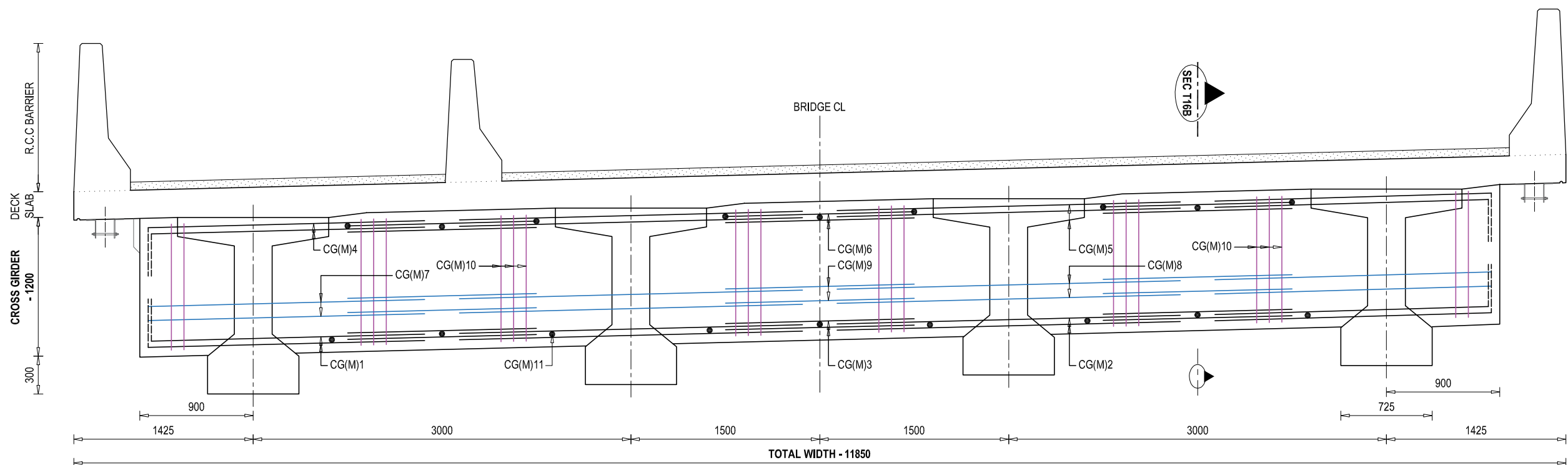
**REINFORCEMENT DETAILS OF MAIN GIRDER
SECTIONAL VIEW AT T15**
SCALE - 1 : 50

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

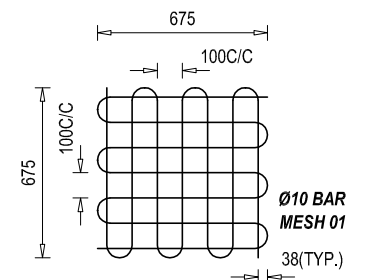
EMPLOYER	PROJECT NAME	DESIGN CONSULTANTS	Designed By	Mr. R.A.	Drawing Name	Scale:	Date:
Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of EPTISA Servicios De Ingeniera Madrid, Spain STUP Consultants Private Limited Kolkata, India	Checked By	Mr. S.M.	MAIN GIRDER REINFORCEMENT DETAILS OF BRIDGE OVER RIVER PHULJOR	AS SHOWN	02.06.2023
		In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited	Approved By	Mr. H.B.	Reference Drawings KDP/DPR/STR/BR/PHULJOR/DD-17	Chainage: 290+215	Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-15 Sheet No. 2 / 2



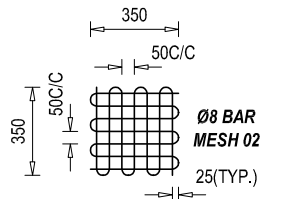
REINFORCEMENT DETAILS OF END CROSS GIRDER
SCALE - 1 : 50



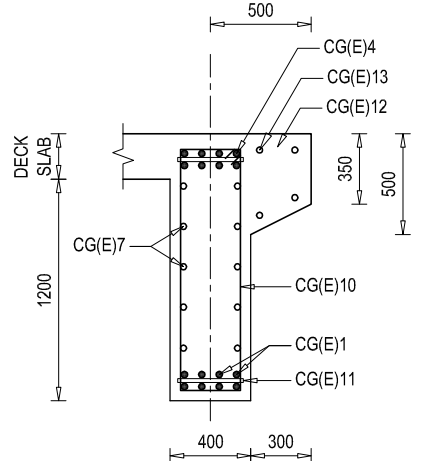
REINFORCEMENT DETAILS OF MID CROSS GIRDER
SCALE - 1 : 50



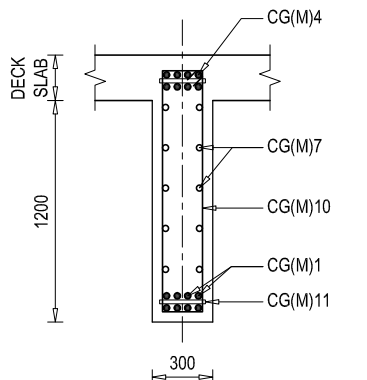
REINFORCEMENT DETAILS OF BEARING MESH
SCALE - 1 : 50



REINFORCEMENT DETAILS OF LIFTING MESH
SCALE - 1 : 50



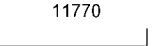
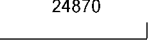
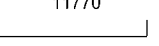
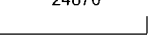
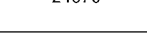
SECTIONAL REINFORCEMENT DETAILS OF END CROSS GIRDER - SEC T16A
SCALE - 1 : 50

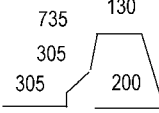
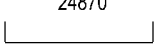


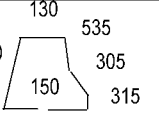
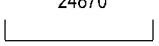
SECTIONAL REINFORCEMENT DETAILS OF MID CROSS GIRDER - SEC T16B
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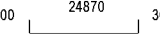
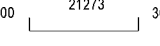
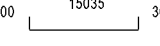
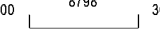
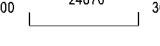
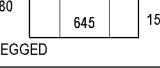
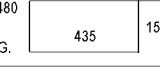
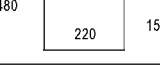
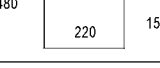
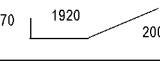
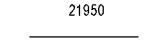
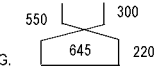
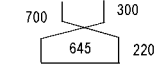
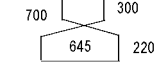
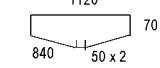
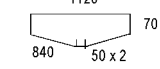
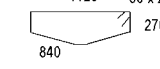
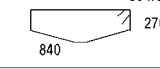
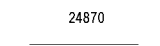
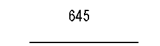
NOTE
READ THIS DRAWING IN CONJUNCTION WITH
DRG NO. KDP/DPR/STR/BR/PHULJOR/DD-4

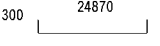
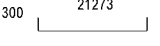
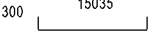
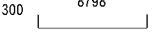
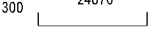
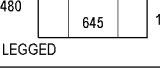
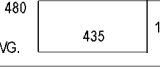
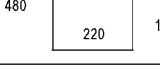
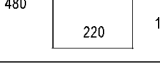
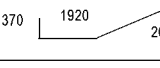
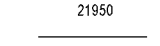
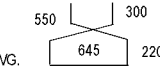
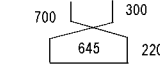
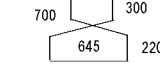
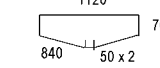
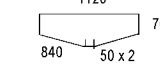
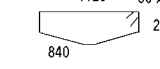
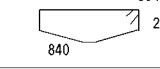
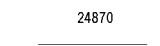
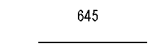
EMPLOYER Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	PROJECT NAME Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 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 'A' Checked By Mr. S.M. Approved By Mr. H.B.	Drawing Name CROSS GIRDER REINFORCEMENT DETAILS OF BRIDGE OVER RIVER PHULJOR Reference Drawings KDP/DPR/STR/BR/PHULJOR/DD-17	Scale: AS SHOWN Chainage: 290+215	Date: 02.06.2023 Drawing No:- KDP/DPR/STR/BR/PHULJOR/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	167	1.580	3185.29
2	DS02	150  150	10	150	25.170	76	0.617	1180.81
3	DS03	150  150	16	150	12.070	167	1.580	3185.29
5	DS04	150  150	10	150	25.170	76	0.617	1180.81
6	DS05		16		24.870	8	1.580	314.41
TOTAL (KG) :							9046.61	

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	167	1.580	836.57
2	RC-A2	150  150	10	150	25.170	20	0.617	310.74
TOTAL (KG) :							1147.31	

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	167	1.580	711.21
2	RS2	150  150	10	150	25.170	17	0.617	264.13
TOTAL (KG) :							975.34	

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		25.470	18	6.321	2897.92
2	MG (M)2	300  300	32		21.873	4	6.321	553.04
3	MG (M)3	300  300	32		15.635	2	6.321	197.66
4	MG (M)4	300  300	32		9.398	4	6.321	237.62
5	MG (M)5	300  300	12		25.470	10	0.889	226.40
6	MG (M)6		12	100	9.660	42	0.889	360.64
7	MG (M)7		12	100	5.325	32	0.889	151.47
8	MG (M)8A		12	100	4.680	91	0.889	378.56
9	MG (M)8B		12	150	4.680	43	0.889	178.88
10	MG (M)9		12	200	4.290	32	0.889	122.03
11	MG (M)10		12	200	21.950	16	0.889	312.18
12	MG (M)11		12	100	2.785	32	0.889	79.22
13	MG (M)12A		12	150	3.085	91	0.889	249.54
14	MG (M)12B		12	150	3.085	43	0.889	117.92
15	MG (M)13A		12	100	3.040	189	0.889	510.72
16	MG (M)13B		12	150	3.040	43	0.889	116.20
17	MG (M)14A		12	100	3.440	189	0.889	577.92
18	MG14B		12	150	3.440	43	0.889	131.48
19	MG (M)15		12		24.870	2	0.889	44.21
19	MG (M)16		32	1500	0.645	68	6.321	277.24
TOTAL (KG) :							7720.83	

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		25.470	18	6.321	2897.92
2	MG (E)2	300  300	32		21.873	4	6.321	553.04
3	MG (E)3	300  300	32		15.635	2	6.321	197.66
4	MG (E)4	300  300	32		9.398	4	6.321	237.62
5	MG (E)5	300  300	12		25.470	10	0.889	226.40
6	MG (E)6		12	100	9.660	42	0.889	360.64
7	MG (E)7		12	100	5.325	32	0.889	151.47
8	MG (E)8A		12	100	4.680	91	0.889	378.56
9	MG (E)8B		12	150	4.680	43	0.889	178.88
10	MG (E)9		12	200	4.290	32	0.889	122.03
11	MG (E)10		12	200	21.950	16	0.889	312.18
12	MG (E)11		12	100	2.785	32	0.889	79.22
13	MG (E)12A		12	150	3.085	91	0.889	249.54
14	MG (E)12B		12	150	3.085	43	0.889	117.92
15	MG (E)13A		12	100	3.040	189	0.889	510.72
16	MG (E)13B		12	150	3.040	43	0.889	116.20
17	MG (E)14A		12	100	3.440	189	0.889	577.92
18	MG14B		12	150	3.440	43	0.889	131.48
19	MG (E)15		12		24.870	2	0.889	44.21
19	MG (E)16		32	1500	0.645	68	6.321	277.24
TOTAL (KG) :							7720.83	

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.	 Signature	SUPER STRUCTURE BAR BENDING SCHEDULE OF BRIDGE OVER RIVER PHULJOR	AS SHOWN	02.06.2023			
			 EPTISA Servicios De Ingenieria Madrid, Spain  STUP Consultants Private Limited Kolkatta, India		Checked By	Mr. S.M.				 Signature	Reference Drawings	Chainage:	Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-17
					Approved By	Mr. H.B.							
		In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited											

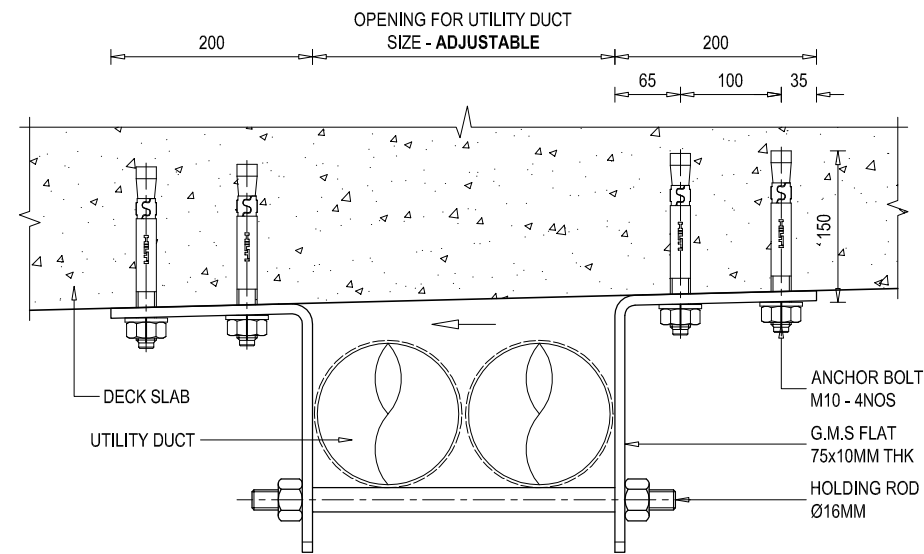
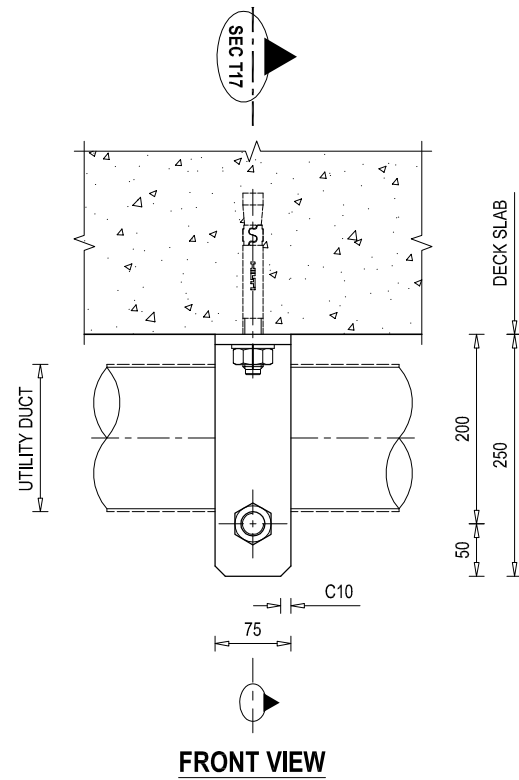
BAR BENDING SCHEDULE OF MESH (1SPAN)								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	MESH 01	675 @ 100	10		9.450	8	0.617	46.67
2	MESH 02	350 @ 50	10		4.900	4	0.617	12.10
TOTAL (KG) :								58.77

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	130 1110 300 985 755 150 315	16	150	3.745	167	1.580	988.31
2	RS2	150 24870 150	10	150	25.170	13	0.617	201.98
TOTAL (KG) :								1190.29

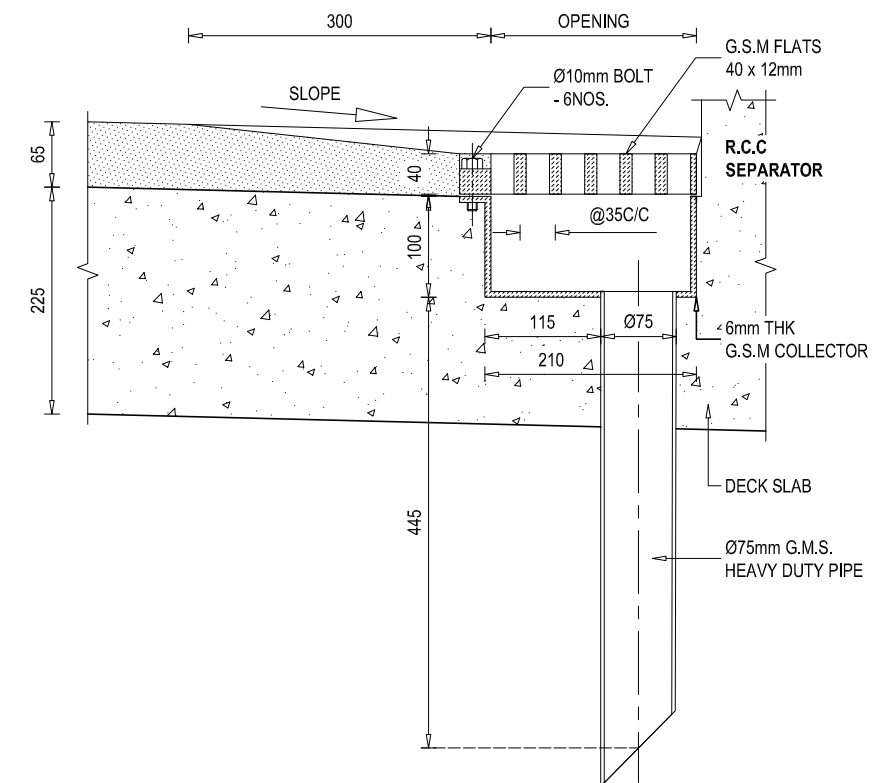
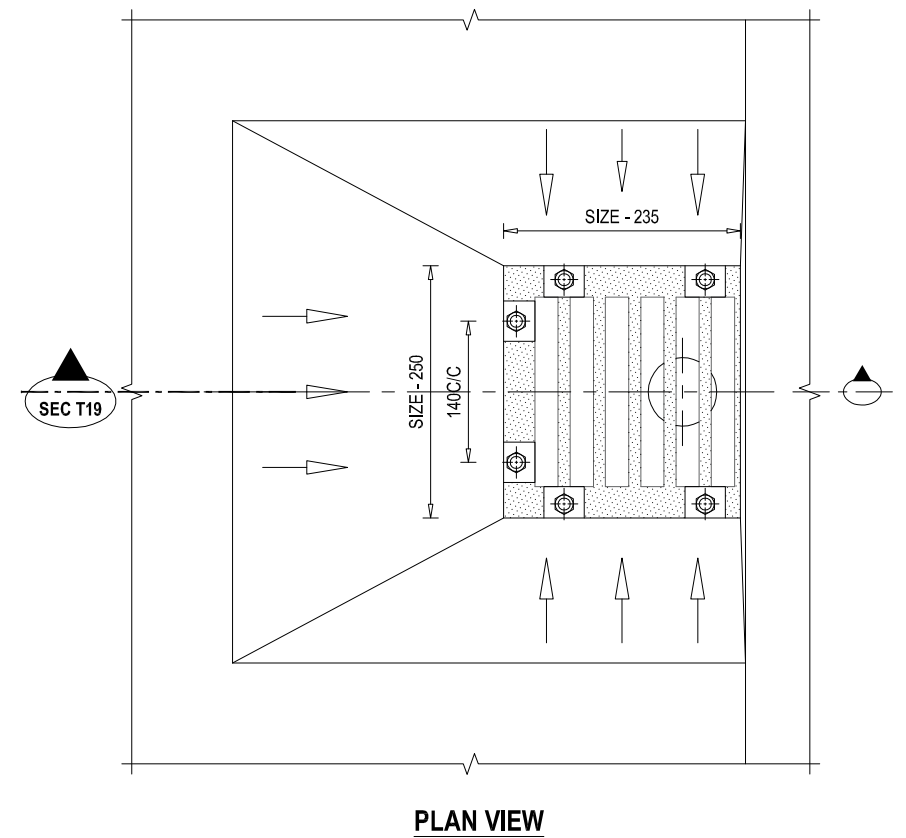
BAR BENDING SCHEDULE OF END CROSS GIRDER (1SPAN)								
S.No.	BAR MARK	DESCRIPTION OF BAR	BAR DIA.(MM)	SPACING (MM)	BAR LENGTH (M)	No. OF BARS	UNIT WEIGHT (Kg/m)	TOTAL WEIGHT (Kg)
1	CG(E)1	300 1825	20		2.125	8	2.469	41.98
2	CG(E)2	2625	20		2.625	8	2.469	51.85
3	CG(E)3	1675	20		1.675	8	2.469	33.09
4	CG(E)4	300 1825	20		2.125	8	2.469	41.98
5	CG(E)5	2625	20		2.625	8	2.469	51.85
6	CG(E)6	1675	20		1.675	8	2.469	33.09
7	CG(E)7	1825	12	150	1.825	8	0.889	12.98
8	CG(E)8	2625	12	150	2.625	8	0.889	18.67
9	CG(E)9	1675	12	150	1.675	8	0.889	11.91
10	CG(E)10	50 x 2 320 1320	12	200	1.740	39	0.889	60.32
11	CG(E)11	320	20	1000	0.320	18	2.469	14.22
12	CG(E)12	800 260 300 390	16	150	1.750	79	1.580	218.47
13	CG(E)13	11770	12		11.770	6	0.889	62.77
TOTAL (KG) :								653.17
TOTAL NOS OF CROSS GIRDER :								2.00
TOTAL WEIGHT (KG) :								1306.33

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 1825	20		1.920	8	2.469	37.93
2	CG(M)2	2625	20		2.945	8	2.469	58.17
3	CG(M)3	1675	20		1.995	8	2.469	39.41
4	CG(M)4	300 1825	20		1.920	8	2.469	37.93
5	CG(M)5	2625	20		2.625	8	2.469	51.85
6	CG(M)6	1675	20		1.675	8	2.469	33.09
7	CG(M)7	1825	12	150	1.620	8	0.889	11.52
8	CG(M)8	2625	12	150	2.625	8	0.889	18.67
9	CG(M)9	1675	12	150	1.675	8	0.889	11.91
10	CG(M)10	50 x 2 320 1320	12	200	1.740	39	0.889	60.32
11	CG(M)11	320	20	1000	0.320	18	2.469	14.22
TOTAL (KG) :								375.01

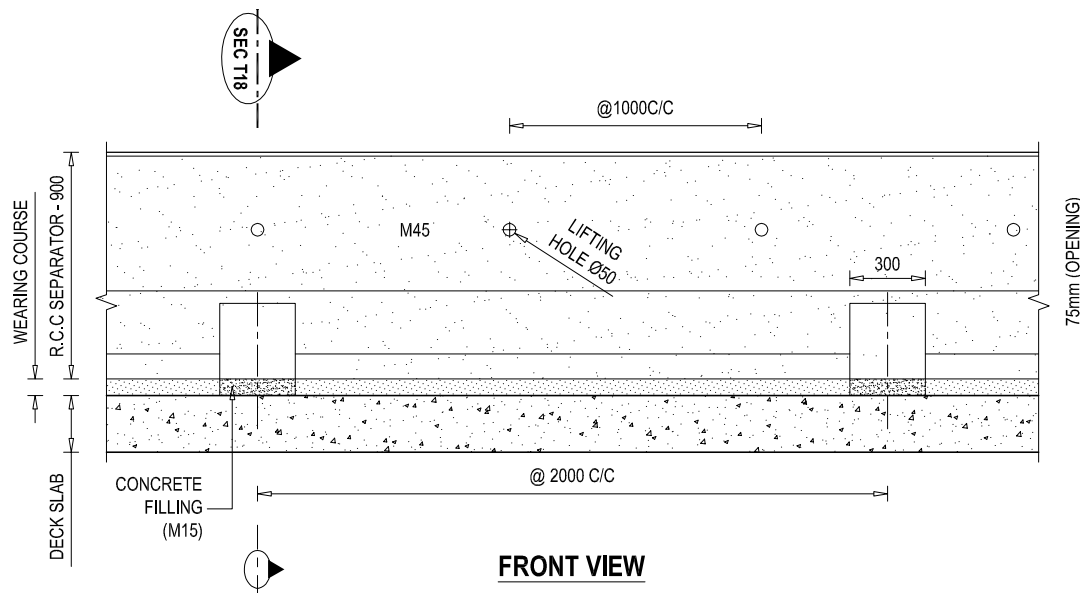
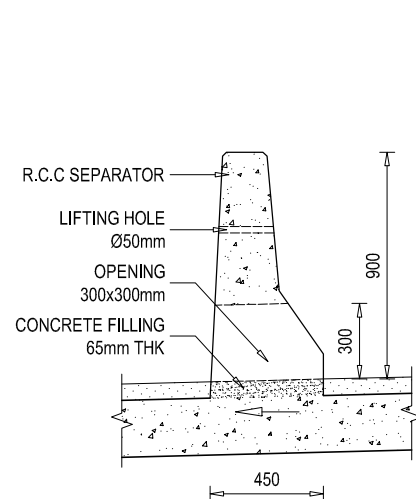
EMPLOYER	PROJECT NAME	DESIGN CONSULTANTS	Designed By	Mr. R.A.	Drawing Name	Scale:	Date:
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	Joint Venture of	Checked By	Mr. S.M.	SUPER STRUCTURE BAR BENDING SCHEDULE OF BRIDGE OVER RIVER PHULJOR	AS SHOWN	02.06.2023
		 EPTISA Servicios De Ingeniera Madrid, Spain  STUP Consultants Private Limited Kolkata, India	Approved By	Mr. H.B.	Reference Drawings	Chainage:	Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-17
		In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited			-	290+215	Sheet No. 2 / 2



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

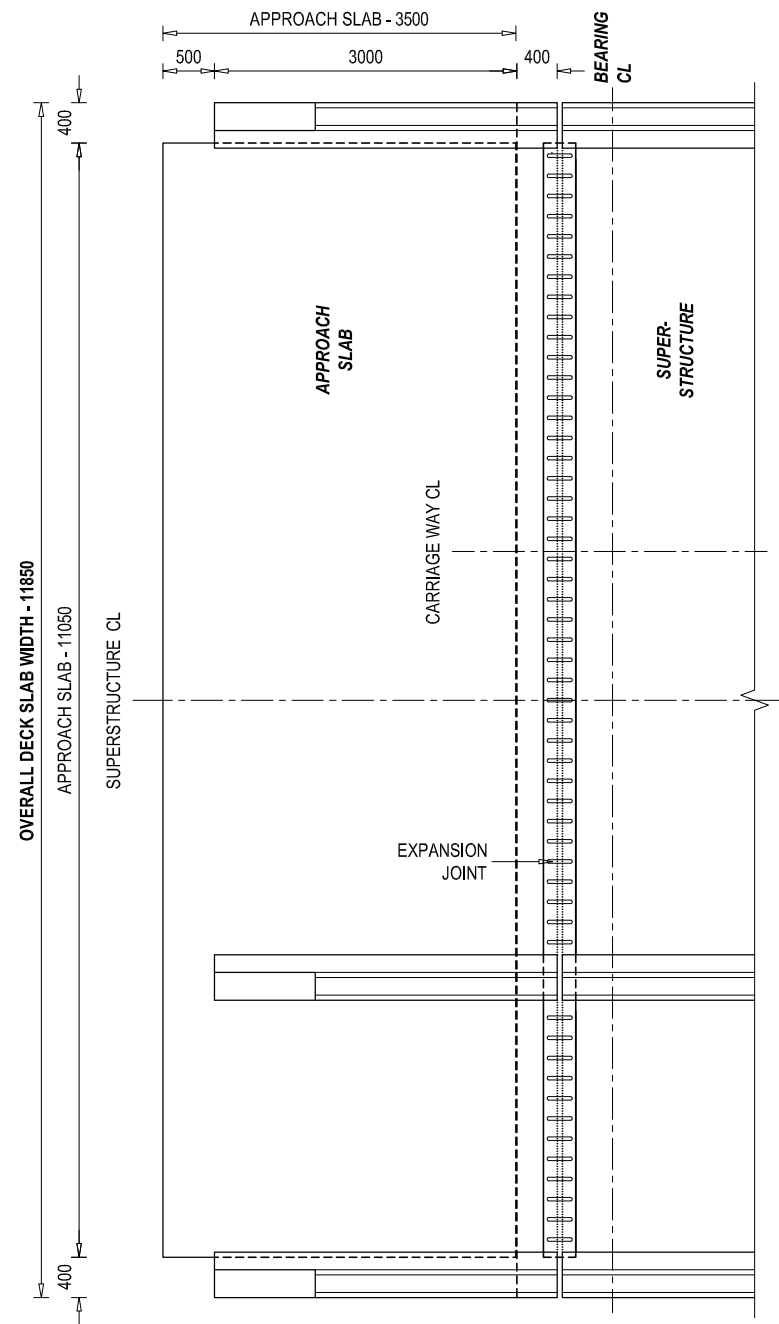


**DETAILS OF GALVANIZED MILD STEEL (G.M.S)
DRAINAGE SPOUT**
SCALE - 1 : 10

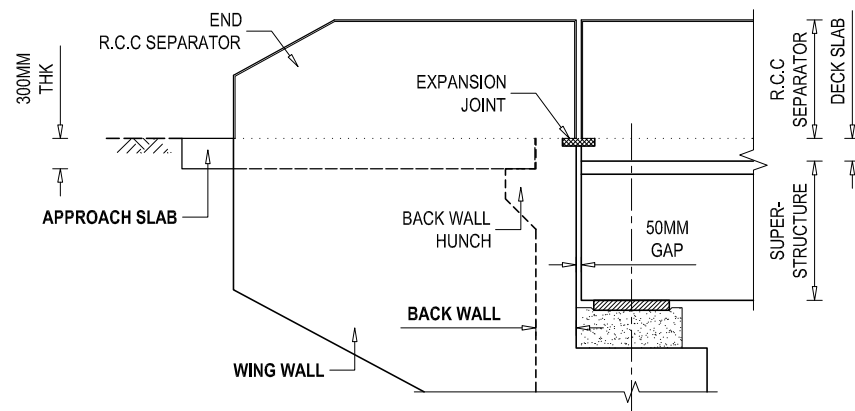


**DETAIL ELEVATION VIEW AT R.C.C SEPARATOR
& IT'S DRAIN OPENING**
SCALE - 1 : 40

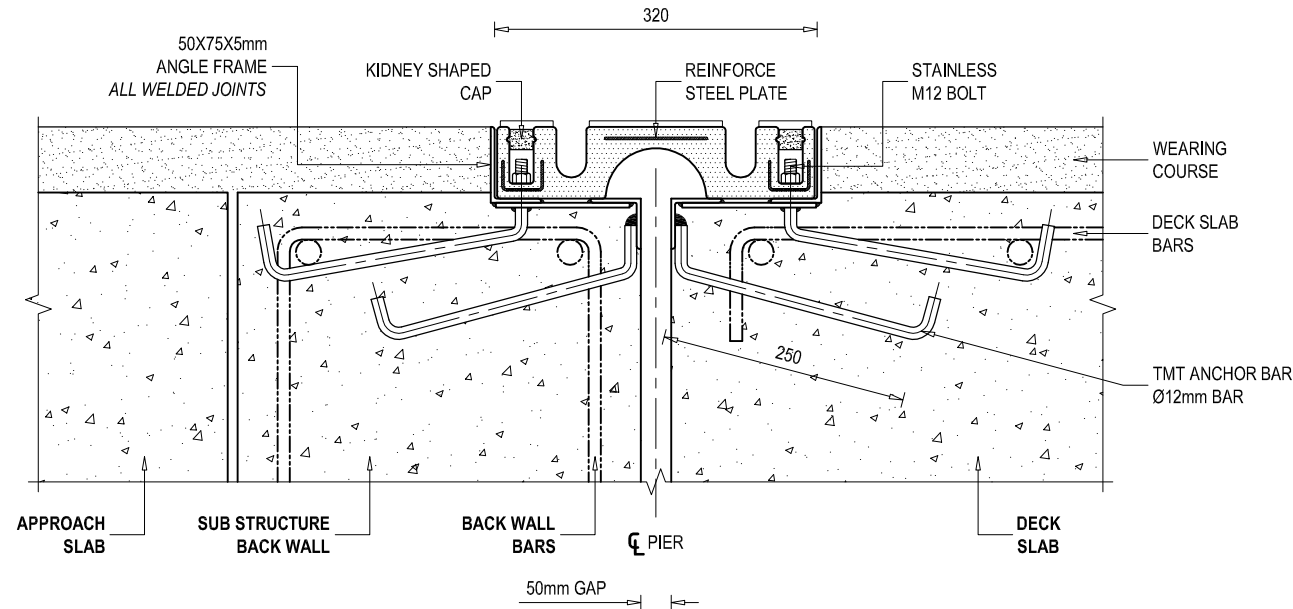
EMPLOYER Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	PROJECT NAME Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 KM) of Mahendra Highway and Bridges	DESIGN CONSULTANTS Joint Venture of ep4sa EPTISA Servicios De Ingeniera Madrid, Spain on 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/VI Checked By Mr. S.M. Approved By Mr. H.B.	Drawing Name MISCELLANEOUS DETAILS OF BRIDGE OVER RIVER PHULJOR Reference Drawings	Scale: AS SHOWN Chainage: 290+215	Date: 02.05.2023 Drawing No:- KDP/DPR/STR/BR/PHULJOR/DD-18 Sheet No.1 /2
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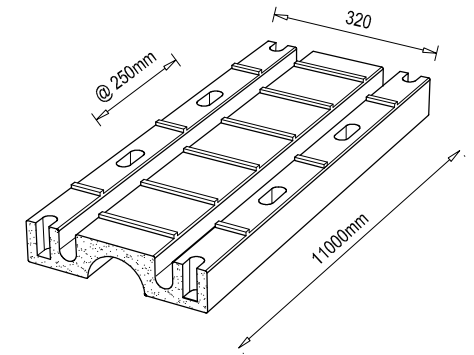
PLAN VIEW AT EXPANSION JOINT, END R.C.C SEPARATOR & APPROACH SLAB



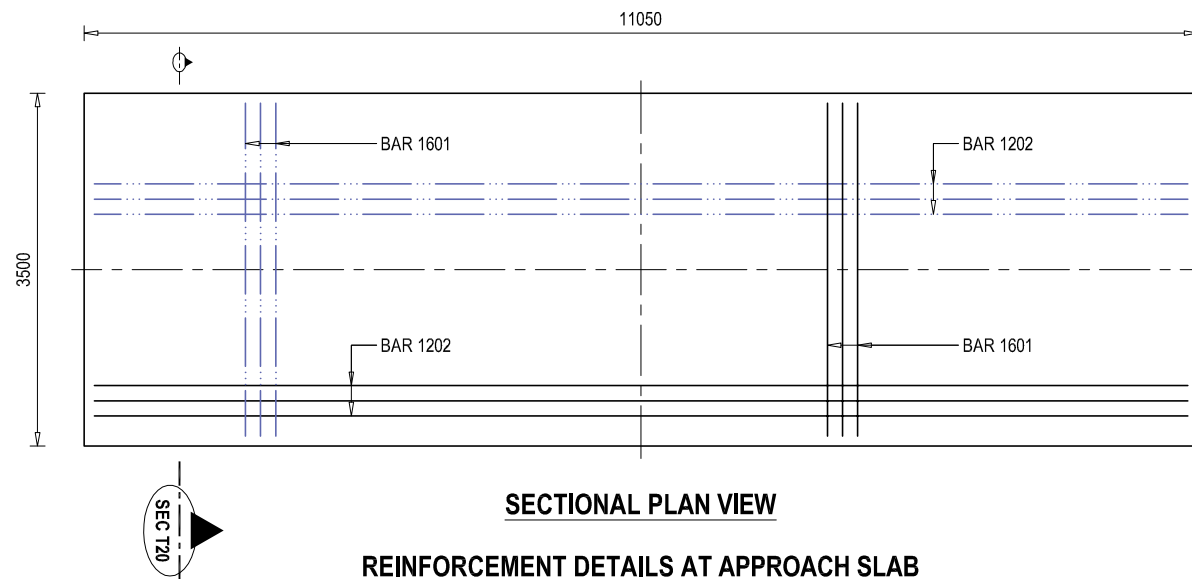
ELEVATION VIEW



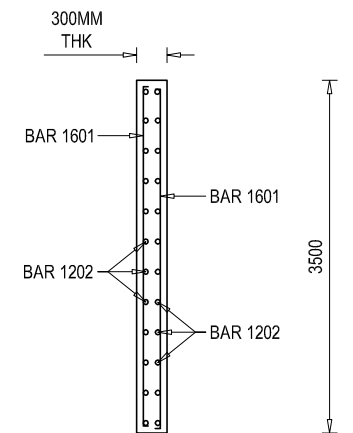
SEAL TYPE EXPANSION JOINTS ARRANGEMENT IN A CARRIAGEWAY
SCALE - 1 : 10 @ A3 PAPER



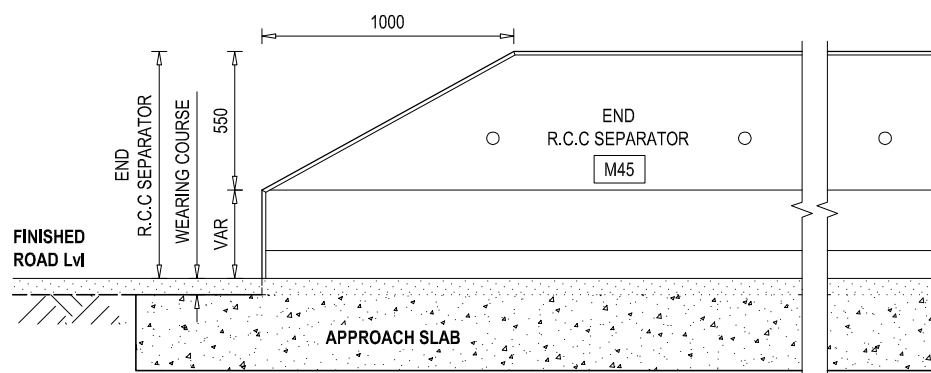
EXPANSION JOINT ISOMETRIC VIEW - SEAL TYPE
SCALE - NON



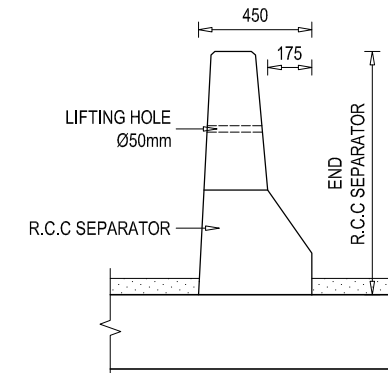
SECTIONAL PLAN VIEW
REINFORCEMENT DETAILS AT APPROACH SLAB
SCALE - 1 : 100 @ A3 PAPER



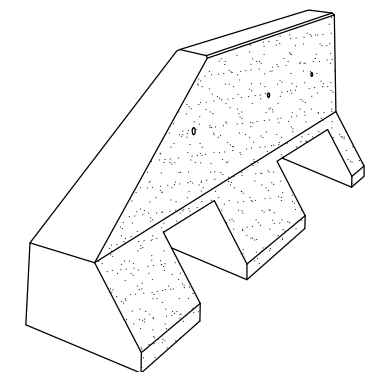
SECTIONAL ELEVATION VIEW AT SEC T20



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

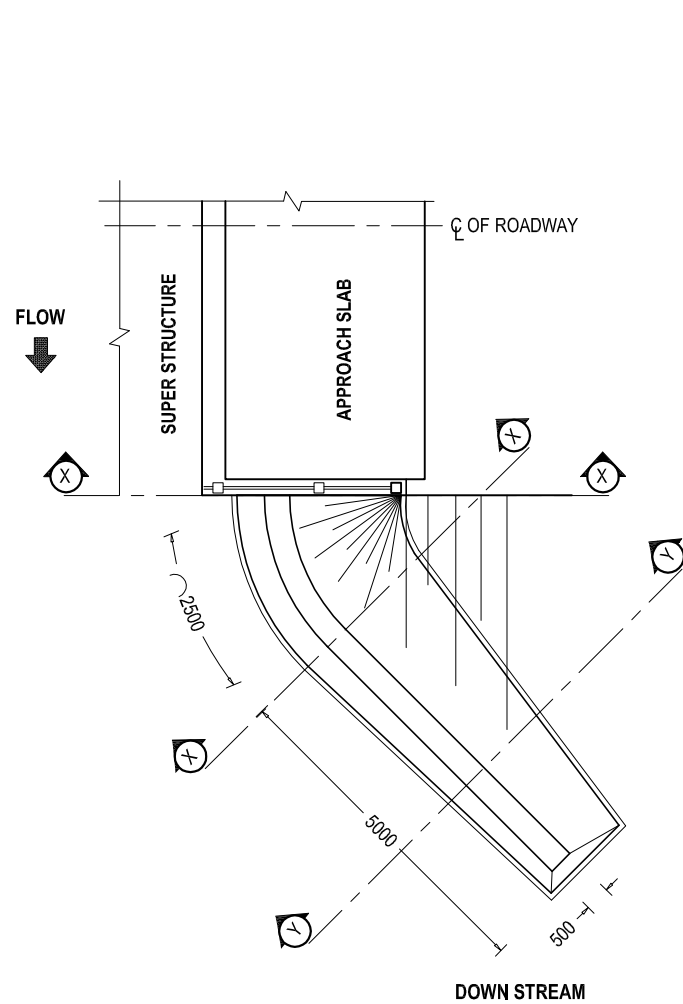


SIDE VIEW
SCALE - 1 : 40 @ A3 PAPER

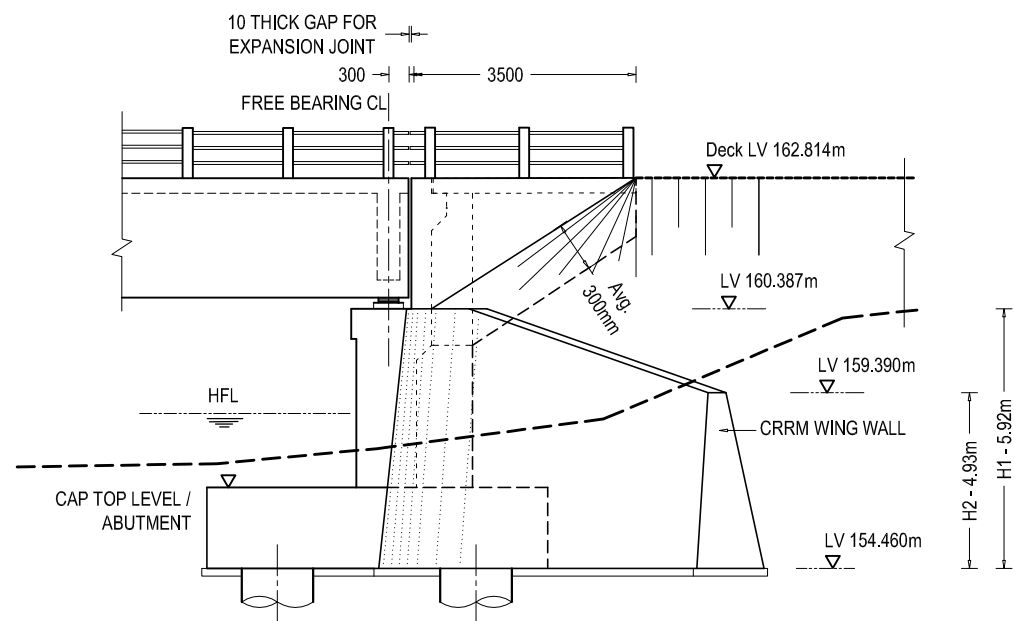
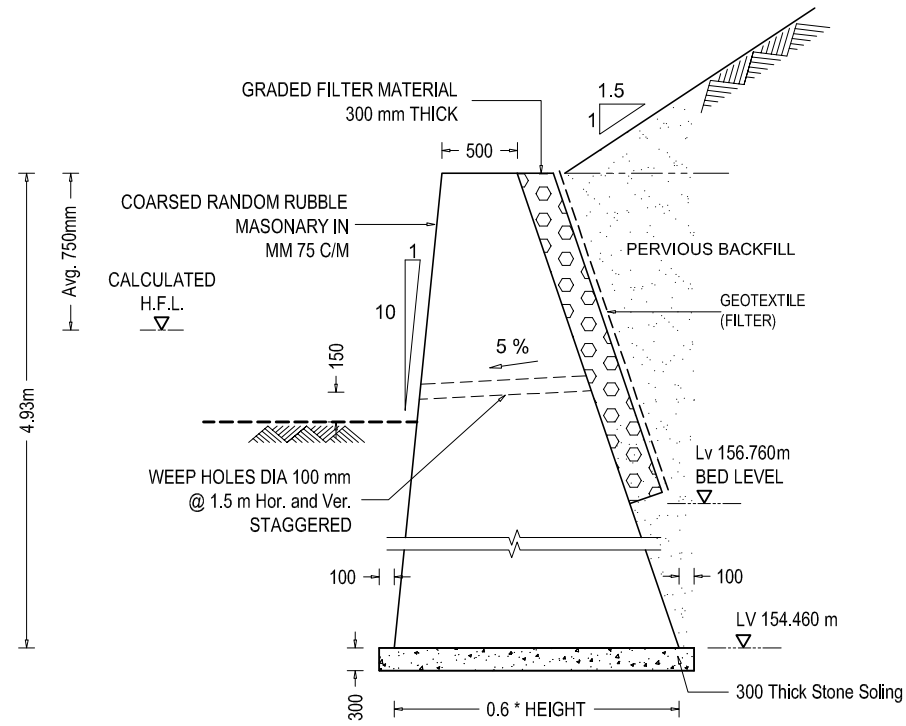


END R.C.C SEPARATOR ISOMETRIC VIEW
SCALE - NON

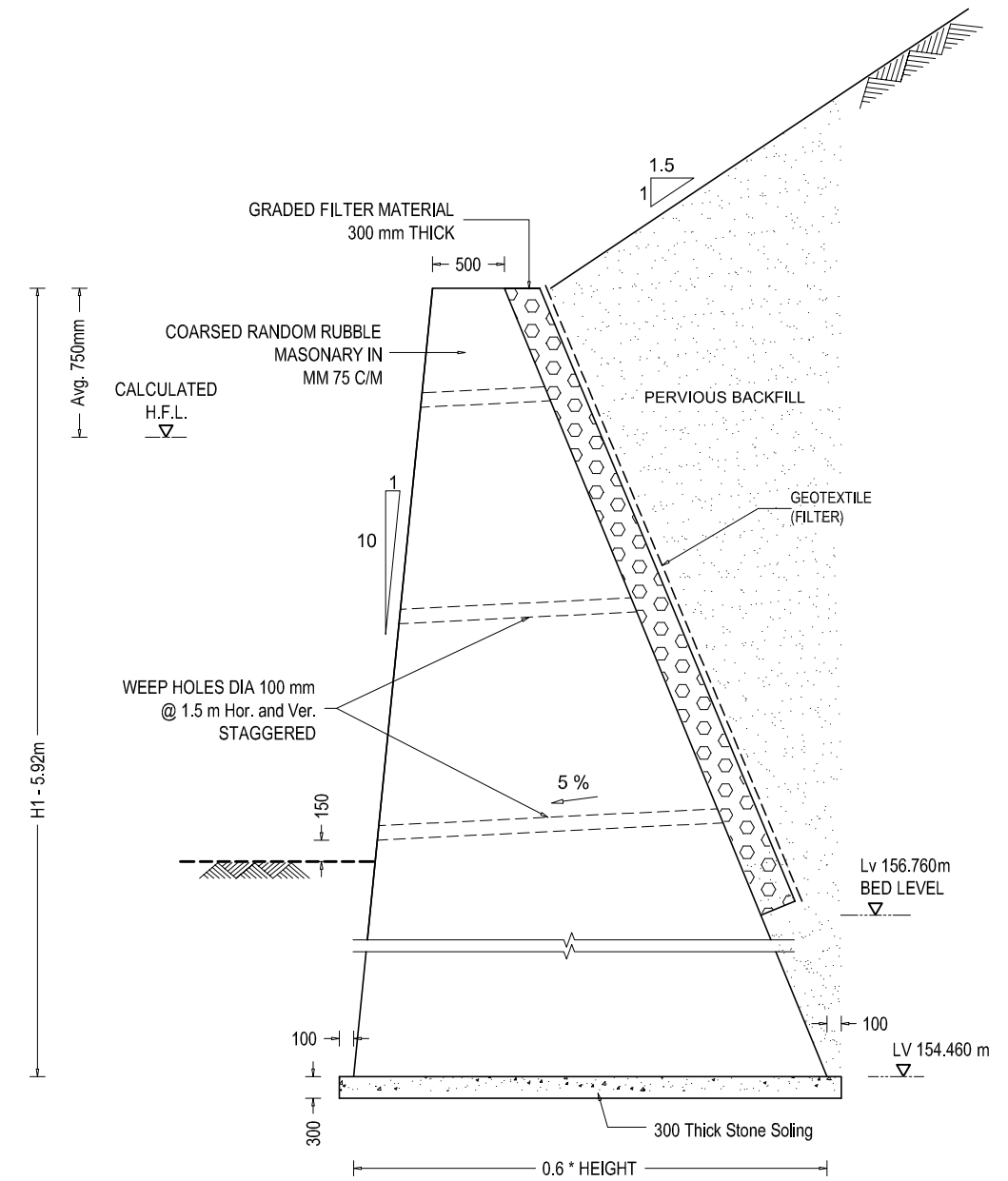
EMPLOYER Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	PROJECT NAME Strategic Road Connectivity & Trade Improvement Project (SRCTIP) Detailed Design of Upgradation of Kamala-Dhalkebar-Pathlaiya Road Section (130 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 CIVIL/VI Signature Checked By Mr. S.M. Signature Approved By Mr. H.B. Signature	Drawing Name MISCELLANEOUS DETAILS OF BRIDGE OVER RIVER PHULJOR Reference Drawings KDP/DPR/STR/BR/PHULJOR/DD-9	Scale: AS SHOWN Chainage: 290+215	Date: 02.05.2023 Drawing No:- KDP/DPR/STR/BR/PHULJOR/DD-18 Sheet No.2/2
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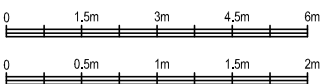
NOTE : AT DOWN STREAM ONLY



WING WALL ELEVATION



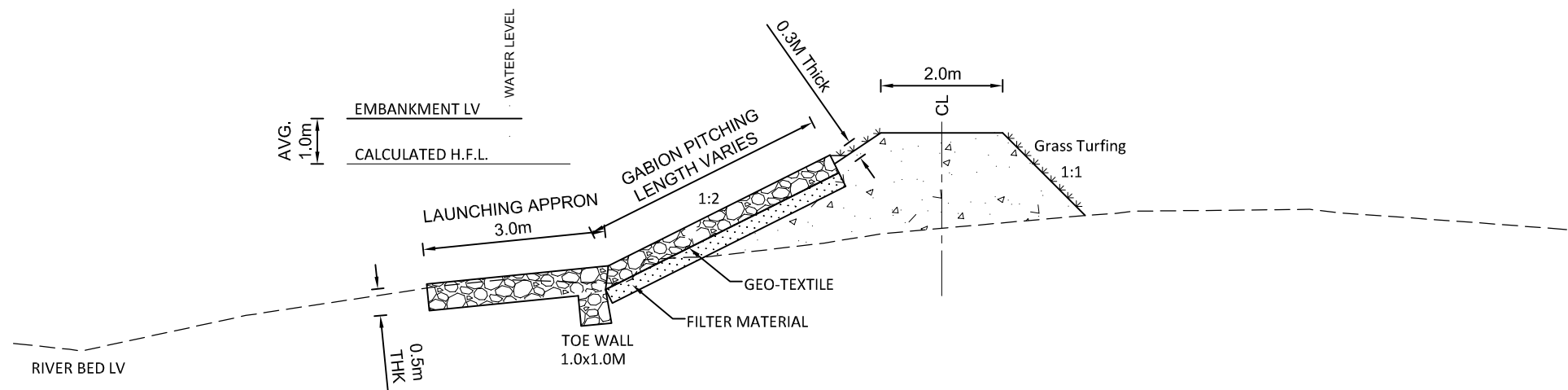
STONE MASONRY WING WALL SECTION X - X



EMPLOYER 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-Pathalya Road Section (130 KM) of Mahendra Highway and Bridges	DESIGN CONSULTANTS Joint Venture of ep4sa 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 CHM/A' Checked By Mr. S.M. Approved By Mr. H.B.	Signature Signature Signature	Drawing Name WING WALL DETAILS OF BRIDGE OVER RIVER PHULJOR Reference Drawings	Scale: AS SHOWN Chainage: 290+215	Date: 02.05.2023 Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD-19 Sheet No. 1 / 1
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TOPOGRAPHIC MAP



SECTION OF EMBANKMENT

EMPLOYER		PROJECT NAME		DESIGN CONSULTANTS			Designed By	Mr. R.A. Nec.No. 6431 CIVIL '92	 Signature	Drawing Name	Scale: 1:1000	Date: 2.05.2023
 Government of Nepal Ministry of Physical Infrastructure and Transport Department of Roads Development Cooperation Implementation Division	Strategic Road Connectivity & Trade Improvement Project (SRCTIP) 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	Checked By						
		In Association With Udaya Consultancy, Geocom International, Sundar Kriti Consultant and Rays Consultant Private Limited					Approved By	Mr. H.B.	 Signature	Sheet No.1 / 1		

Bearing Design Data for 25m Span and 11.85m width

Load Condition	Items	Under	On each Neoprene Bearing	Unit
Under No Live Load	V	NO EQ.	60.54	Ton
		EQ.	69.62	Ton
	H _L	NO EQ.	-	Ton
		EQ.	13.62	Ton
	H _T	NO EQ.	-	Ton
		EQ.	13.62	Ton
	θ	NO EQ.	0.00250	radian
		EQ.	0.00288	radian
	Δ		14.57	mm
Under Maximum Live Load	V	NO EQ.	103.45	Ton
		EQ.	113.82	Ton
	H _L	NO EQ.	-	Ton
		EQ.	0.00	Ton
	H _T	NO EQ.	-	Ton
		EQ.	0.00	Ton
	θ	NO EQ.	0.00388275	radian
		EQ.	0.00447	radian
	Δ		24.23	mm

 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-Pathlalya Road Section (130 KM) of Mahendra Highway and Bridges	DESIGN CONSULTANTS		Designed By	Mr. R.A. Nec.No. 6431 CIVIL/24	 Signature	Drawing Name	BEARING DESIGN DATA OF BRIDGE OVER RIVER PULJOR	Scale:	1:1000	Date:	2.05.2023
		Joint Venture of		Checked By	Mr. S.M.	 Signature	Reference Drawings		Chainage:	290+215		Drawing No.- KDP/DPR/STR/BR/PHULJOR/DD- 20
		In Association With		Approved By	Mr. H.B.	 Signature						Sheet No. 1 / 1
		ep4saEPTISA Servicios De Ingeniera Madrid, Spain		STUP Consultants Private Limited Kolkata, India								