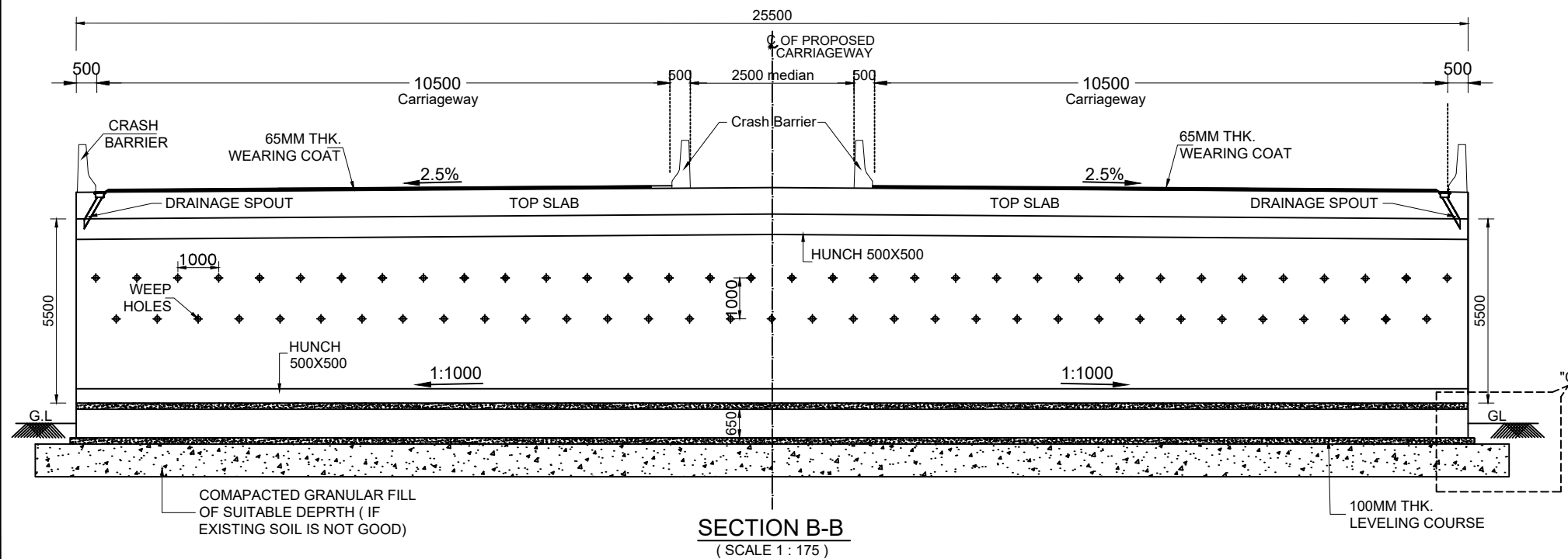
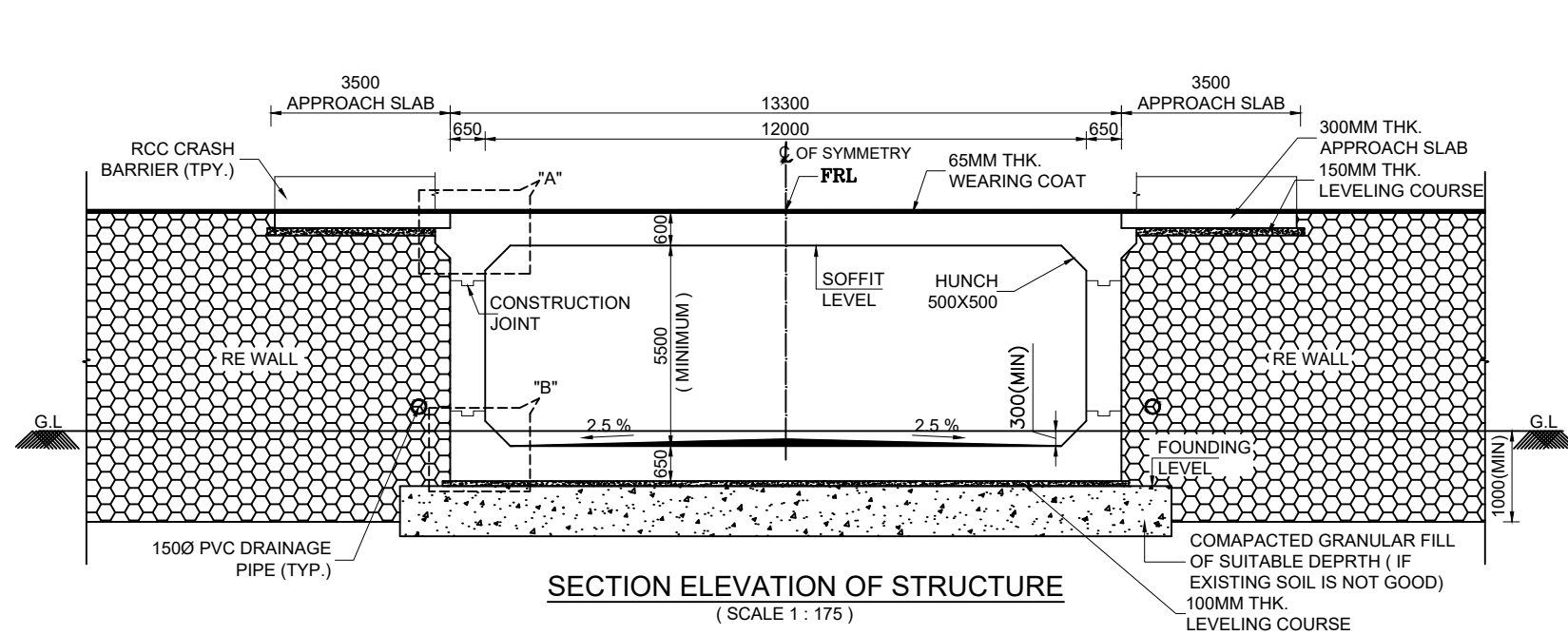
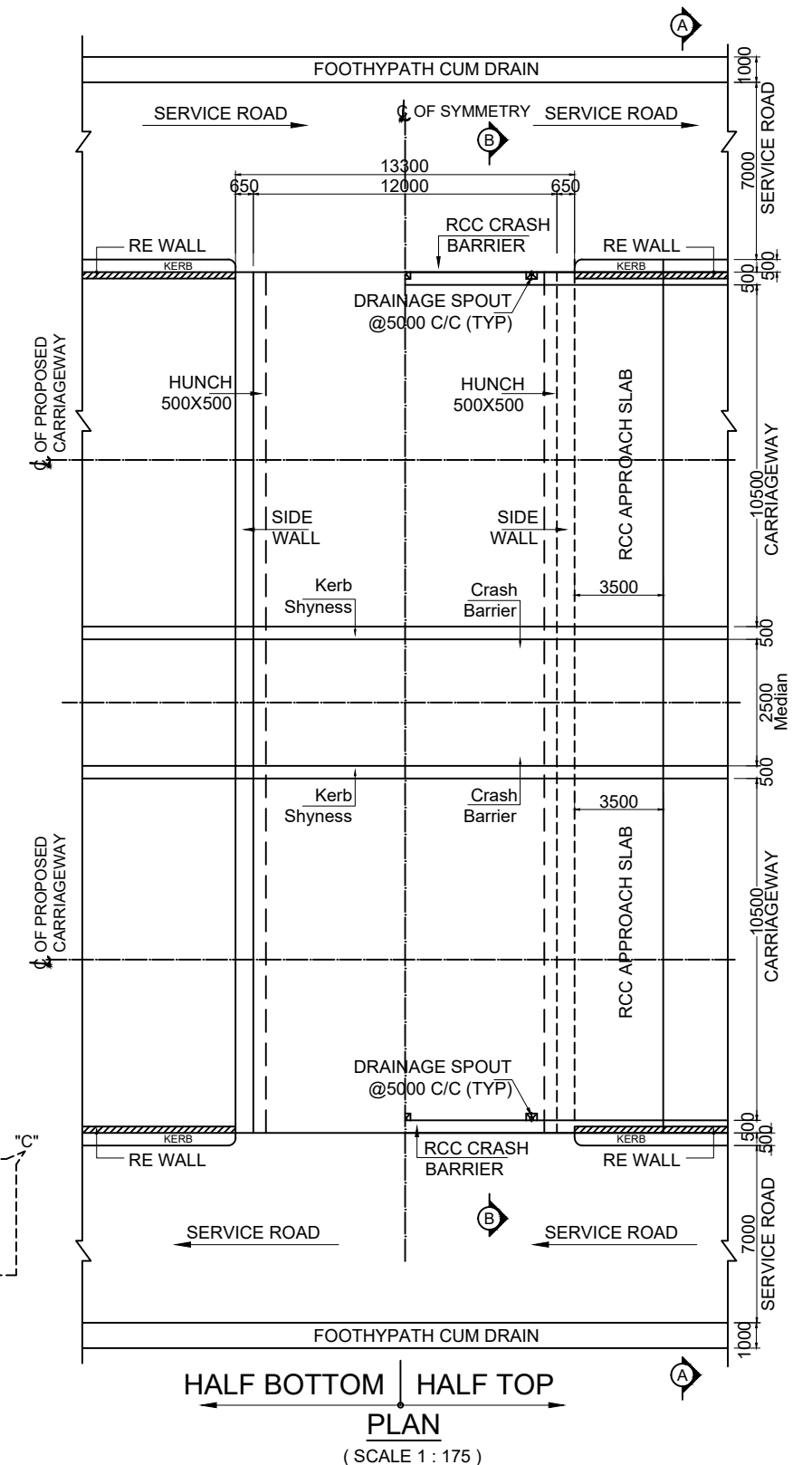




Details of Proposed Structure

Design Chainage	Tcs	Recommended Proposal for Structure	Type of Structure	Span Arrangement (m)	Total Width of Structure (m)	FRL	SOFFIT LEVEL	CROSS ROAD TOP LVL.	FOND. LEVEL
121+370	5	New Construction	LVUP	12X5.5	24.000	250.290	249.425	243.925	243.275



REV	DATE	DESCRIPTION OF REVISION

SCALE :-
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SCALE 1:1000

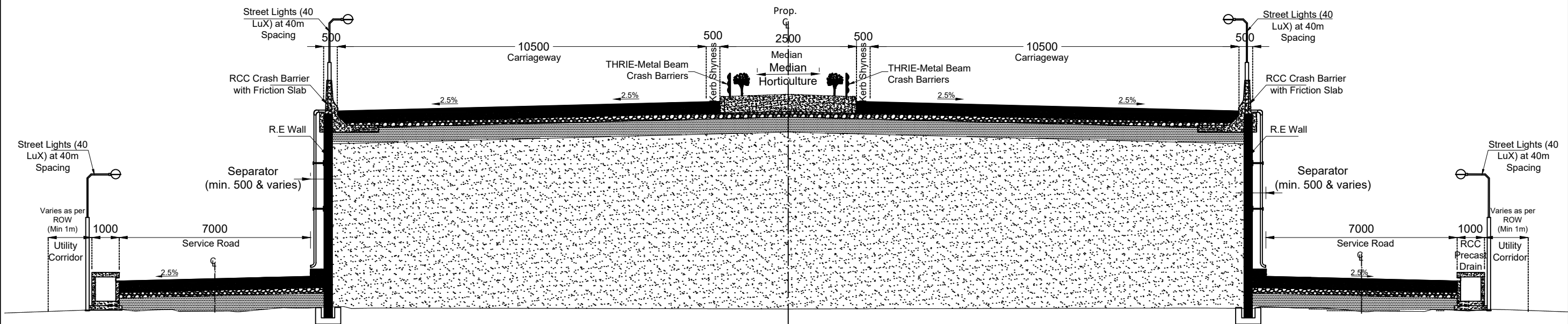
CLIENT:-
 **MINISTRY OF ROAD TRANSPORT & HIGHWAYS**
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-
 **M/s Marc Technocrats Pvt. Ltd in JV with Asian Geotech research service**

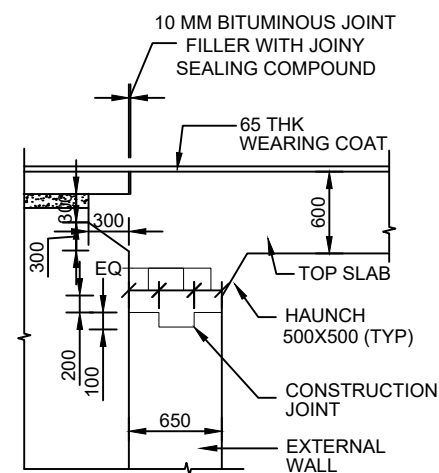
PROJECT:-
Consultancy Services for Preparation of Detailed Project Report for Development of NH-133 from km 92.380 to km 129.370 in Dumka and Deoghar District in the state of Jharkhand

TITLE:-
GENERAL ARRANGEMENT DRAWING OF LVUP SPAN - 1 x 12 x 5.5
CHAINAGE:- 121+370

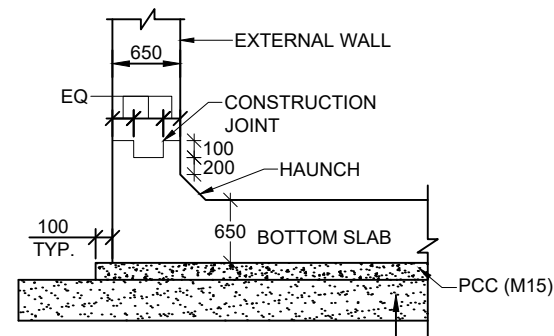
Drawing No. :	MORTH/LVUP/GAD/01			
Date :	FEB 2025	Sheet No. :	01 OF 02	
DRAWN(A)	DESIGN (B)	CHECK (C)	APPROVED (D)	



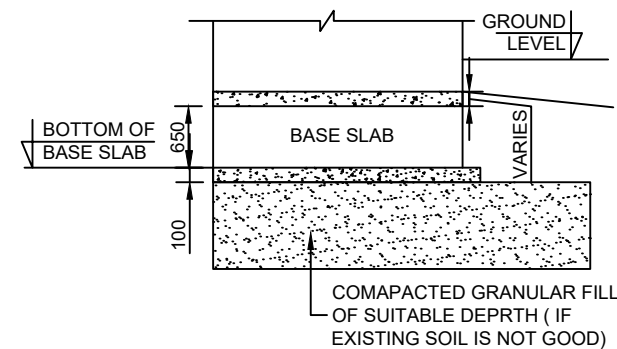
SECTION A-A
(SCALE 1 : 175)



DETAILS - "A"
(SCALE 1:50)



DETAILS - "B"
(SCALE 1:50)



DETAILS - "C"
(SCALE 1:75)

NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
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- IRC CLASS SV LOADING SPECIAL MULTI AXLE HYDRAULIC TRAILER VEHICLE (PRIME MOVER WITH AXEL TRAILER - GVW= 385 TONNES)
- CONCRETE SHALL BE DESIGN MIX WITH A MINIMUM DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC STRENGTH ON 150MM CUBES AS FOLLOWS :-
 - RCC BOX STRUCTURE - M35
 - RCC CRASH BARRIER - M40
 - RCC APPROACH SLAB - M30
 - LEVELING COURSE (UNDER FOUNDATION) - M15
 - LEVELING COURSE (UNDER APPROACH SLAB) - M15
- THE RAINFORCING BARS SHALL BE OF THERMO MECHANICALLY TRETED (GRADE DESIGNATION FE - 500) CONFORMING TO IS : 786 STANDARDS.
- CLEAR COVER TO OUTER MOST STEEL AT EARTH FACE SHALL BE 50MM. AND 75MM FOR NON EARTH FACE.
- 65M THK. WEARING COAT COMPRESING OF 40MM THK. BITUMINOUS CONCRETE OVER LAID WITH 25MM THK. BITUMEN MASTIC LAYER CAN BE ADOPTED IN CONFORMITY WITH SECTION 500 OF MORTH SPECIFICATIONS.
- MINIMUM CONCRETE COVER , GRADE OF CONCRETE , MINIMUM CEMENT CONTENT AND MINIMUM W/C RATIO SHALL BE AS PER MODERATE CONDITION OF EXPOSURE AS PER PROVISION OF IRC : 112 - 2020.
- WATER TO BE USED IN CONCRETING, GROUTING & CURING SHALL CONFORM TO 18.4.5 IRC : 112-2020.
- DESIGN BASE PRESURE AT FOUNDING LEVEL IS 15T/M . THIS SHALL BE GOT VERIFIED AT SITE BEFORE EXECUTION OF WORK . IF SBC IS NOT ARCHIVED , NECESSARY GROUND IMPROVEMENT MAY BE CARRIED OUT TO ENSURE THAT SBC IS NOT LESS THAN 15T/M .
- SATURATED EARTH PRESSURE CONSIDERED IN DESIGN AS NO WEEP HOLES ARE PROVIDED.

REV	DATE	DESCRIPTION OF REVISION

SCALE :-
0 20 40 60 80 100
SCALE 1:1000

CLIENT:-

MINISTRY OF ROAD TRANSPORT & HIGHWAYS
ROADS & BUILDINGS DEPARTMENT

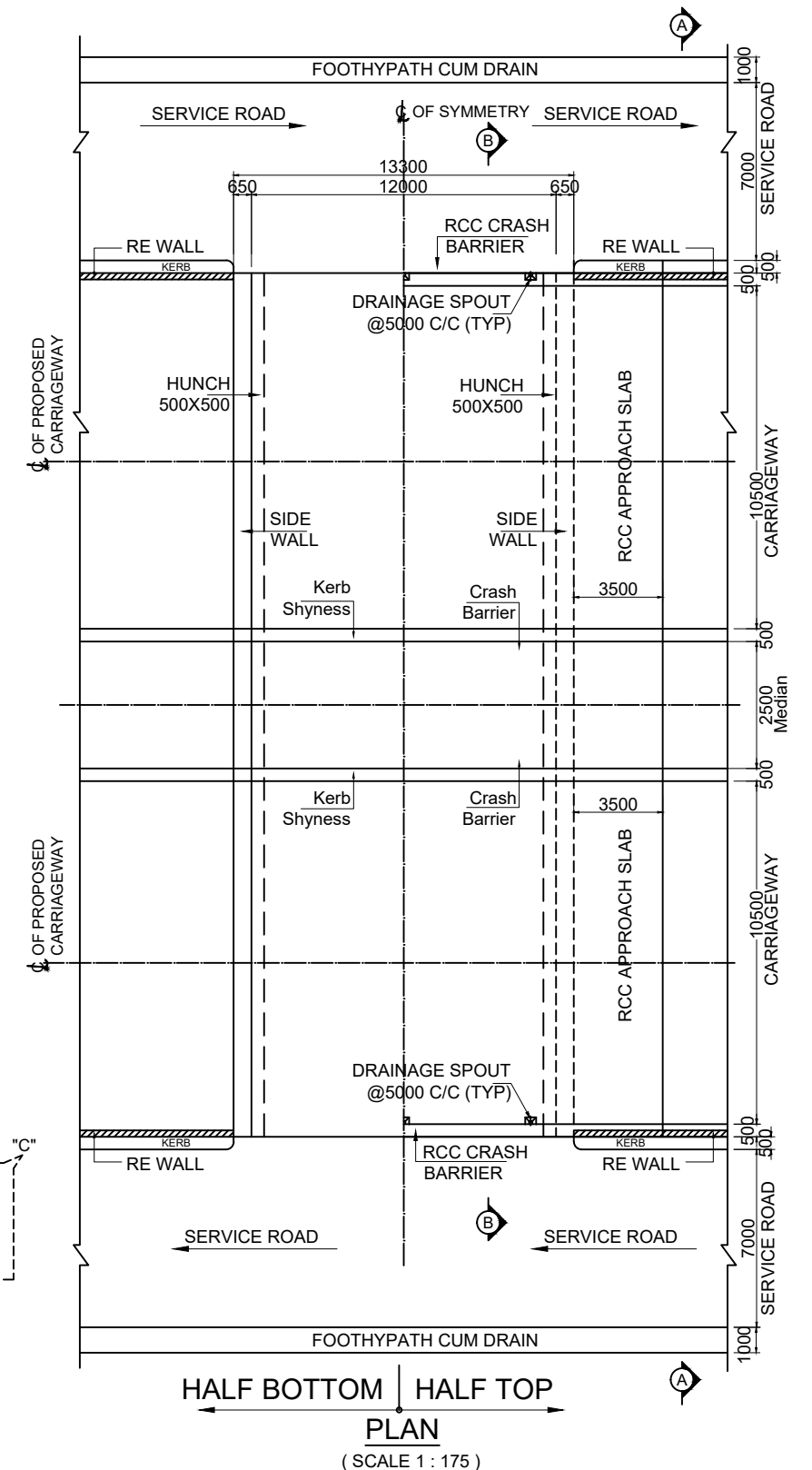
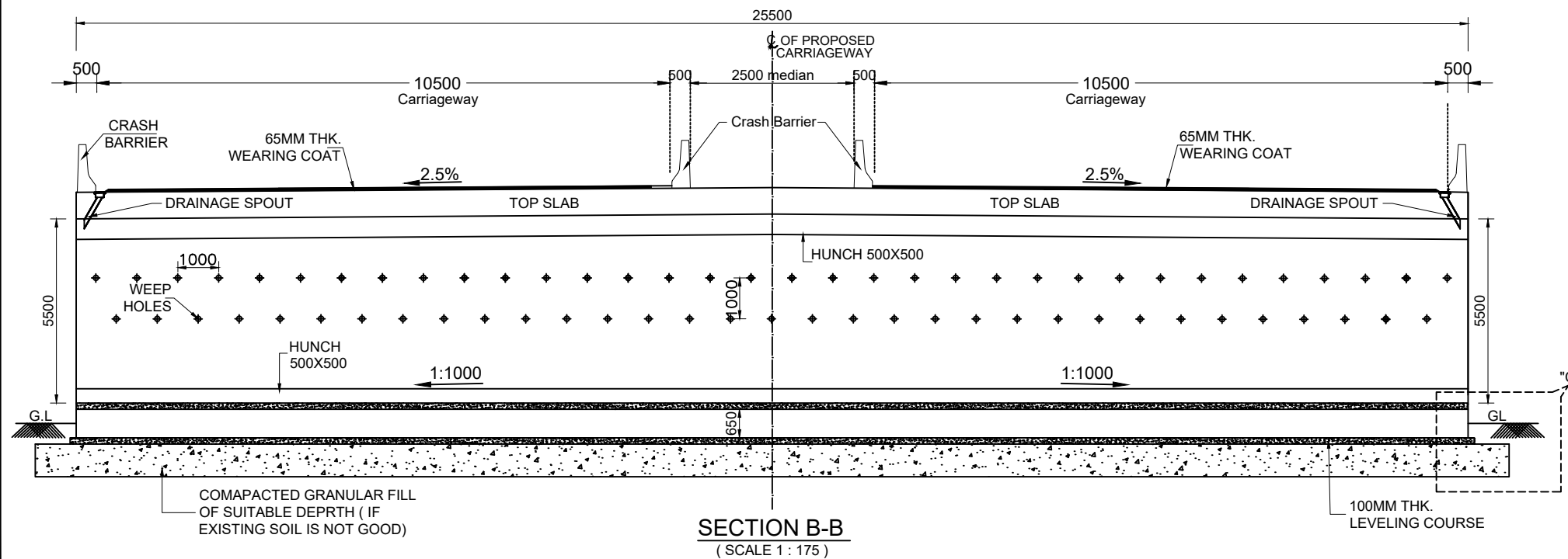
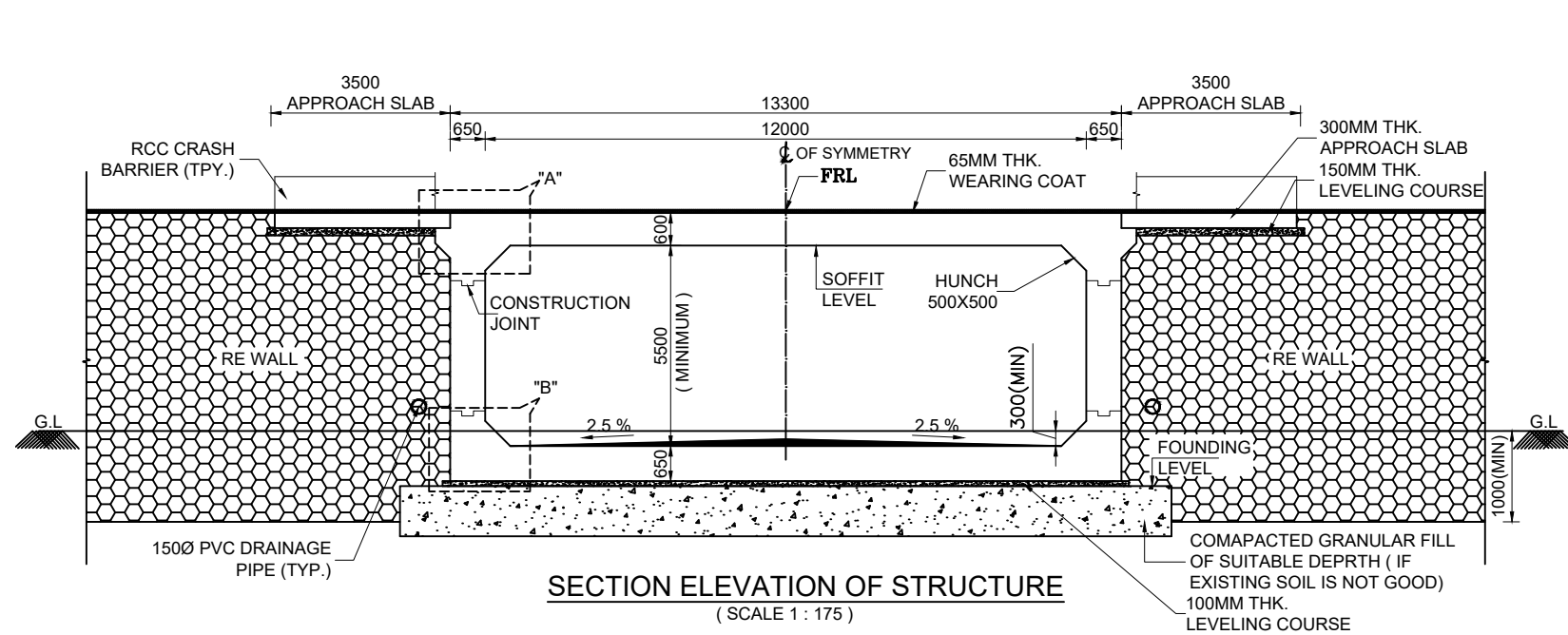
CONSULTANT:-

M/s Marc Technocrats Pvt. Ltd in JV with Asian Geotech research service

PROJECT:-
Consultancy Services for Prepration of Detailed Project Report for Development of NH-133 from km 92.380 to km 129.370 in Dumka and Deoghar District inthe state of Jharkhand

TITLE:-
GENRAL ARRANGEMENT
DRAWING OF LVUP
SPAN - 1 x 12 x 5.5
CHAINAGE:-

Drawing No. :	MORTH/LVUP/GAD/02			
Date :	FEB 2025	Sheet No. :	02 OF 02	
DRAWN(A)	DESIGN (B)	CHECK (C)	APPROVED (D)	



Details of Proposed Structure									
Design Chainage	Tcs	Recommended Proposal for Structure	Type of Structure	Span Arrangement (m)	Total Width of Structure (m)	FRL	SOFFIT LEVEL	CROSS ROAD TOP LVL.	FOND. LEVEL
124+000	5	New Construction	LVUP	12X5.5	42.5	245.950	245.085	239.585	238.935

REV	DATE	DESCRIPTION OF REVISION

SCALE :-
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SCALE 1:1000

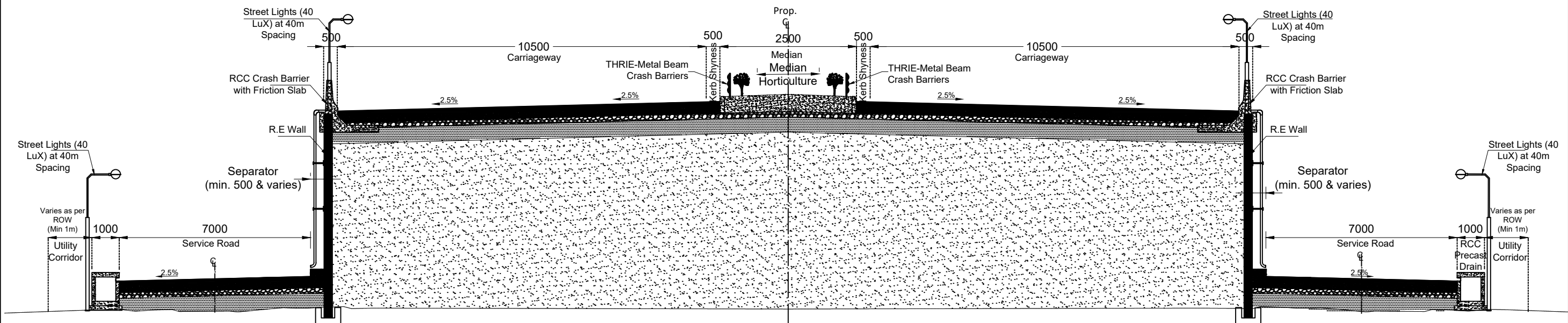
CLIENT:-
 **MINISTRY OF ROAD TRANSPORT & HIGHWAYS**
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-
 **M/s Marc Technocrats Pvt. Ltd in JV with Asian Geotech research service**

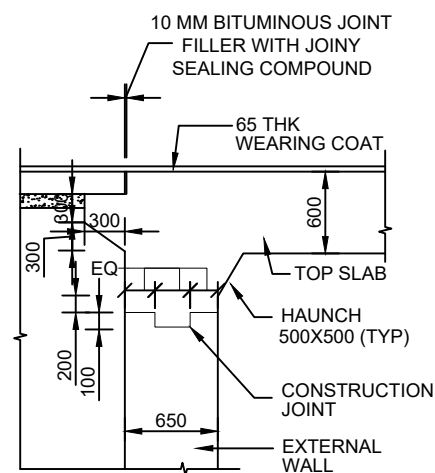
PROJECT:-
Consultancy Services for Preparation of Detailed Project Report for Development of NH-133 from km 92.380 to km 129.370 in Dumka and Deoghar District in the state of Jharkhand

TITLE:-
GENERAL ARRANGEMENT
DRAWING OF LVUP
SPAN - 1 x 12 x 5.5
CHAINAGE:- 124+000

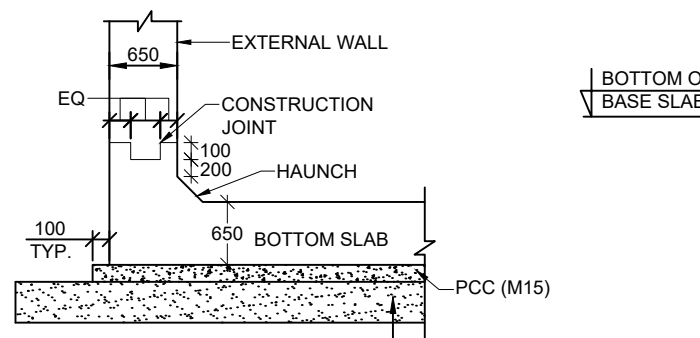
Drawing No. : MORTH/LVUP/GAD/01
Date : FEB 2025 Sheet No : 01 OF 02
DRAWN(A) DESIGN (B) CHECK (C) APPROVED (D)



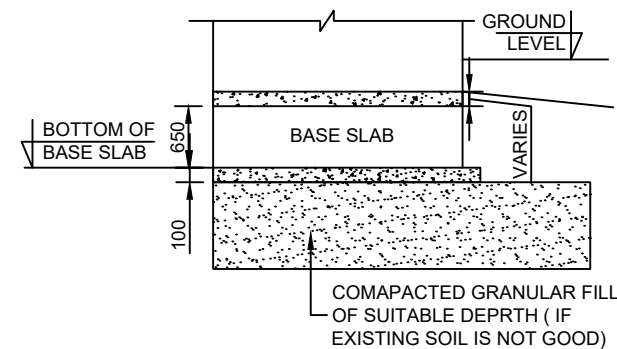
SECTION A-A
(SCALE 1 : 175)



DETAILS - "A"
(SCALE 1:50)



DETAILS - "B"
(SCALE 1:50)



DETAILS - "C"
(SCALE 1:75)

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- CONCRETE SHALL BE DESIGN MIX WITH A MINIMUM DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC STRENGTH ON 150MM CUBES AS FOLLOWS :-

RCC BOX STRUCTURE	-	M35
RCC CRASH BARRIER	-	M40
RCC APPROACH SLAB	-	M30
LEVELING COURSE (UNDER FOUNDATION)	-	M15
LEVELING COURSE (UNDER APPROACH SLAB)	-	M15
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REV	DATE	DESCRIPTION OF REVISION

SCALE :-
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SCALE 1:1000

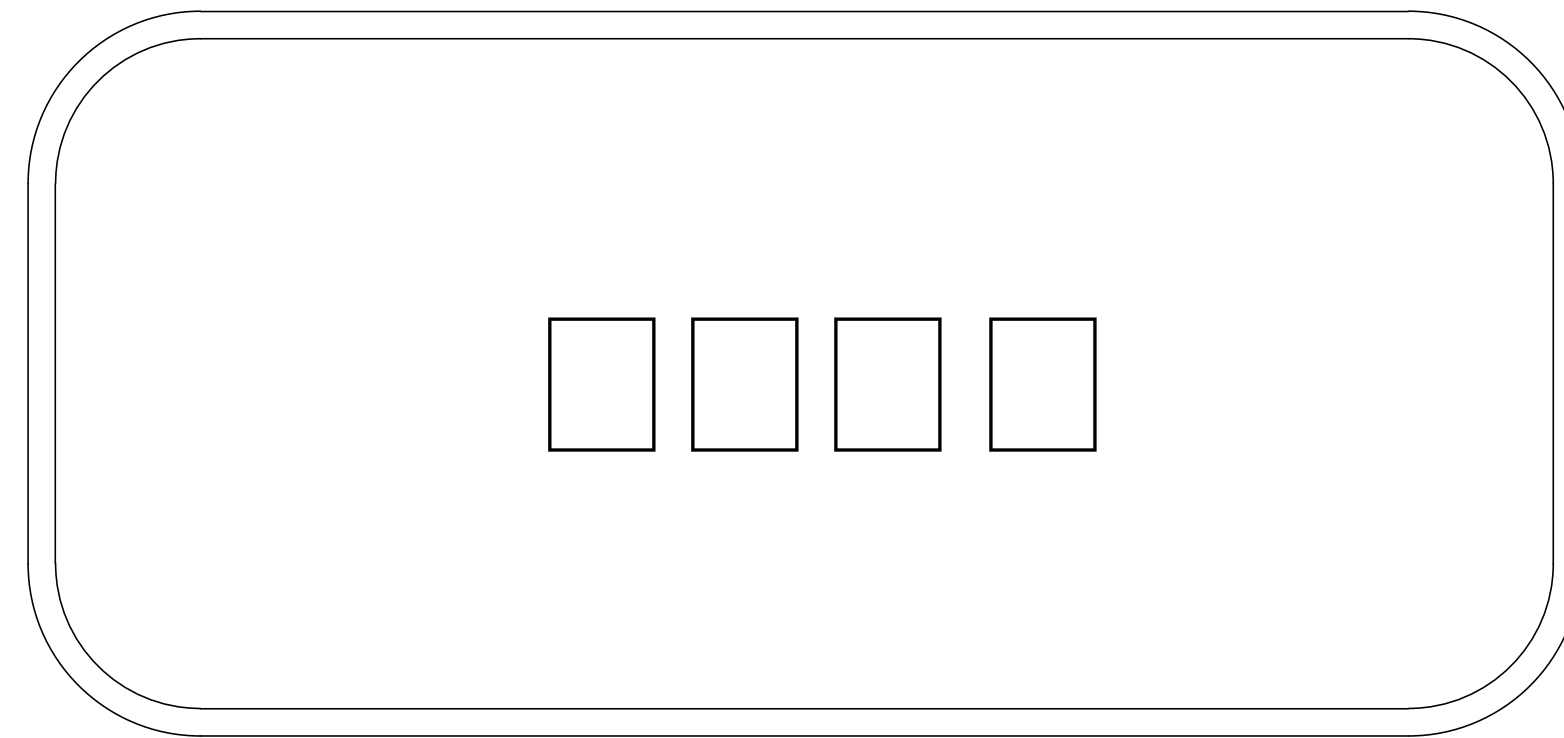
CLIENT:-
 **MINISTRY OF ROAD TRANSPORT & HIGHWAYS**
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-
 **M/s Marc Technocrats Pvt. Ltd in JV with Asian Geotech research service**

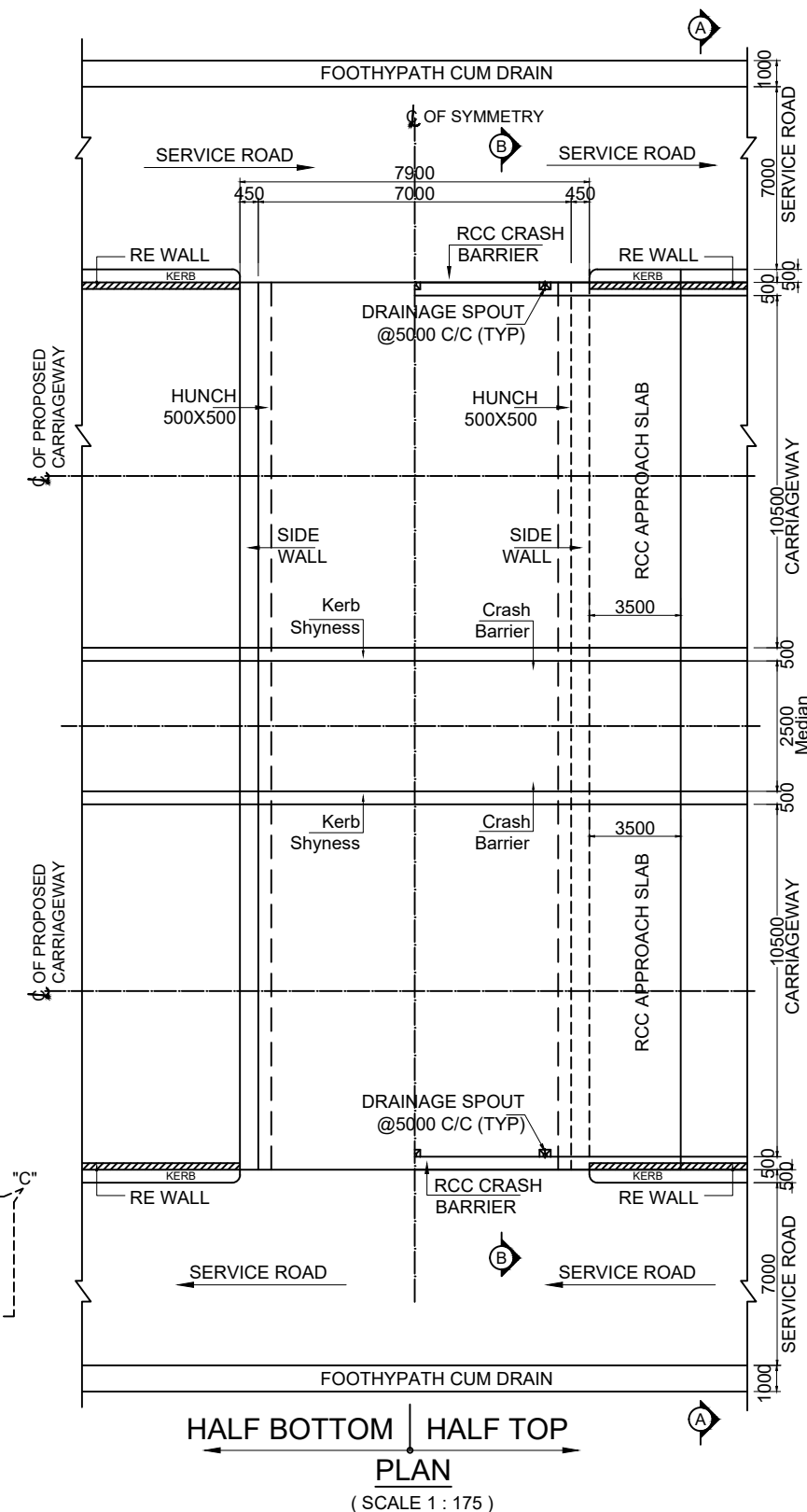
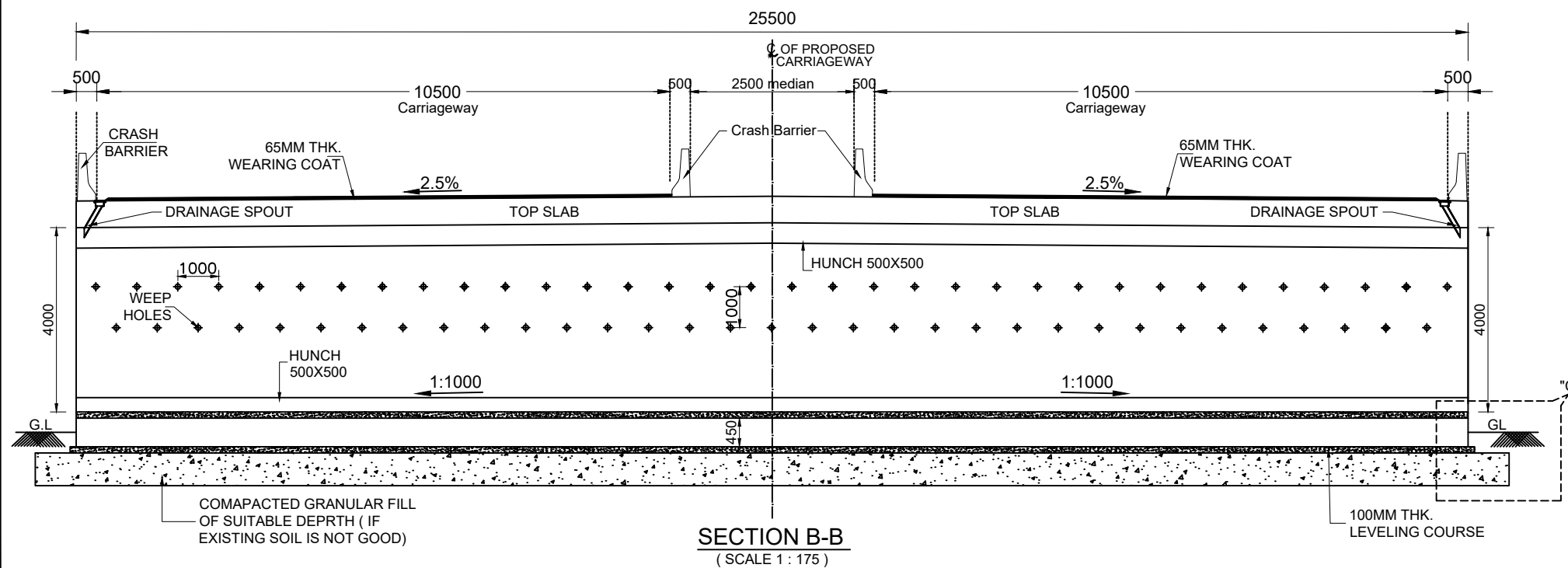
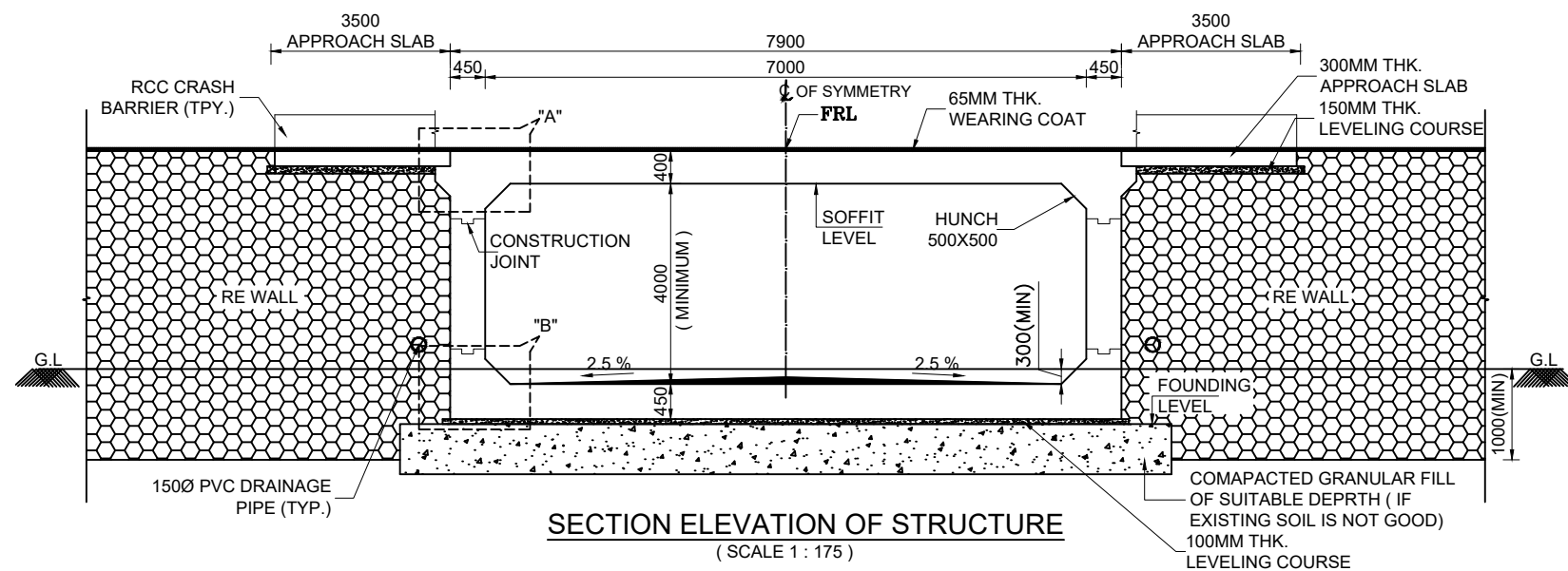
PROJECT:-
Consultancy Services for Prepration of Detailed Project Report for Development of NH-133 from km 92.380 to km 129.370 in Dumka and Deoghar District inthe state of Jharkhand

TITLE:-
GENRAL ARRANGEMENT
DRAWING OF LVUP
SPAN - 1 x 12 x 5.5
CHAINAGE:-

Drawing No. :	MORTH/LVUP/GAD/02			
Date :	FEB 2025	Sheet No. :	02 OF 02	
DRAWN(A)	DESIGN (B)	CHECK (C)	APPROVED (D)	




Marc Technocrats Pvt. Ltd.
in Association with
Asian Geotech Research Services

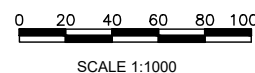


Details of Proposed Structure

Design Chainage	Tcs	Recommended Proposal for Structure	Type of Structure	Span Arrangement (m)	Total Width of Structure (m)	FRL	SOFFIT LEVEL	CROSS ROAD TOP LVL.	FOND. LEVEL
93+420	5	New Construction	SVUP	7x4	42.5	180.170	179.505	175.505	175.055

REV	DATE	DESCRIPTION OF REVISION

SCALE :-



CLIENT:-



MINISTRY OF ROAD TRANSPORT & HIGHWAYS
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-



M/s Marc Technocrats Pvt. Ltd in JV with Asian Geotech research service

PROJECT:-

Consultancy Services for Preparation of Detailed Project Report for Development of NH-133 from km 93.00 to km 131.00 in Dumka and Deoghar District in the state of Jharkhand

TITLE:-

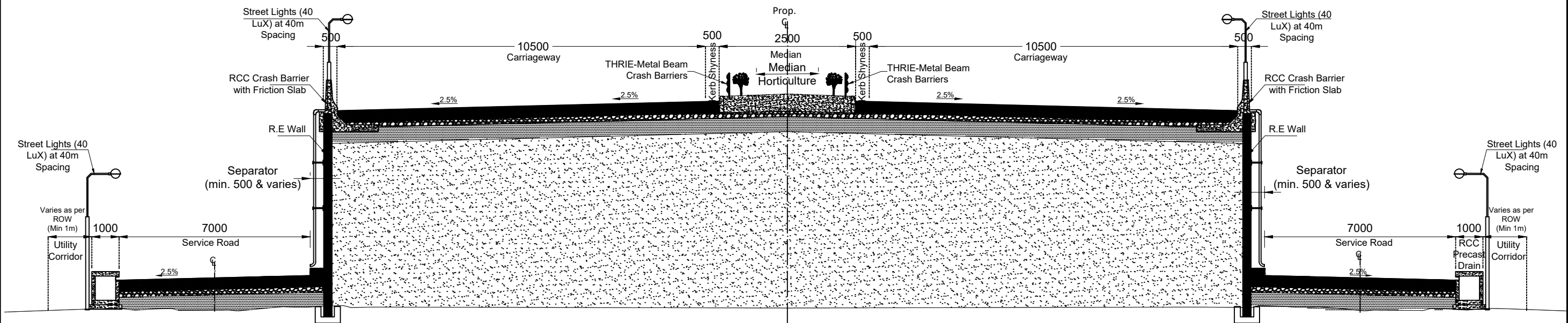
GENERAL ARRANGEMENT
DRAWING OF SVUP
SPAN - 1 x 7 x 4

CHAINAGE:- 93+420

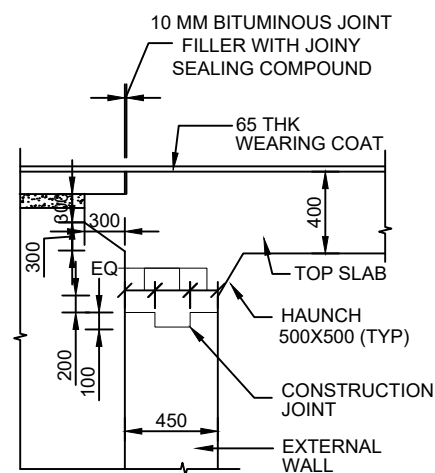
Drawing No. : MORTH/SVUP/GAD/01

Date : FEB 2025 Sheet No : 01 OF 02

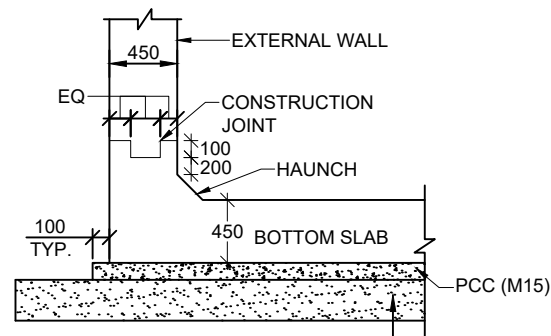
DRAWN(A) DESIGN (B) CHECK (C) APPROVED (D)



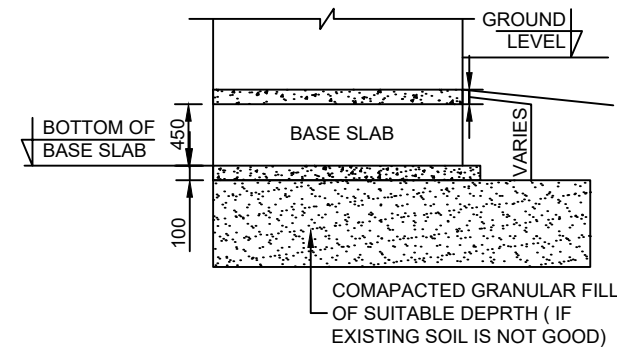
SECTION A-A
(SCALE 1 : 175)



DETAILS - "A"
(SCALE 1:50)



DETAILS - "B"
(SCALE 1:50)



DETAILS - "C"
(SCALE 1:75)

NOTES:-

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 - RCC CRASH BARRIER - M40
 - RCC APPROACH SLAB - M30
 - LEVELING COURSE (UNDER FOUNDATION) - M15
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REV	DATE	DESCRIPTION OF REVISION

SCALE :-
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SCALE 1:1000

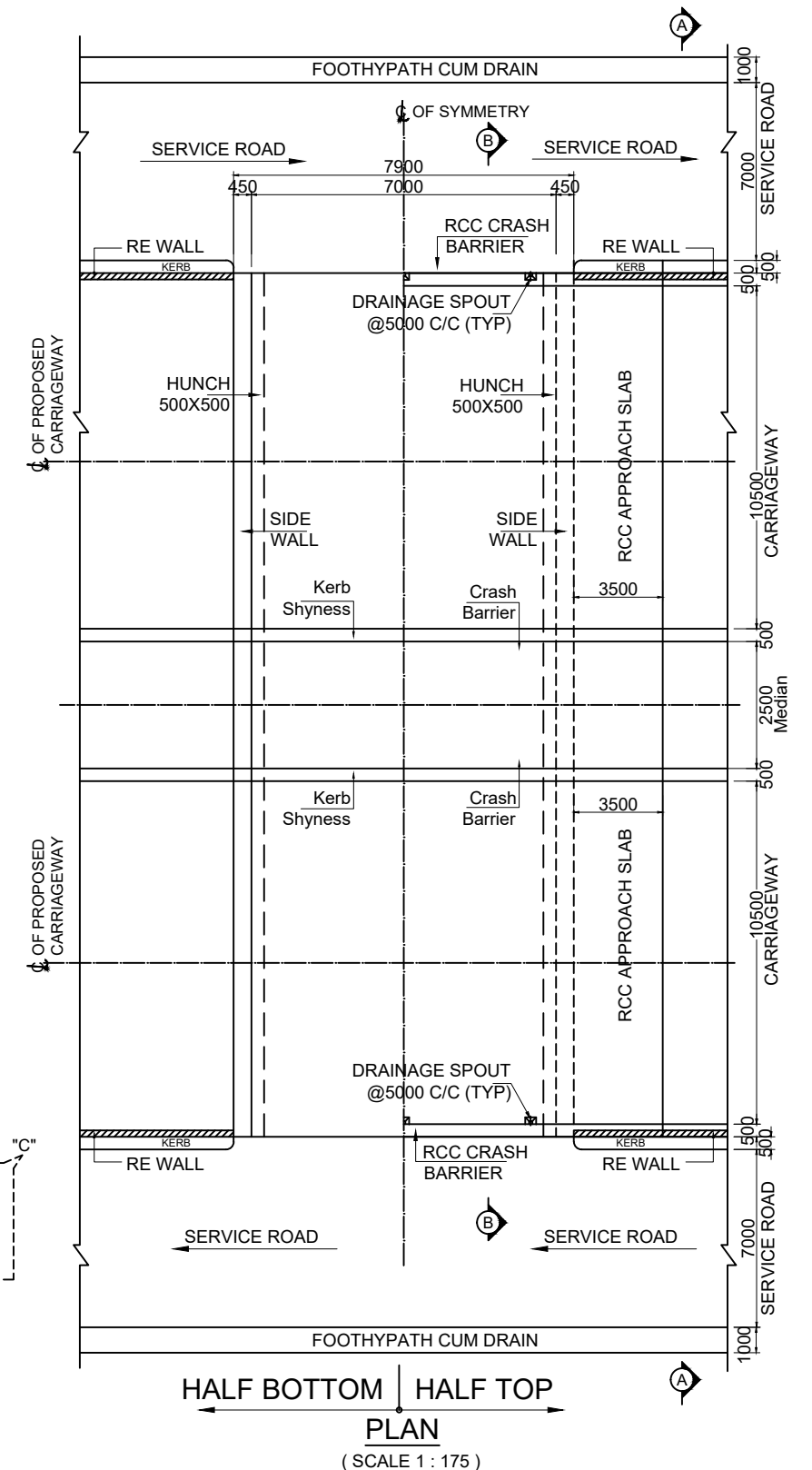
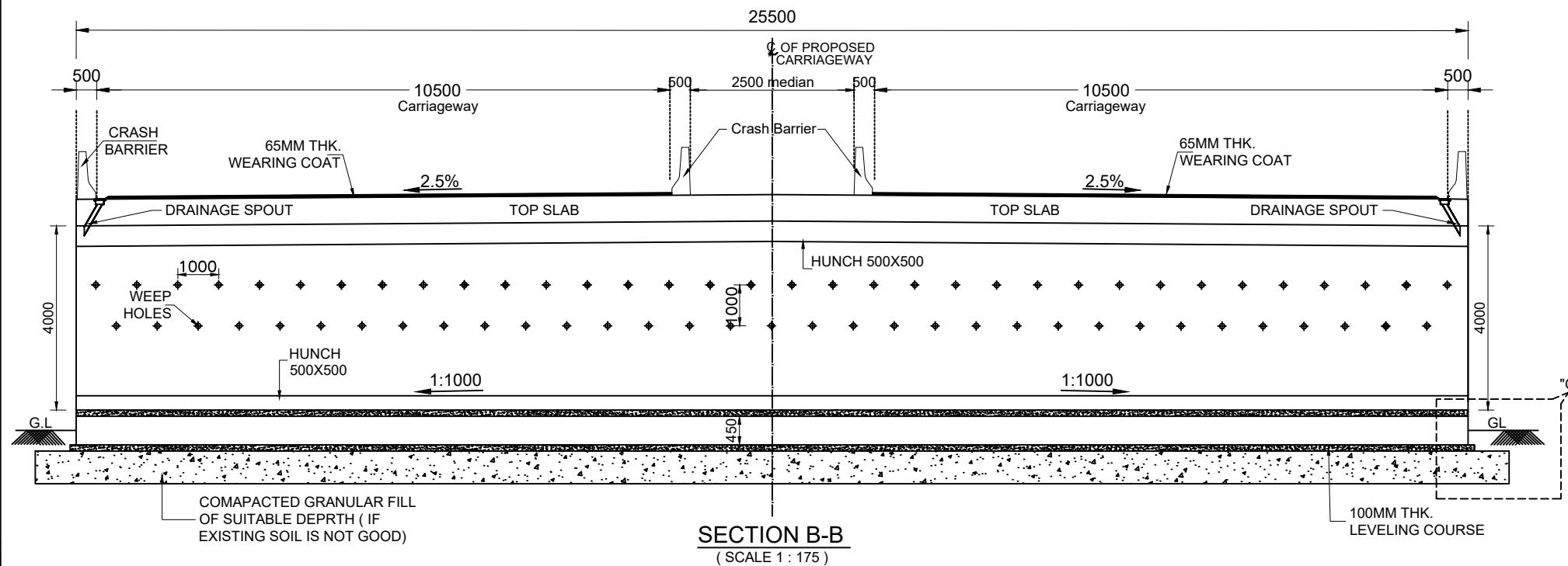
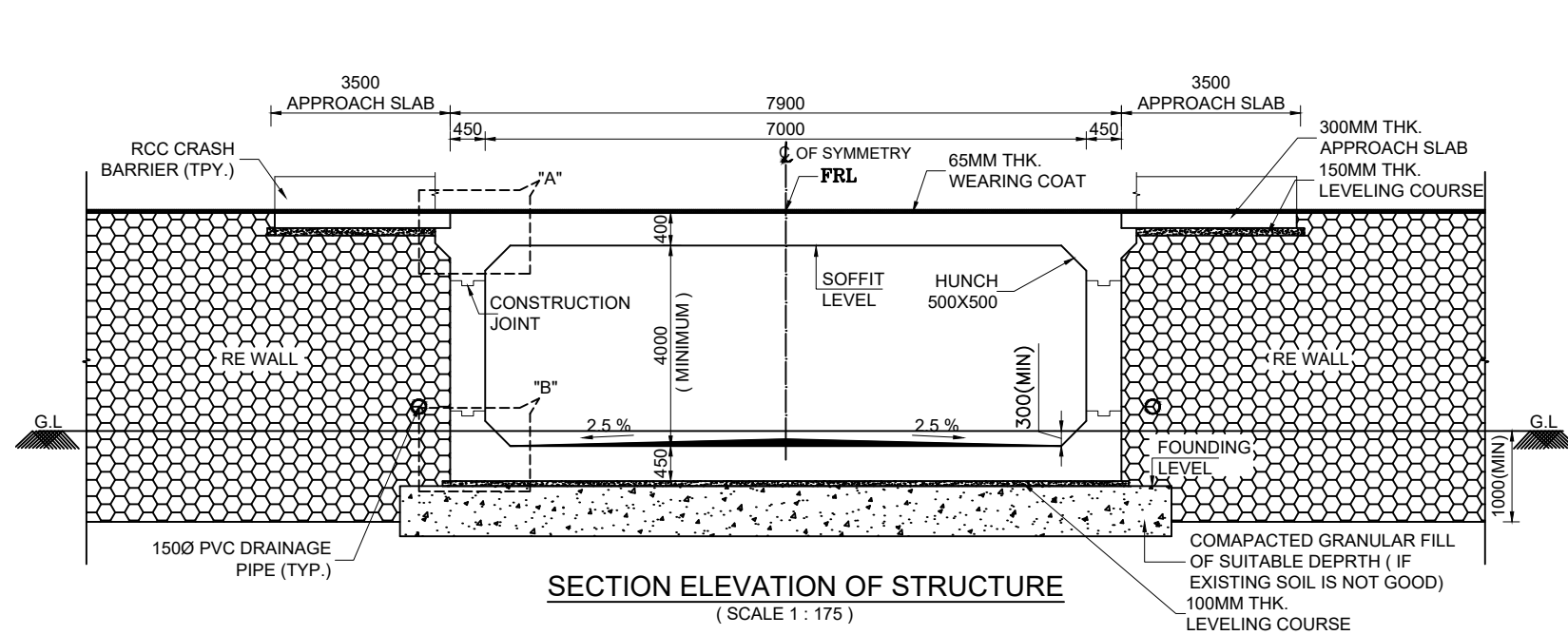
CLIENT:-
**MINISTRY OF ROAD TRANSPORT & HIGHWAYS**
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-
**M/s Marc Technocrats Pvt. Ltd in JV with Asian Geotech research service**

PROJECT:-
Consultancy Services for Prepration of Detailed Project Report for Development of NH-133 from km 93.00 to km 131.00 in Dumka and Deoghar District in the state of Jharkhand

TITLE:-
GENRAL ARRANGEMENT
DRAWING OF SVUP
SPAN - 1 x 7 x 4
CHAINAGE:- 93+420

Drawing No. : MORTH/SVUP/GAD/02			
Date : FEB 2025	Sheet No : 02 OF 02		
DRAWN(A)	DESIGN (B)	CHECK (C)	APPROVED (D)



Details of Proposed Structure

Design Chainage	Tcs	Recommended Proposal for Structure	Type of Structure	Span Arrangement (m)	Total Width of Structure (m)	FRL	SOFFIT LEVEL	CROSS ROAD TOP LVL.	FOND. LEVEL
105+200	5	New Construction	SVUP	7x4	42.5	217.800	217.135	213.135	212.685

REV	DATE	DESCRIPTION OF REVISION

SCALE :-
0 20 40 60 80 100
SCALE 1:1000

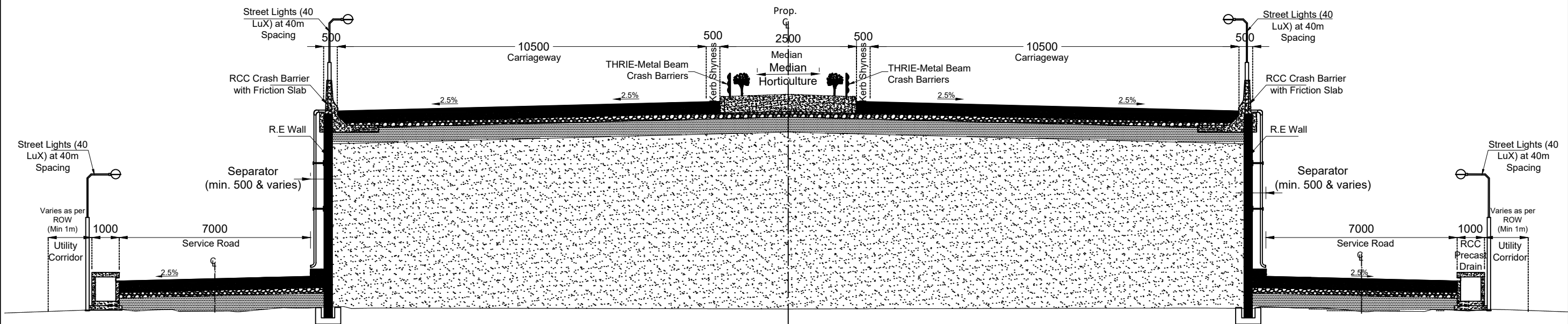
CLIENT:-
 **MINISTRY OF ROAD TRANSPORT & HIGHWAYS**
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-
 **M/s Marc Technocrats Pvt. Ltd in JV with Asian Geotech research service**

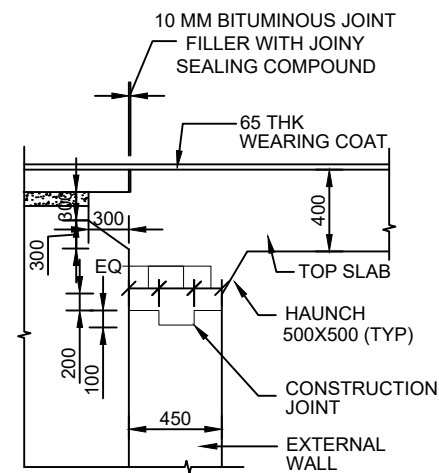
PROJECT:-
Consultancy Services for Preparation of Detailed Project Report for Development of NH-133 from km 93.00 to km 131.00 in Dumka and Deoghar District in the state of Jharkhand

TITLE:-
GENERAL ARRANGEMENT DRAWING OF SVUP SPAN - 1 x 7 x 4
CHAINAGE:- 105+200

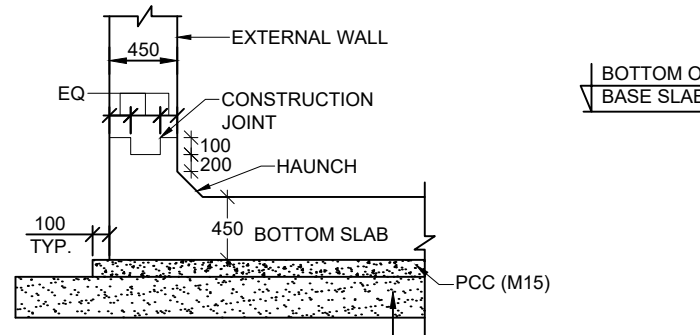
Drawing No. : MORTH/SVUP/GAD/01
Date : FEB 2025 Sheet No : 01 OF 02
DRAWN(A) DESIGN (B) CHECK (C) APPROVED (D)



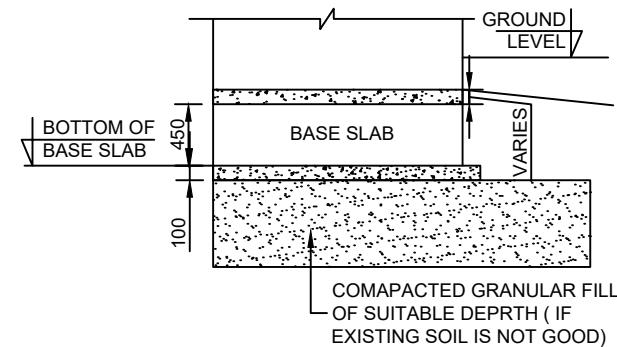
SECTION A-A
(SCALE 1 : 175)



DETAILS - "A"
(SCALE 1:50)



DETAILS - "B"
(SCALE 1:50)



DETAILS - "C"
(SCALE 1:75)

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RCC BOX STRUCTURE	-	M35
RCC CRASH BARRIER	-	M40
RCC APPROACH SLAB	-	M30
LEVELING COURSE (UNDER FOUNDATION)	-	M15
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REV	DATE	DESCRIPTION OF REVISION

SCALE :-



CLIENT:-



MINISTRY OF ROAD TRANSPORT
& HIGHWAYS
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-



M/s Marc Technocrats Pvt. Ltd in JV
with Asian Geotech research service

PROJECT:-

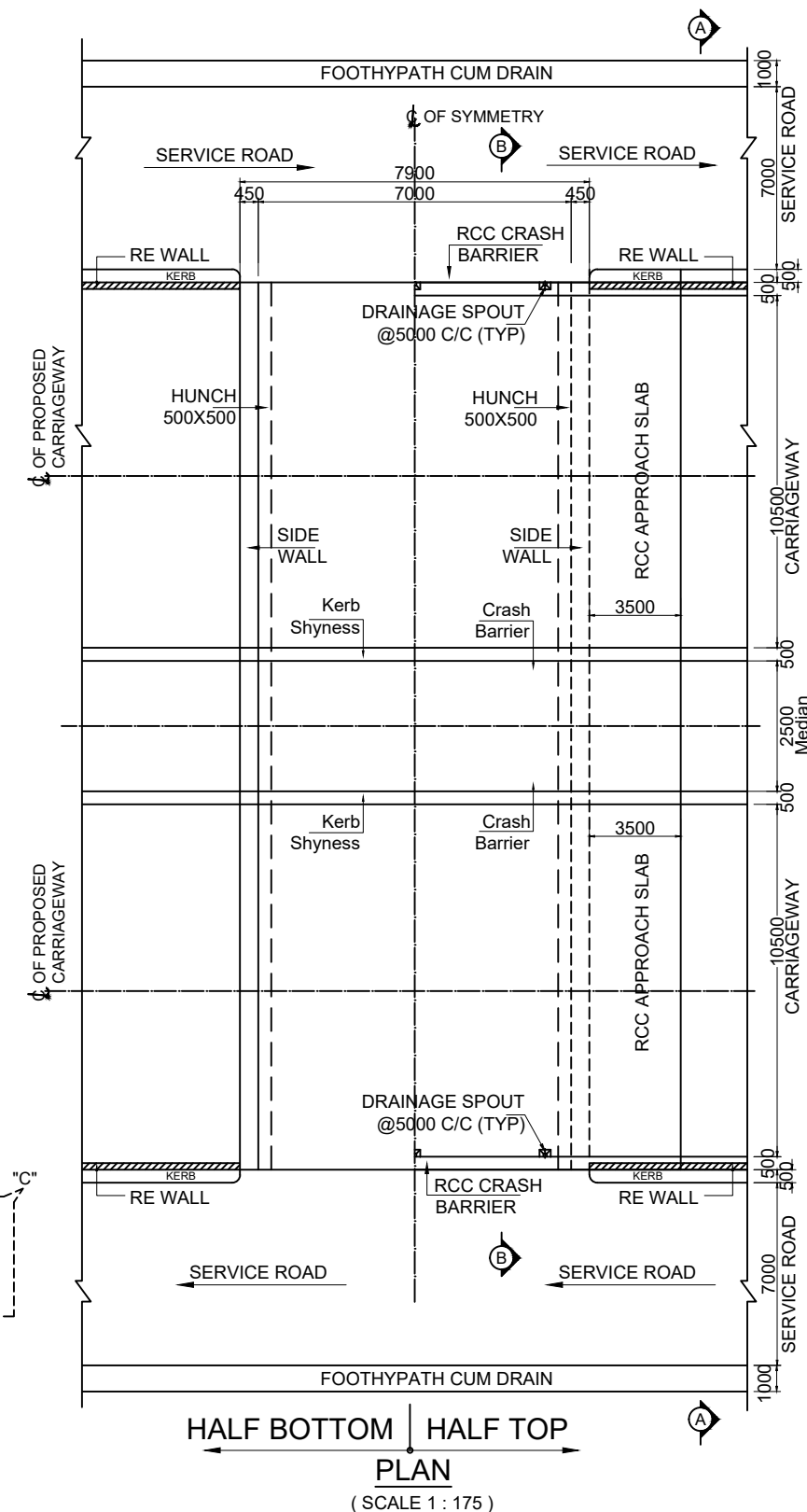
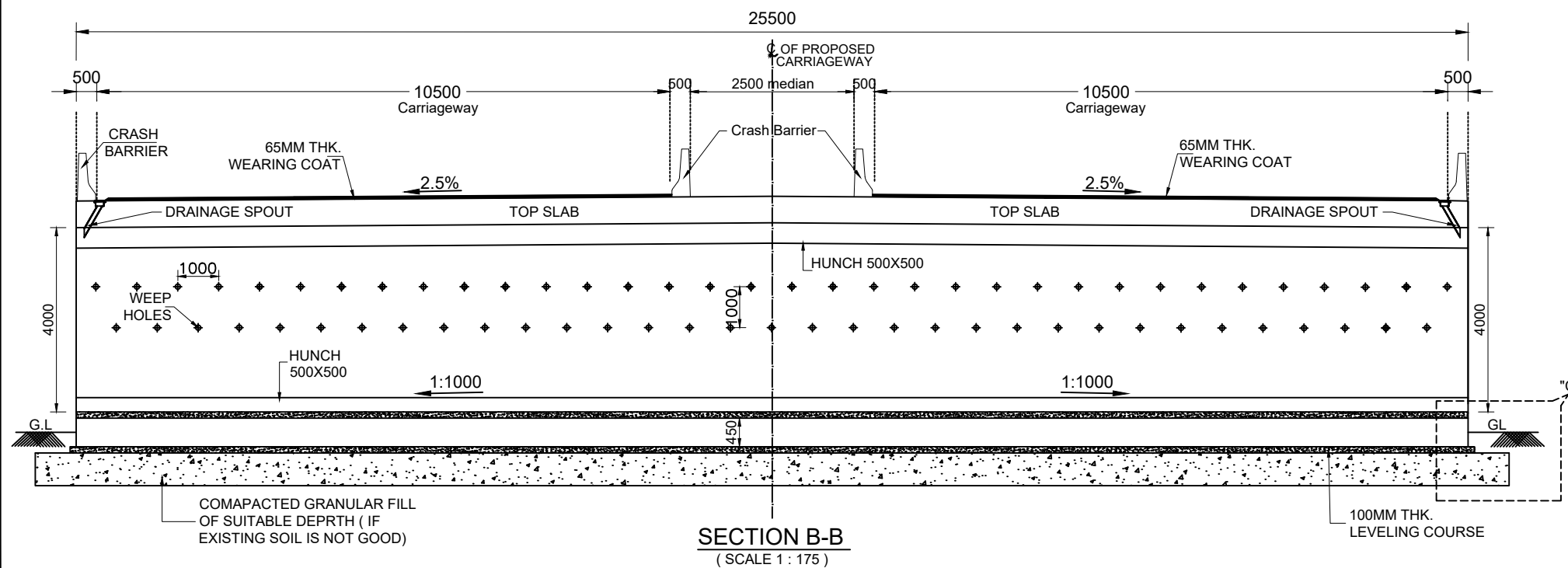
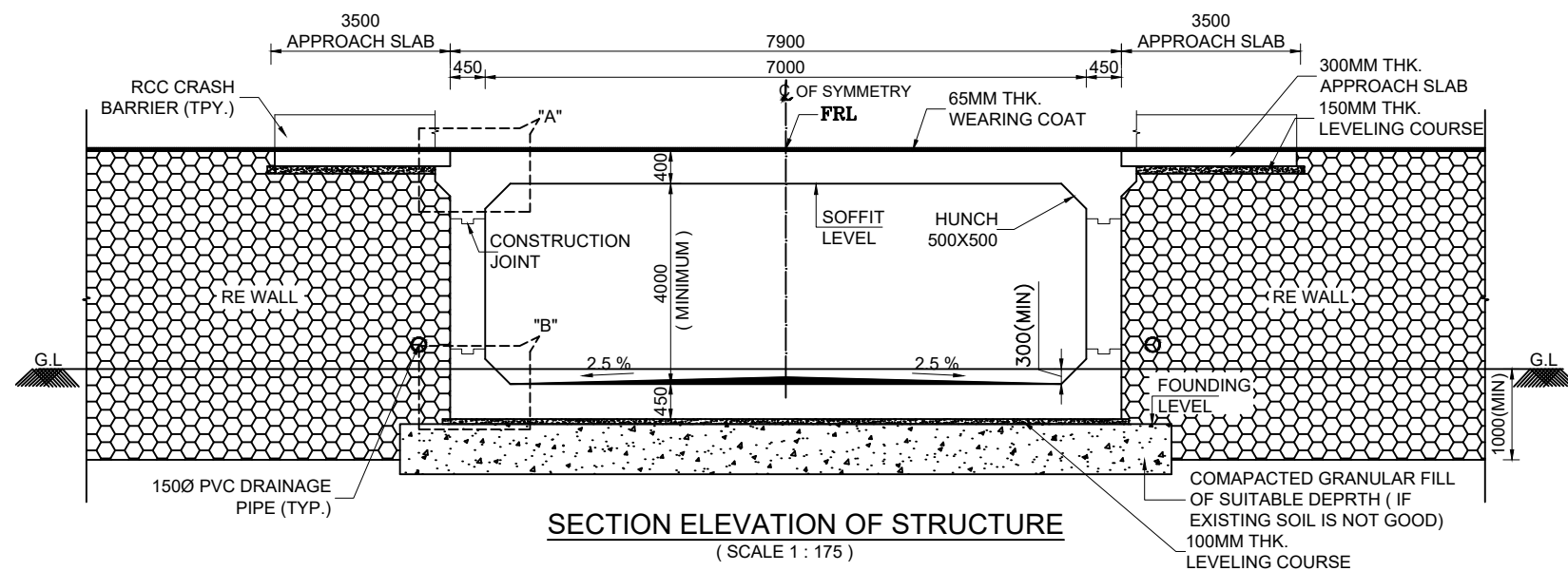
Consultancy Services for Prepration of Detailed Project Report for Development of NH-133 from km 93.00 to km 131.00 in Dumka and Deoghar District in the state of Jharkhand

TITLE:-

GENRAL ARRANGEMENT
DRAWING OF SVUP
SPAN - 1 x 7 x 4

CHAINAGE:- 105+200

Drawing No. :	MORTH/SVUP/GAD/02			
Date :	FEB 2025	Sheet No. :	02 OF 02	
DRAWN(A)	DESIGN (B)	CHECK (C)	APPROVED (D)	



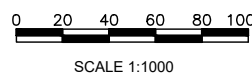
Details of Proposed Structure

Design Chainage	Tcs	Recommended Proposal for Structure	Type of Structure	Span Arrangement (m)	Total Width of Structure (m)	FRL	SOFFIT LEVEL	CROSS ROAD TOP LVL.	FOND. LEVEL
99+410	5	New Construction	SVUP	7x4	42.5	204.780	204.115	200.115	199.665

Page 1

REV	DATE	DESCRIPTION OF REVISION

SCALE :-



CLIENT:-



MINISTRY OF ROAD TRANSPORT & HIGHWAYS
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-



M/s Marc Technocrats Pvt. Ltd in JV with Asian Geotech research service

PROJECT:-

Consultancy Services for Preparation of Detailed Project Report for Development of NH-133 from km 93.00 to km 131.00 in Dumka and Deoghar District in the state of Jharkhand

TITLE:-

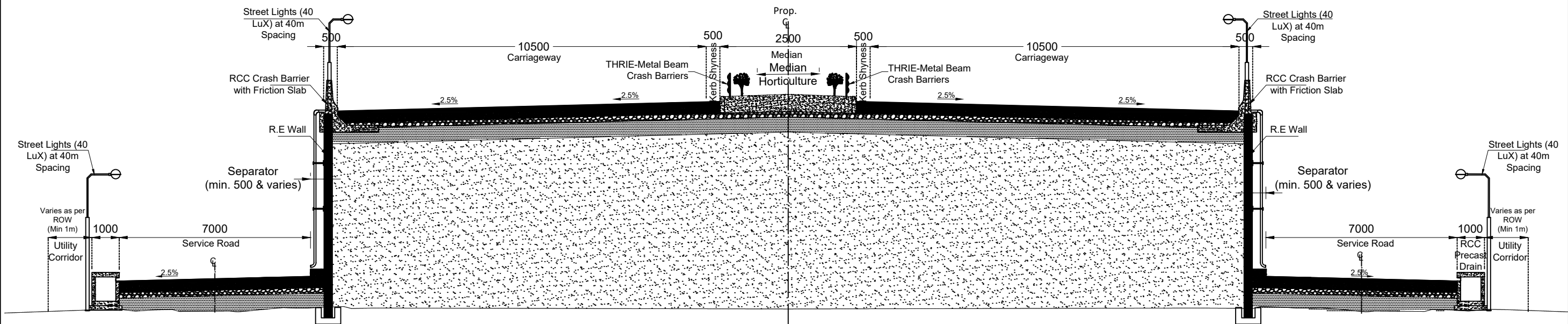
GENERAL ARRANGEMENT DRAWING OF SVUP SPAN - 1 x 7 x 4

CHAINAGE:- 99+410

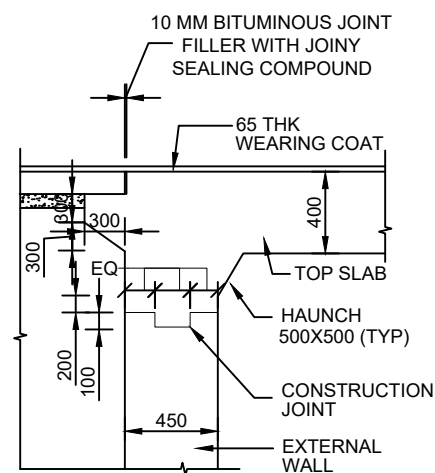
Drawing No. : MORTH/SVUP/GAD/01

Date : FEB 2025 Sheet No : 01 OF 02

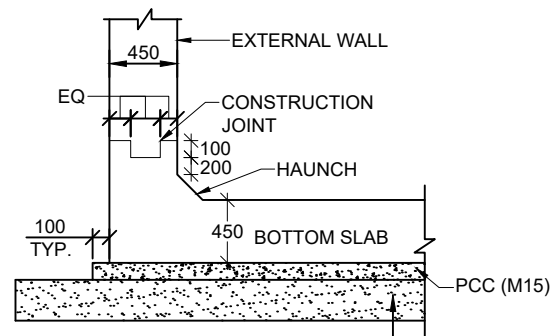
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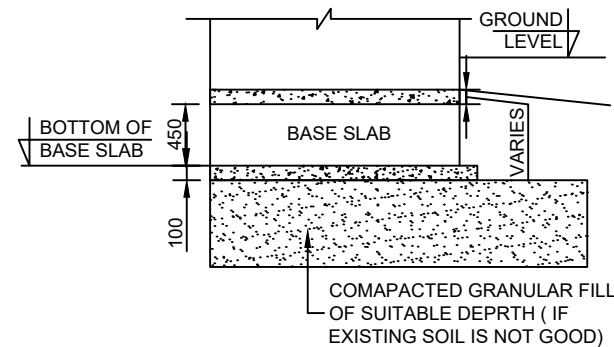
SECTION A-A
(SCALE 1 : 175)



DETAILS - "A"
(SCALE 1:50)



DETAILS - "B"
(SCALE 1:50)



DETAILS - "C"
(SCALE 1:75)

NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
- ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NO DRAWING SHALL BE SCALED.
- EACH OF THE PROPOSED CARRIAGEWAY IS TO BE DESIGN FOR ONE LANE OF IRC CLASS 70R + TWO LANES OF IRC CLASS A OR 4 LANES OF IRC CLASS A LOADING WITHOUT FOOTPATH WHICHEVER GOVERNS.
- IRC CLASS SV LOADING SPECIAL MULTI AXLE HYDRAULIC TRAILER VEHICLE (PRIME MOVER WITH AXEL TRAILER - GVW= 385 TONNES)
- CONCRETE SHALL BE DESIGN MIX WITH A MINIMUM DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC STRENGTH ON 150MM CUBES AS FOLLOWS :-
 - RCC BOX STRUCTURE - M35
 - RCC CRASH BARRIER - M40
 - RCC APPROACH SLAB - M30
 - LEVELING COURSE (UNDER FOUNDATION) - M15
 - LEVELING COURSE (UNDER APPROACH SLAB) - M15
- THE RAINFOCING BARS SHALL BE OF THERMO MECHANICALLY TRETED (GRADE DESIGNATION FE - 500) CONFORMING TO IS : 786 STANDARDS.
- CLEAR COVER TO OUTER MOST STEEL AT EARTH FACE SHALL BE 50MM. AND 75MM FOR NON EARTH FACE.
- 65M THK. WEARING COAT COMPRESING OF 40MM THK. BITUMINOUS CONCRETE OVER LAID WITH 25MM THK. BITUMEN MASTIC LAYER CAN BE ADOPTED IN CONFORMITY WITH SECTION 500 OF MORTH SPECIFICATIONS.
- MINIMUM CONCRETE COVER , GRADE OF CONCRETE , MINIMUM CEMENT CONTENT AND MINIMUM W/C RATIO SHALL BE AS PER MODERATE CONDITION OF EXPOSURE AS PER PROVISION OF IRC : 112 - 2020.
- WATER TO BE USED IN CONCRETING, GROUTING & CURING SHALL CONFORM TO 18.4.5 IRC : 112-2020.
- DESIGN BASE PRESURE AT FOUNDING LEVEL IS 15T/M . THIS SHALL BE GOT VERIFIED AT SITE BEFORE EXECUTION OF WORK . IF SBC IS NOT ARCHIVED , NECESSARY GROUND IMPROVEMENT MAY BE CARRIED OUT TO ENSURE THAT SBC IS NOT LESS THAN 15T/M .
- SATURATED EARTH PRESSURE CONSIDERED IN DESIGN AS NO WEEP HOLES ARE PROVIDED.

REV	DATE	DESCRIPTION OF REVISION

SCALE :-
0 20 40 60 80 100
SCALE 1:1000

CLIENT:-

MINISTRY OF ROAD TRANSPORT & HIGHWAYS
ROADS & BUILDINGS DEPARTMENT

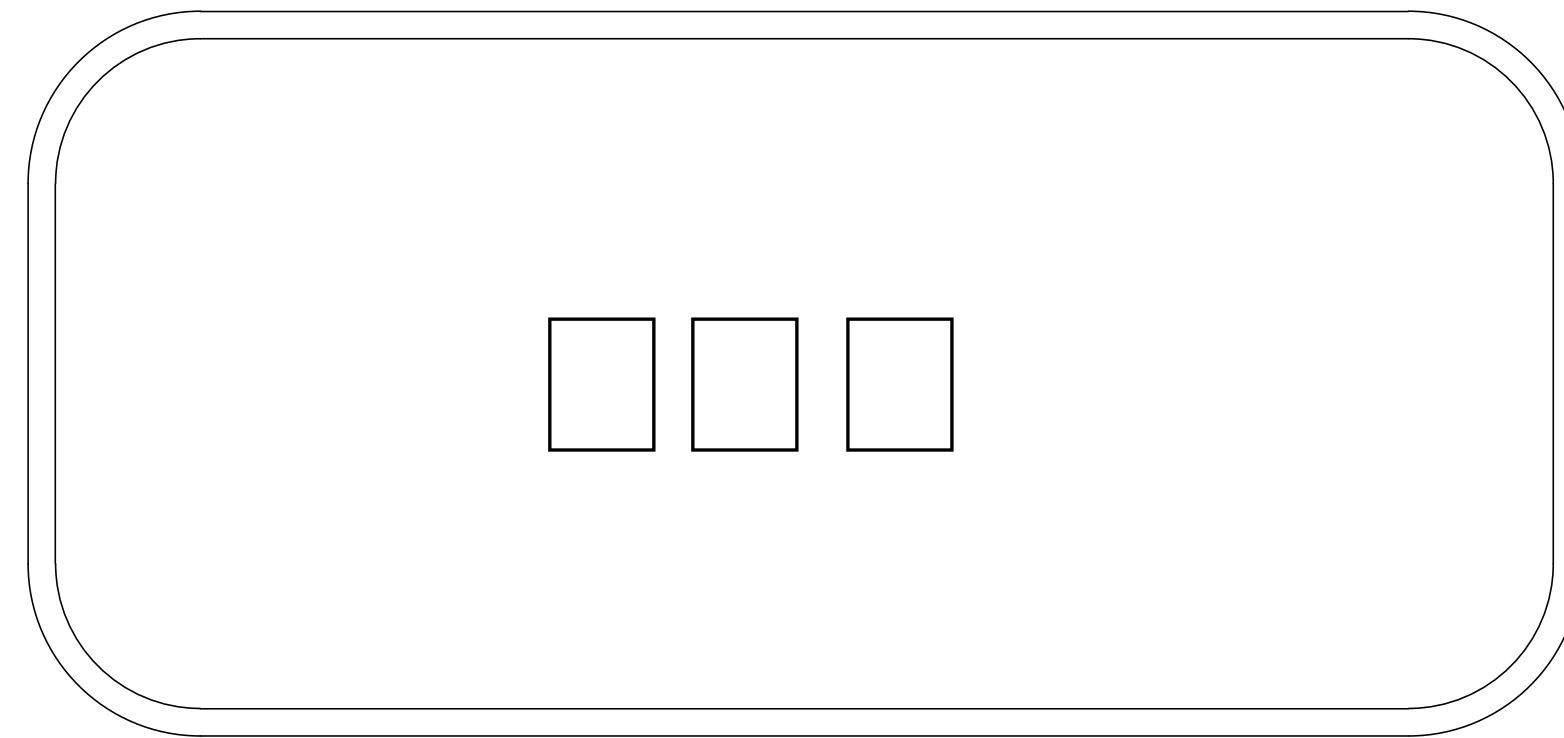
CONSULTANT:-

M/s Marc Technocrats Pvt. Ltd in JV with Asian Geotech research service

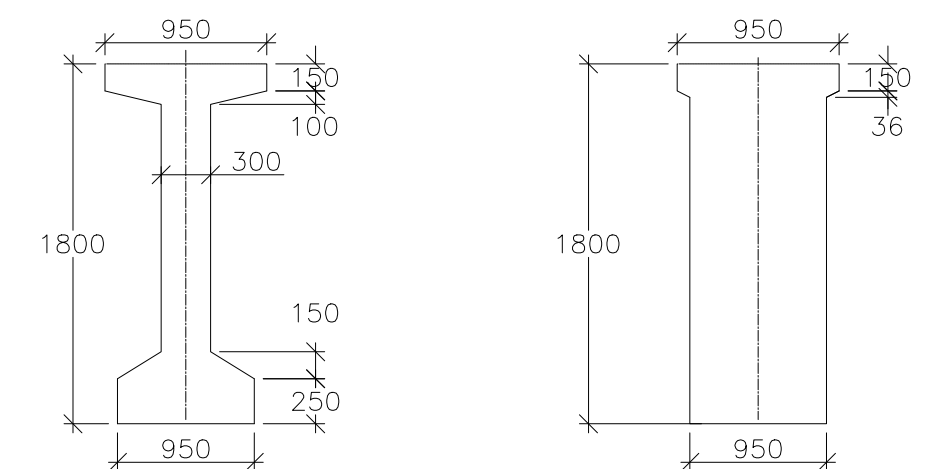
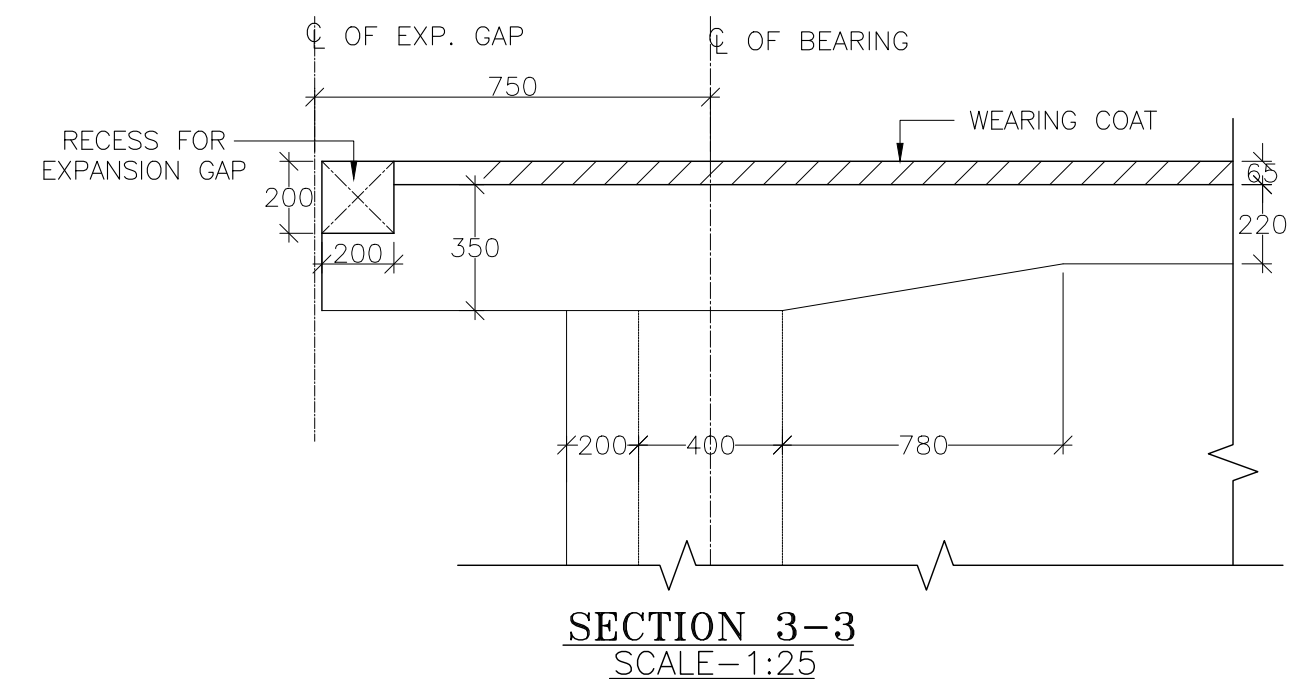
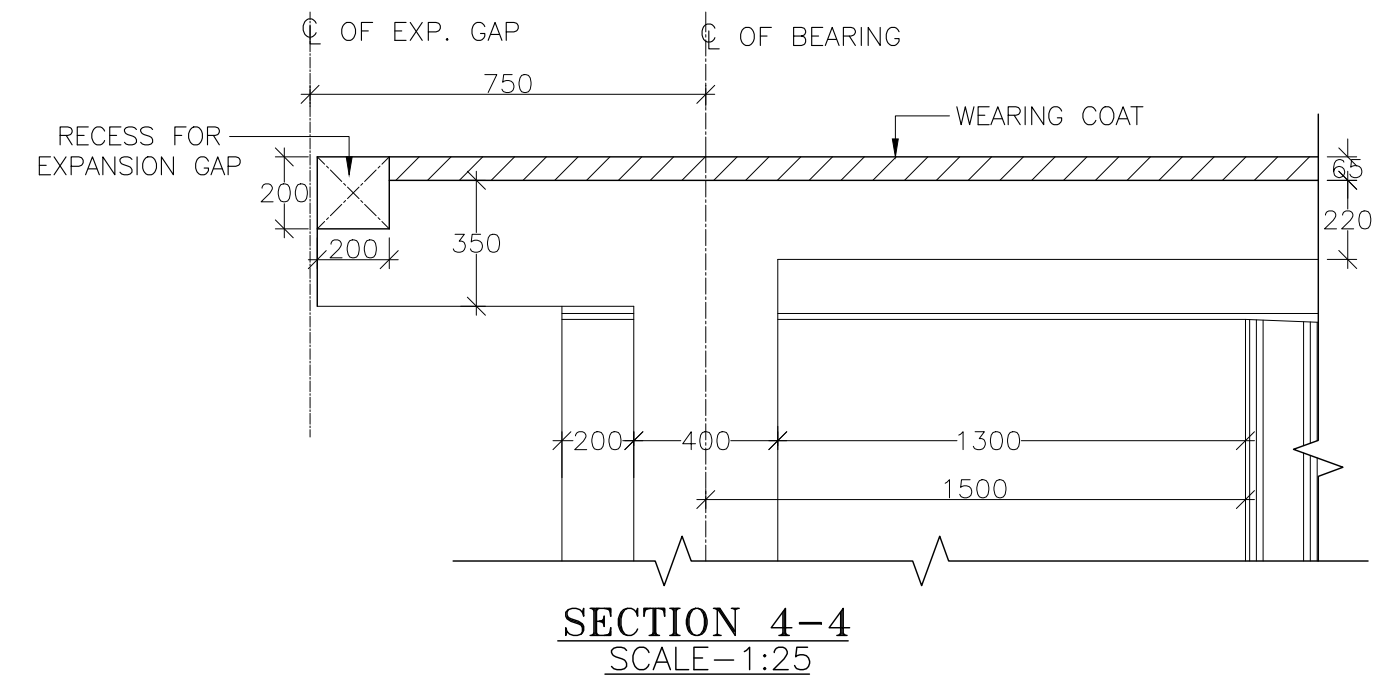
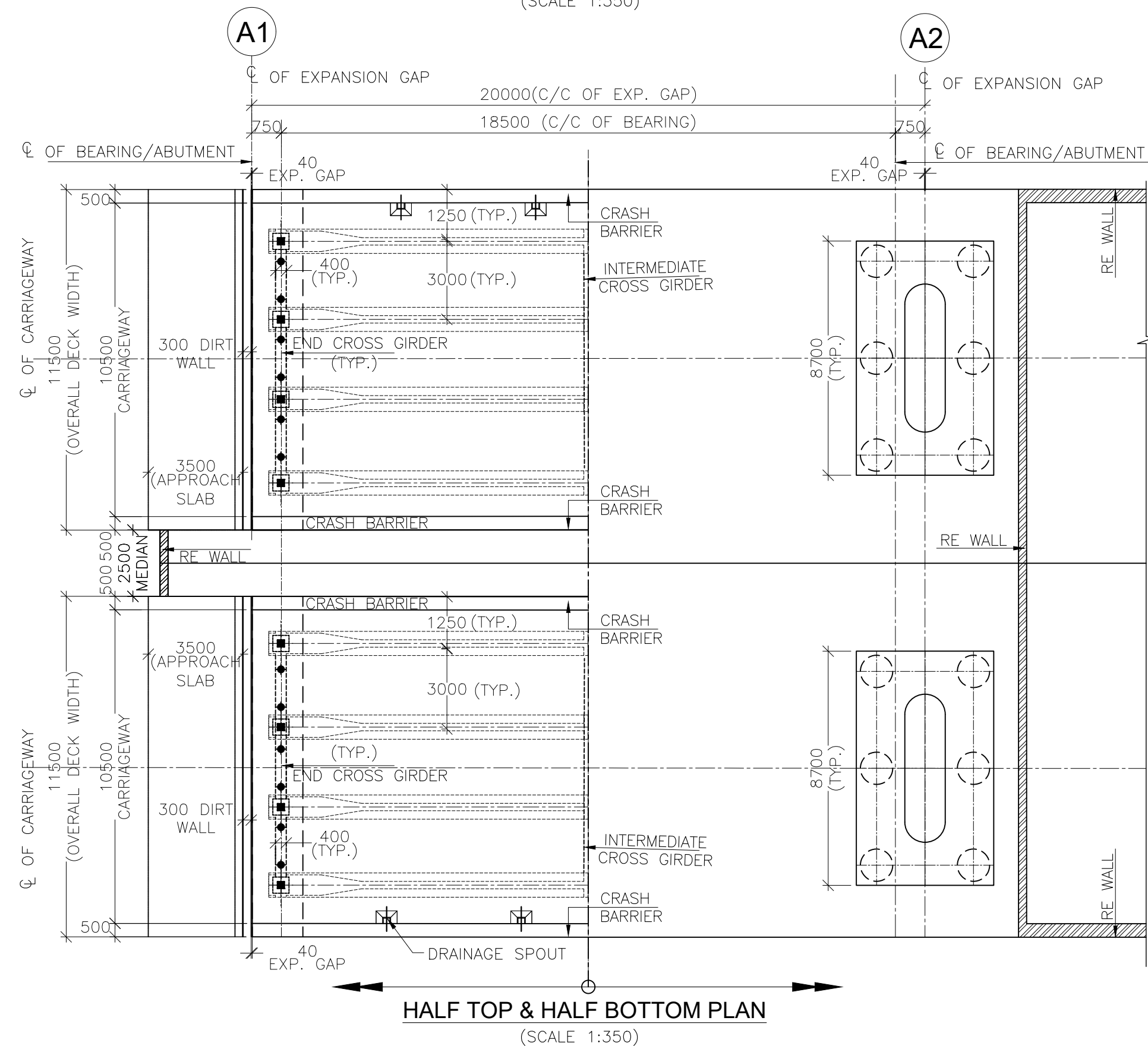
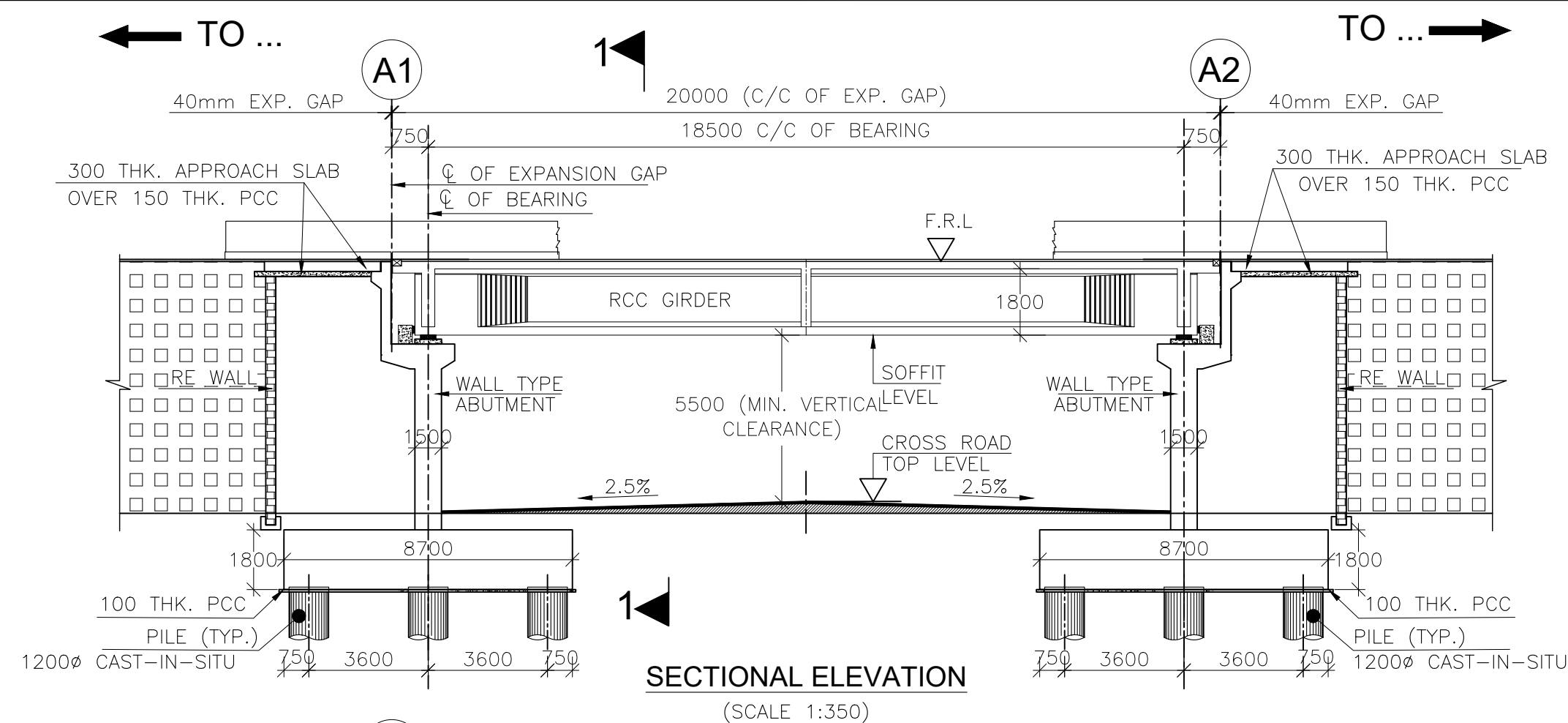
PROJECT:-
Consultancy Services for Prepration of Detailed Project Report for Development of NH-133 from km 93.00 to km 131.00 in Dumka and Deoghar District in the state of Jharkhand

TITLE:-
GENRAL ARRANGEMENT
DRAWING OF SVUP
SPAN - 1 x 7 x 4
CHAINAGE:- 99+410

Drawing No. :	MORTH/SVUP/GAD/02			
Date :	FEB 2025	Sheet No. :	02 OF 02	
DRAWN(A)	DESIGN (B)	CHECK (C)	APPROVED (D)	




Marc Technocrats Pvt. Ltd.
in Association with
Asian Geotech Research Services



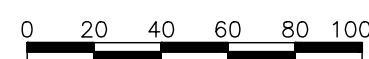
AT MID SPAN
AT END SUPPORT
DETAIL CROSS SECTION OF CAST IN SITU PSC GIRDER
 SCALE-1:50

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NO DIMENSIONS SHALL BE

Details of Proposed Structure									
Design Chainage	Tcs	Recommended Proposal for Structure	Type of Structure	Span Arrangement (m)	Total Width of Structure (m)	FRL	SOFT LEVEL	CROSS ROAD TOP LVL.	FOND. LEVEL
125+530	5	New Construction	VUP	20x5.5	42.5	244.120	241.735	236.235	233.735

REV	DATE	DESCRIPTION OF REVISION

SCALE :-



CLIENT:-



**MINISTRY OF ROAD TRANSPORT
& HIGHWAYS**
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-



**M/s Marc Technocrats Pvt. Ltd in JV
with Asian Geotech research service**

PROJECT:-

Consultancy Services for Preparation of Detailed Project Report for Development of NH-133 from km 93.00 to km 131.00 in Dumka and Deoghar District in the state of Jharkhand

TITLE:-

GENERAL ARRANGEMENT
DRAWING OF
VUP - 20x5.5

CHAINAGE:- 125+500

Drawing No. :	MORTH/ VUP/ GAD/ 01
---------------	---------------------

Date : FEB 2025

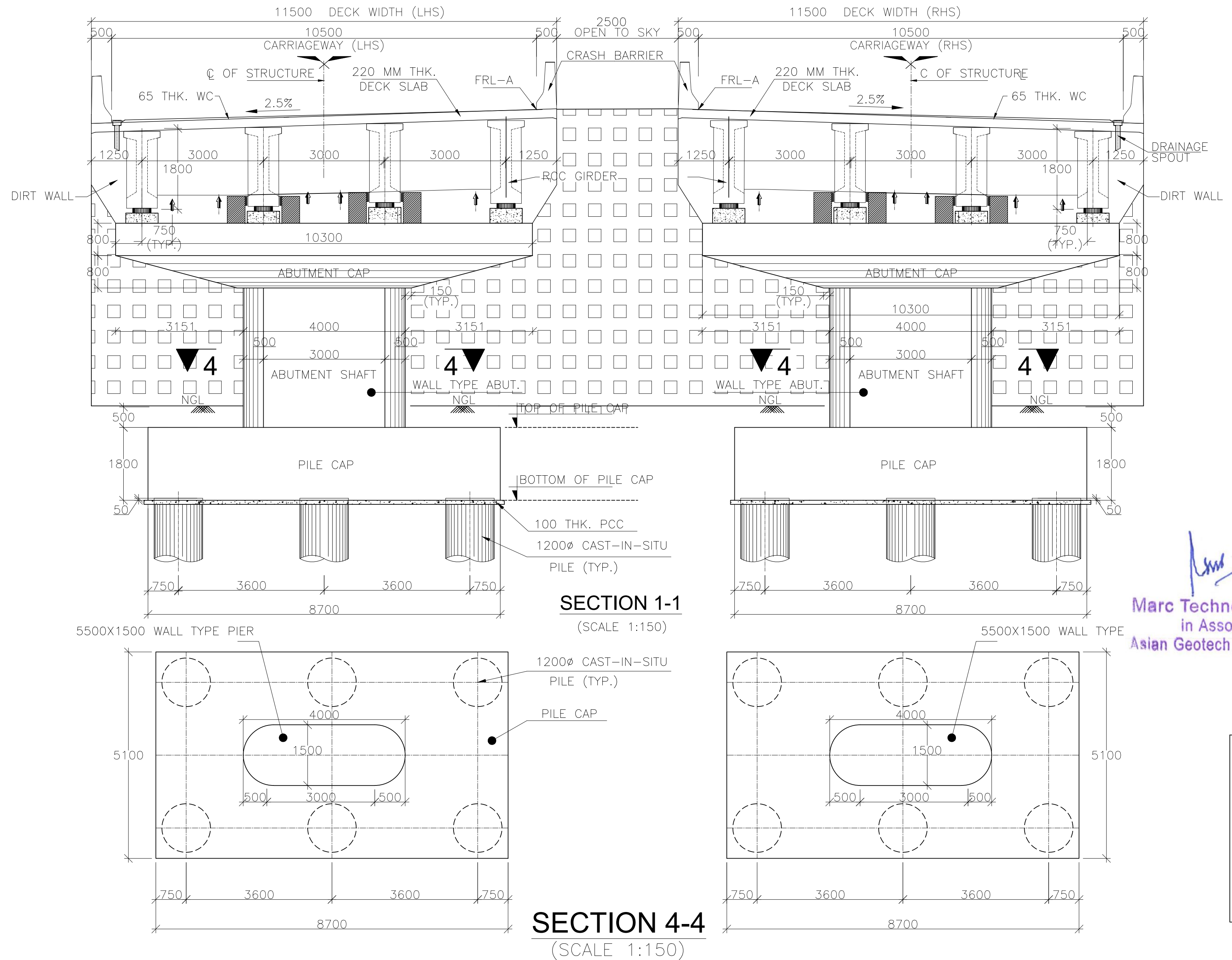
Sheet No : 01 OF 03

DRAWN(A)

DESIGN (B)	
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CHECK (C)	A
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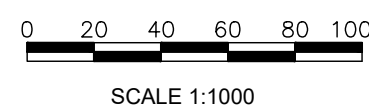
APPROVED (D)



Marc
Marc Technocrats Pvt. Ltd.
 in Association with
Asian Geotech Research Services

REV	DATE	DESCRIPTION OF REVISION

SCALE :-



CLIENT:-



**MINISTRY OF ROAD TRANSPORT
& HIGHWAYS**
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-



**M/s Marc Technocrats Pvt. Ltd in JV
with Asian Geotech research service**

PROJECT:-

Consultancy Services for Preparation of Detailed Project
Report for Development of NH-133 from km 93.00 to km
131.00 in Dumka and Deoghar District in
the state of Jharkhand

TITLE:-

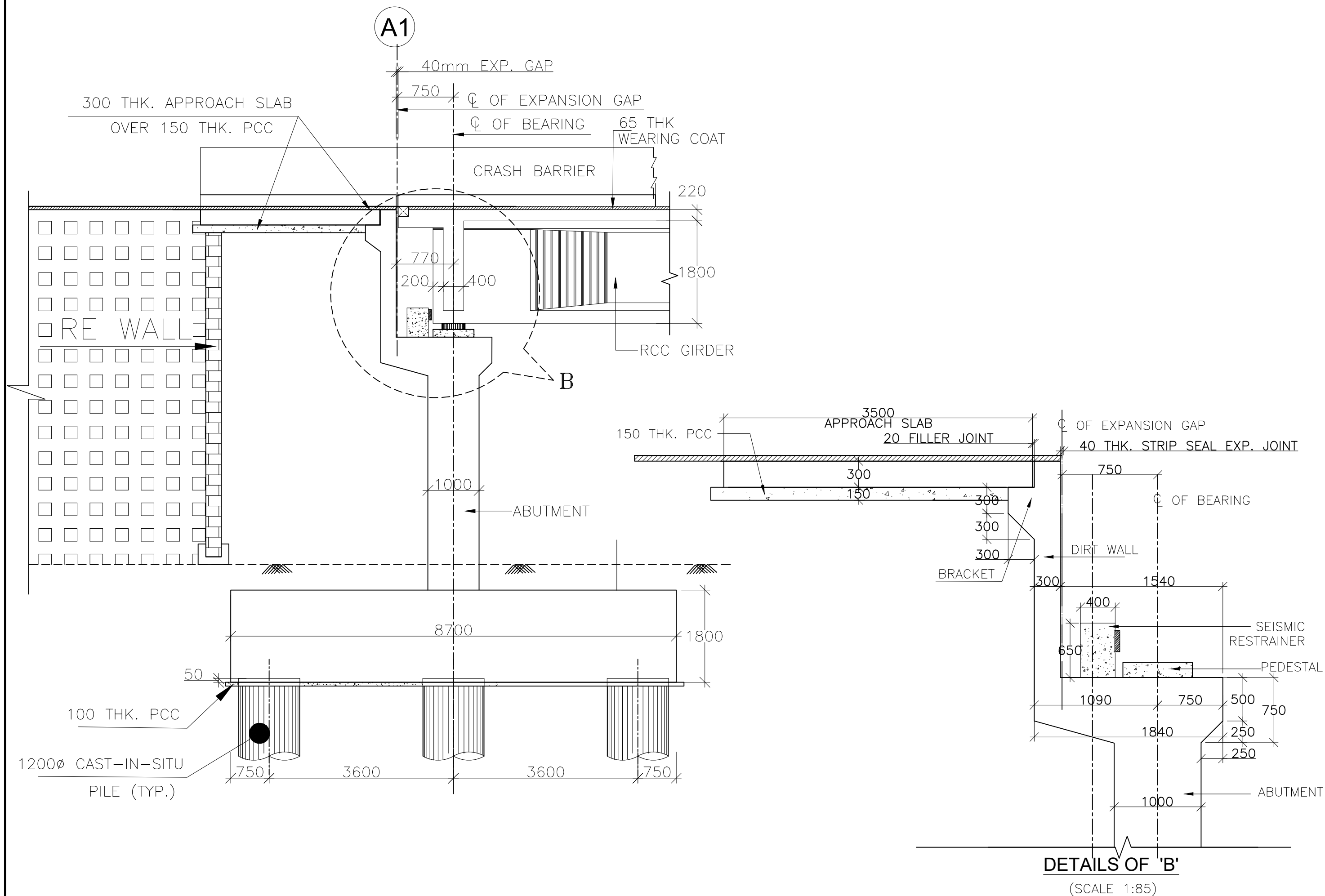
**GENERAL ARRANGEMENT
DRAWING OF
VUP - 20x5.5**

CHAINAGE:- 125+5.0

Drawing No. : MORTH/ VUP/ GAD/ 02

Date : FEB 2025 Sheet No : 02 OF 03

DRAWN(A)	DESIGN (B)	CHECK (C)	APPROVED (D)



NOTES :

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NO DIMENSIONS SHALL BE SCALED.
- EACH BRIDGE IS DESIGNED FOR ONE LANE OF 70R OR ONE LANES OF CLASS-A OR ONE LANE OF CLASS-70R + ONE LANES OF CLASS A OR SV LOADING, WHICH ONE IS HIGHER GOVERNS IS CONSIDERED AS LIVE LOAD.
- CONCRETE SHALL BE DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC STRENGTH ON 150mm CUBES AS FOLLOWS :-

ABUTMENT SHAFT	M-35
ABUTMENT CAP	M-35
DIRT WALL	M-30
BRACKET	M-30
PILE & PILE CAP	M-35
PEDESTAL	M-40
RCC CRASH BARRIER	M-40
RCC APPROACH SLAB	M-30
SEISMIC RESTRAINER	M-40
LEVELING COURSE	M-15
- THE REINFORCING BARS SHALL BE HYSD-TMT (GRADE DESIGNATION Fe-500D) CONFORMING TO IS:1786-2008STANDARDS.
- POLYMER COVER BLOCK SHALL BE USED AND CLEAR COVER TO OUTER MOST STEEL SHALL BE AS UNDER:-

FOR SUPERSTRUCTURE	-40mm
FOR PILE & PILE CAP	-75mm
FOR SUB STRUCTURE	
• EARTH FACE	-75mm
• NON EARTH FACE	-50mm
- WEARING COAT SHALL BE TYPE-2 (40MM THK. BITUMINOUS CONC. OVERLAID BY 25MM THK MASTIK ASPHALT).
- STRIP SEAL TYPE EXPANSION JOINTS SHALL BE PROVIDED AS PER PROVISION OF IRC:SP-69.
- BACK FILLING BEHIND ABUTMENT AND RETAINING WALL SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX OF IRC:78-2014 HAVING PROPERTIES $C=0$, $\phi \geq 30^\circ$ & $\gamma_d = 20 \text{ KN/m}^3$.
- 100mm DIA WEEP HOLES AT 1000mm C/C BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN STAGGERED MANNER IN WALLS OF THE ABUTMENT SHAFT AND RETURN WALL FROM 150mm ABOVE G.L IN ONE OR TWO LAYERS AT A SLOPE OF 1 VERTICAL TO 20 HORIZONTAL TOWARDS THE DRAINING FACE.
- WATER TO BE USED IN CONCRETING & CURING SHALL CONFORM TO CLAUSE 18.8.4(4) IRC : 112:2020.
- THE BRIDGE IS DESIGNED FOR SEISMIC ZONE-III.
- SEVERE CONDITION OF EXPOSURE SHALL BE CONSIDERED IN DESIGN.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT HIGHWAY DRAWING. FRL & CAMBER, SUPER ELEVATION AT PARTICULAR LOCATION SHALL BE VERIFIED WITH THE HIGHWAY DRAWINGS.

REV	DATE	DESCRIPTION OF REVISION

SCALE :-



SCALE 1:1000

CLIENT:-



**MINISTRY OF ROAD TRANSPORT
& HIGHWAYS**
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-



**M/s Marc Technocrats Pvt. Ltd in JV
with Asian Geotech research service**

PROJECT:-

Consultancy Services for Prepration of Detailed Project Report for Devlopment of NH-133 from km 93.00 to km 131.00 in Dumka and Deoghar District in the state of Jharkhand

TITLE:-

GENRAL ARRANGEMENT
DRAWING OF
VUP - 20x5.5

CHAINAGE:-

125+5.0

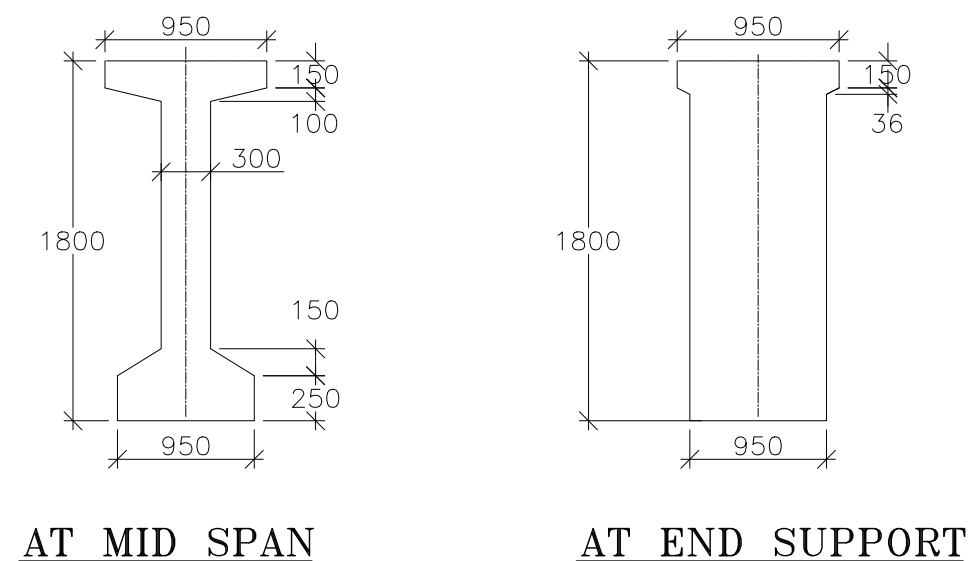
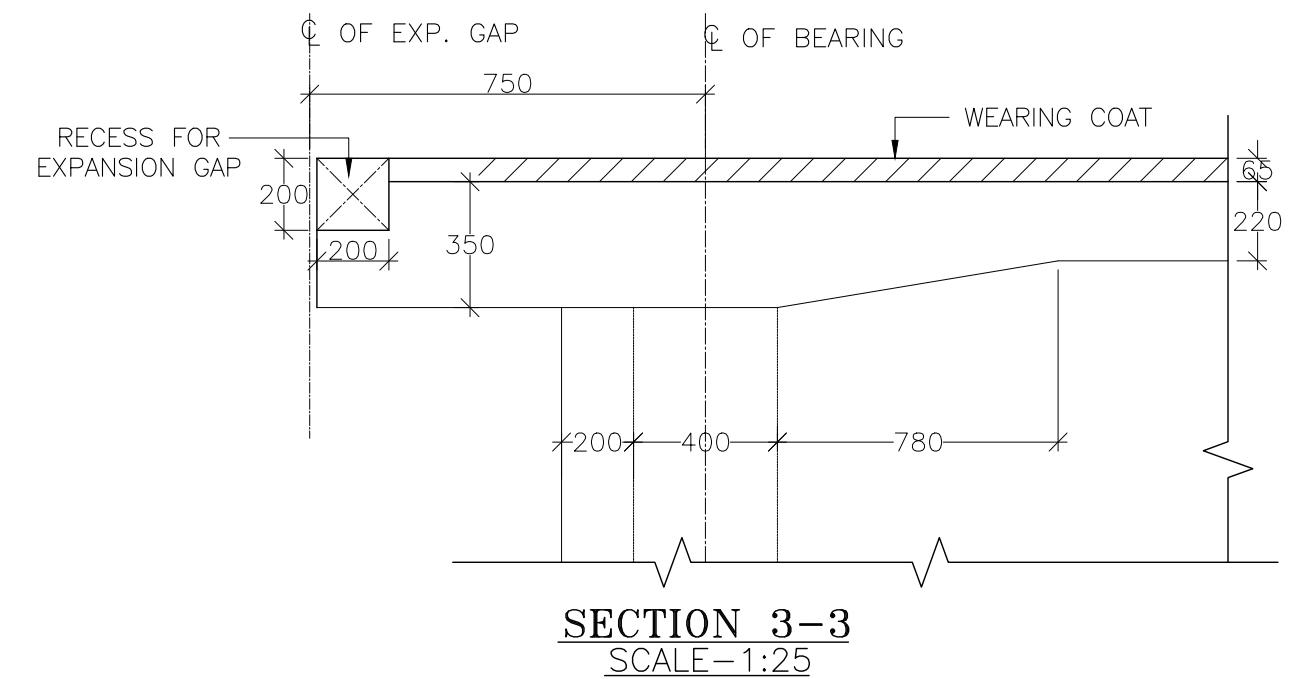
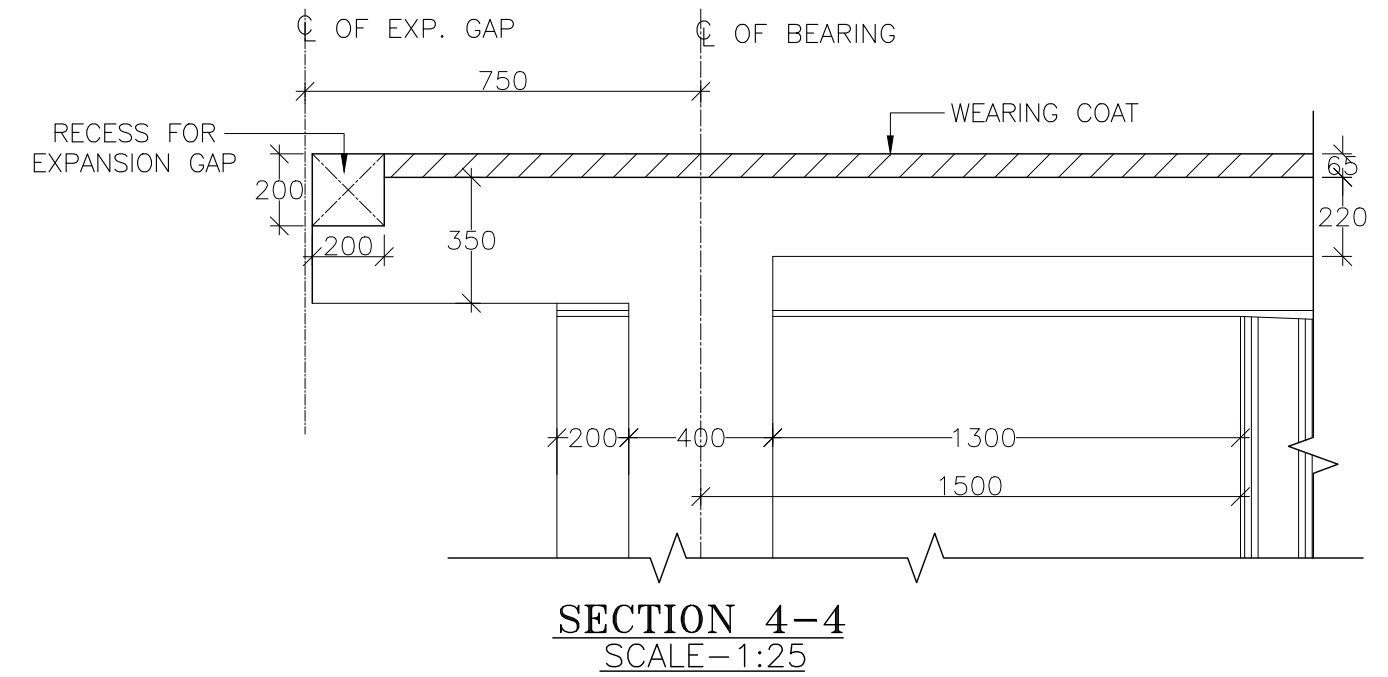
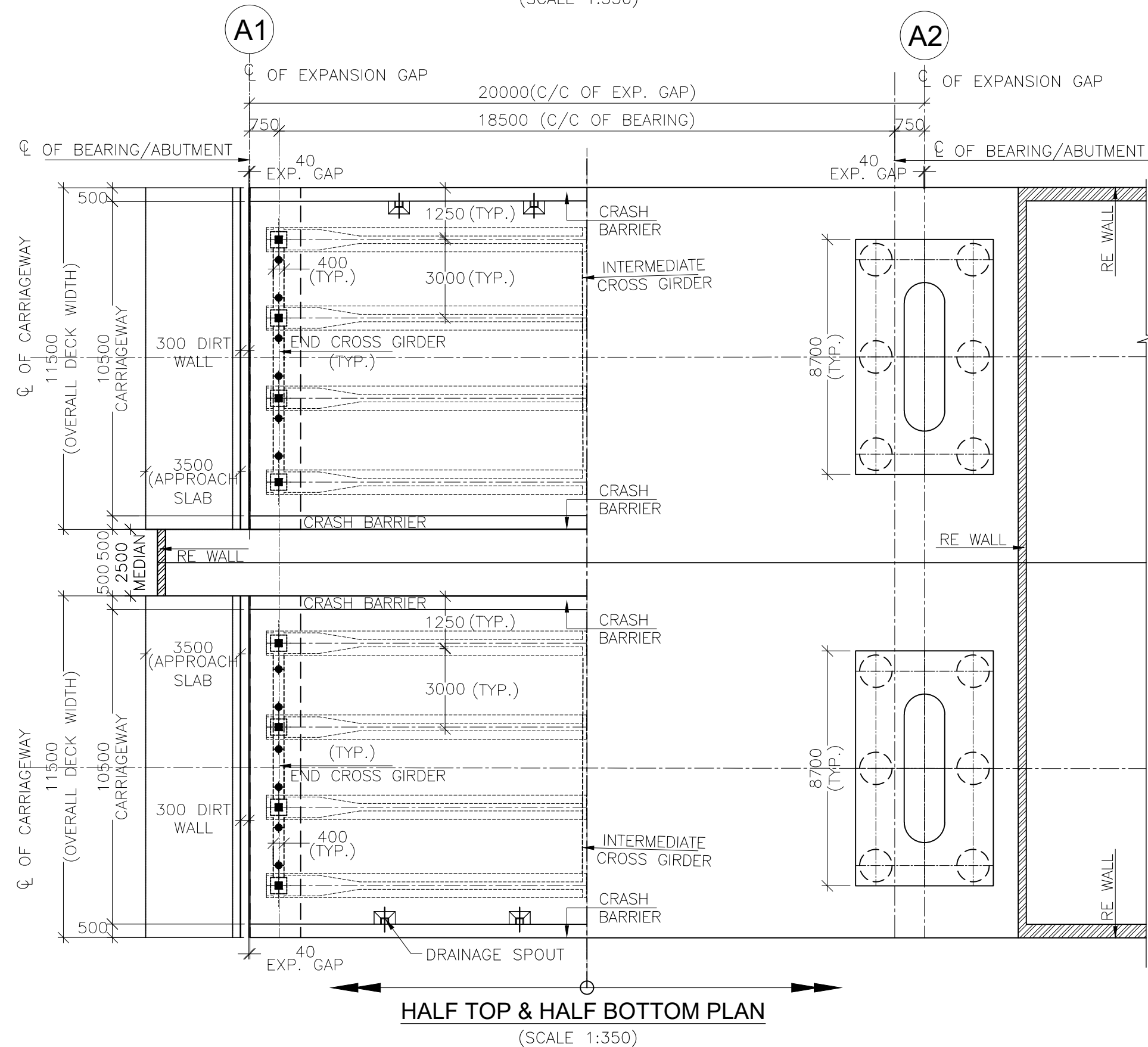
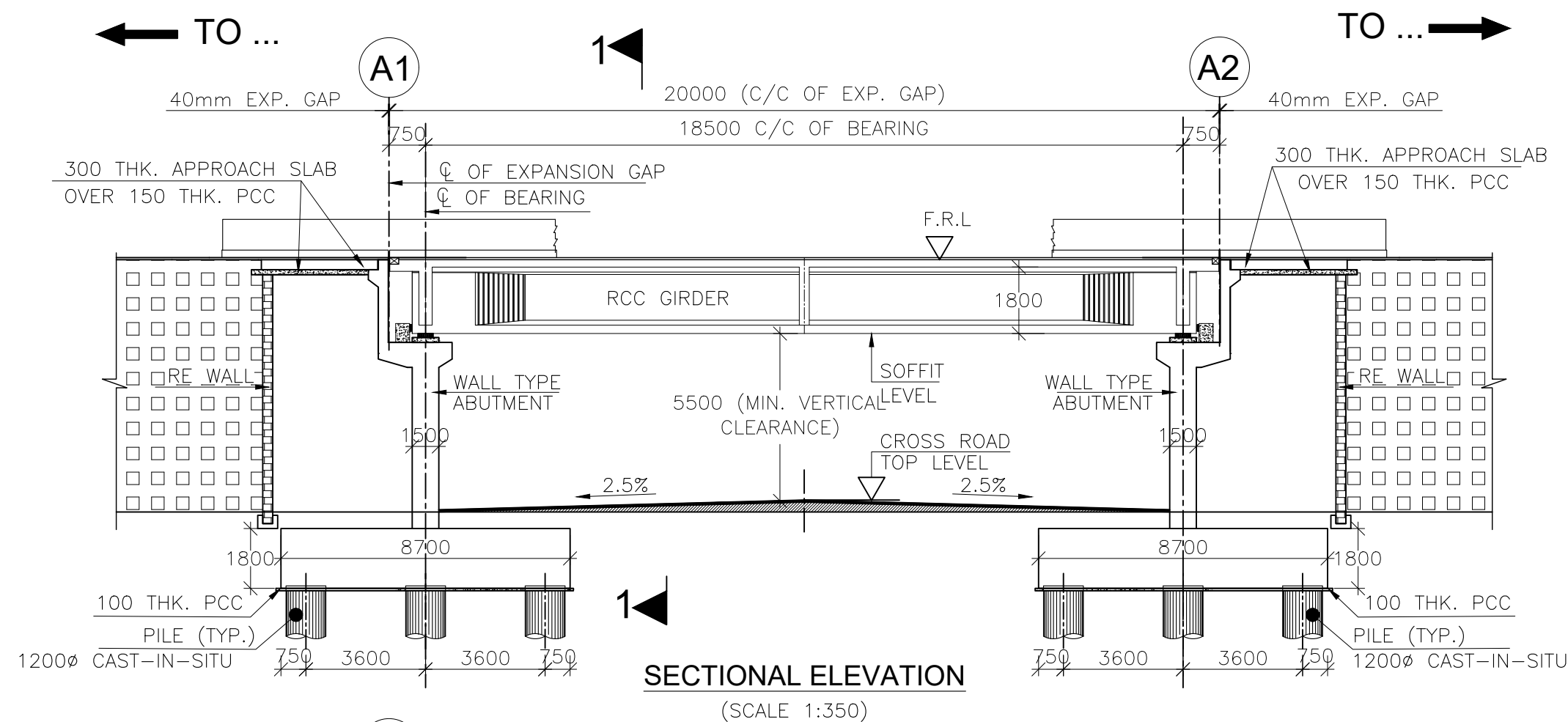
Drawing No. : MORTH/ VUP/ GAD/ 03

Date : FEB 2025

Sheet No : 03 OF 03

DRAWN(A)	DESIGN (B)	CHECK (C)	APPROVED (D)
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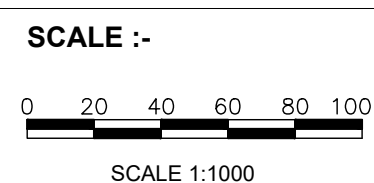
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1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NO DIMENSIONS SHALL BE

Details of Proposed Structure									
Design Chainage	Tcs	Recommended Proposal for Structure	Type of Structure	Span Arrangement (m)	Total Width of Structure (m)	FRL	SOFFIT LEVEL	CROSS ROAD TOP LVL.	FOND. LEVEL
94+290	6	New Construction	VUP	20x5.5	42.5	185.260	182.875	177.375	174.875

REV	DATE	DESCRIPTION OF REVISION



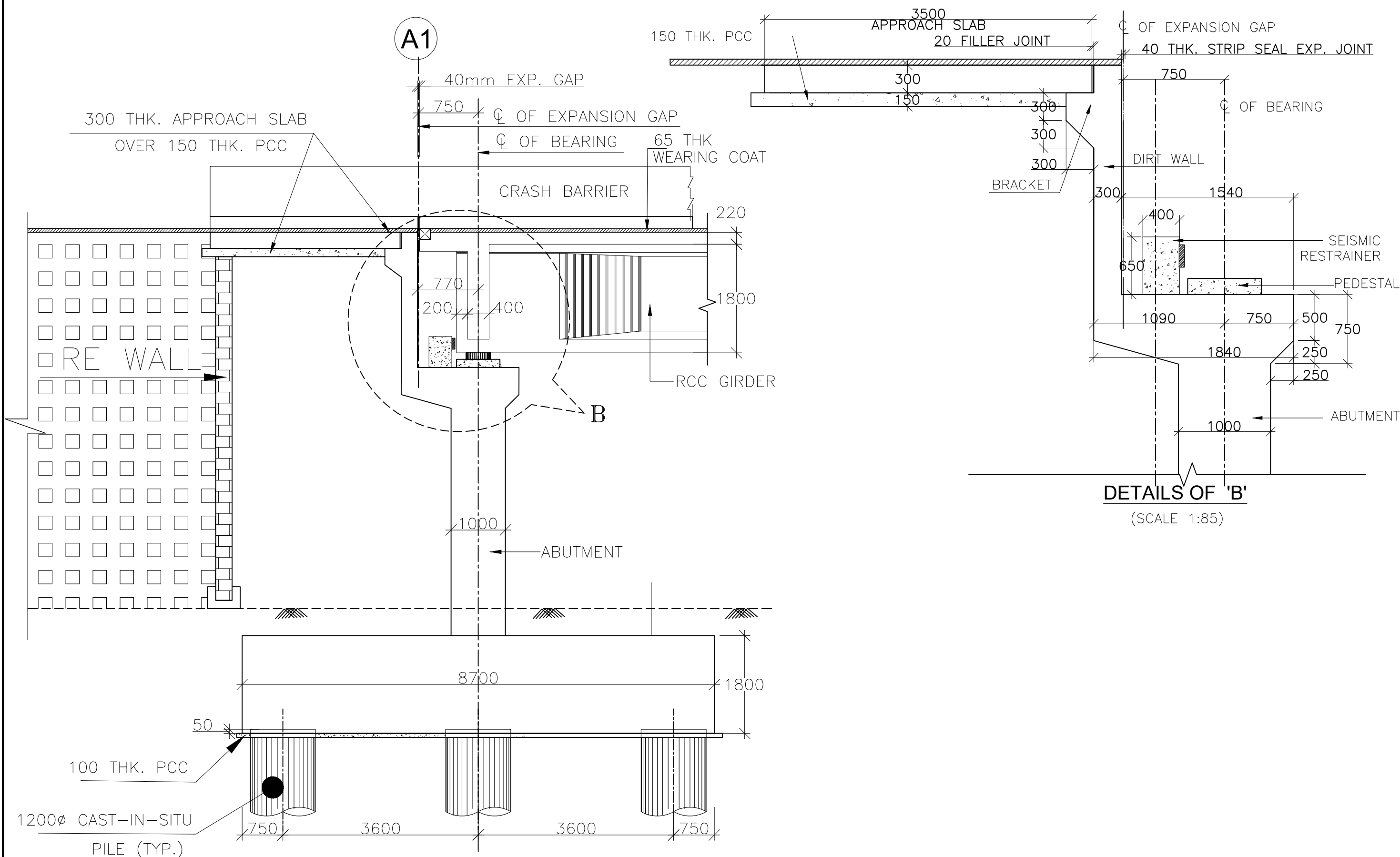
CLIENT:-
 **MINISTRY OF ROAD TRANSPORT & HIGHWAYS**
 ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-
 **M/s Marc Technocrats Pvt. Ltd in JV with Asian Geotech research service**

PROJECT:-
 Consultancy Services for Preparation of Detailed Project Report for Development of NH-133 from km 93.00 to km 131.00 in Dumka and Deoghar District in the state of Jharkhand

TITLE:-
 GENERAL ARRANGEMENT DRAWING OF VUP - 20x5.5
CHAINAGE:- 94+290

Drawing No. : MORTH/ VUP/ GAD/ 01			
Date : FEB 2025	Sheet No : 01 OF 03		
DRAWN(A)	DESIGN (B)	CHECK (C)	APPROVED (D)



NOTES :

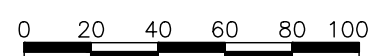
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ABUTMENT SHAFT	M-35
ABUTMENT CAP	M-35
DIRT WALL	M-30
BRACKET	M-30
PILE & PILE CAP	M-35
PEDESTAL	M-40
RCC CRASH BARRIER	M-40
RCC APPROACH SLAB	M-30
SEISMIC RESTRANIER	M-40
LEVELING COURSE	M-15
- THE REINFORCING BARS SHALL BE HYSD-TMT (GRADE DESIGNATION Fe-500D) CONFORMING TO IS:1786-2008STANDARDS.
- POLYMER COVER BLOCK SHALL BE USED AND CLEAR COVER TO OUTER MOST STEEL SHALL BE AS UNDER:-

FOR SUPERSTRUCTURE	-40mm
FOR PILE & PILE CAP	-75mm
FOR SUB STRUCTURE	
• EARTH FACE	-75mm
• NON EARTH FACE	-50mm
- WEARING COAT SHALL BE TYPE-2 (40MM THK. BITUMINOUS CONC. OVERLAID BY 25MM THK MASTIK ASPHALT).
- STRIP SEAL TYPE EXPANSION JOINTS SHALL BE PROVIDED AS PER PROVISION OF IRC:SP-69.
- BACK FILLING BEHIND ABUTMENT AND RETAINING WALL SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX OF IRC:78-2014 HAVING PROPERTIES $C=0$, $\phi \geq 30^\circ$ & $\gamma_d = 20 \text{ KN/m}^3$.
- 100mm DIA WEEP HOLES AT 1000mm C/C BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN STAGGERED MANNER IN WALLS OF THE ABUTMENT SHAFT AND RETURN WALL FROM 150mm ABOVE G.L IN ONE OR TWO LAYERS AT A SLOPE OF 1 VERTICAL TO 20 HORIZONTAL TOWARDS THE DRAINING FACE.
- WATER TO BE USED IN CONCRETING & CURING SHALL CONFORM TO CLAUSE 18.8.4(4) IRC : 112:2020.
- THE BRIDGE IS DESIGNED FOR SEISMIC ZONE-III.
- SEVERE CONDITION OF EXPOSURE SHALL BE CONSIDERED IN DESIGN.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT HIGHWAY DRAWING. FRL & CAMBER, SUPER ELEVATION AT PARTICULAR LOCATION SHALL BE VERIFIED WITH THE HIGHWAY DRAWINGS.

REV	DATE	DESCRIPTION OF REVISION

SCALE :-



SCALE 1:1000

CLIENT:-



**MINISTRY OF ROAD TRANSPORT
& HIGHWAYS**
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-



**M/s Marc Technocrats Pvt. Ltd in JV
with Asian Geotech research service**

PROJECT:-

Consultancy Services for Prepration of Detailed Project
Report for Devlopment of NH-133 from km 93.00 to km
131.00 in Dumka and Deoghar District in
the state of Jharkhand

TITLE:-

GENRAL ARRANGEMENT
DRAWING OF
VUP - 20x5.5

CHAINAGE:-

94+290

Drawing No. : MORTH/ VUP/ GAD/ 03

Date : FEB 2025

Sheet No : 03 OF 03

DRAWN(A)	DESIGN (B)	CHECK (C)	APPROVED (D)
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ROB

A

B

C

D

E

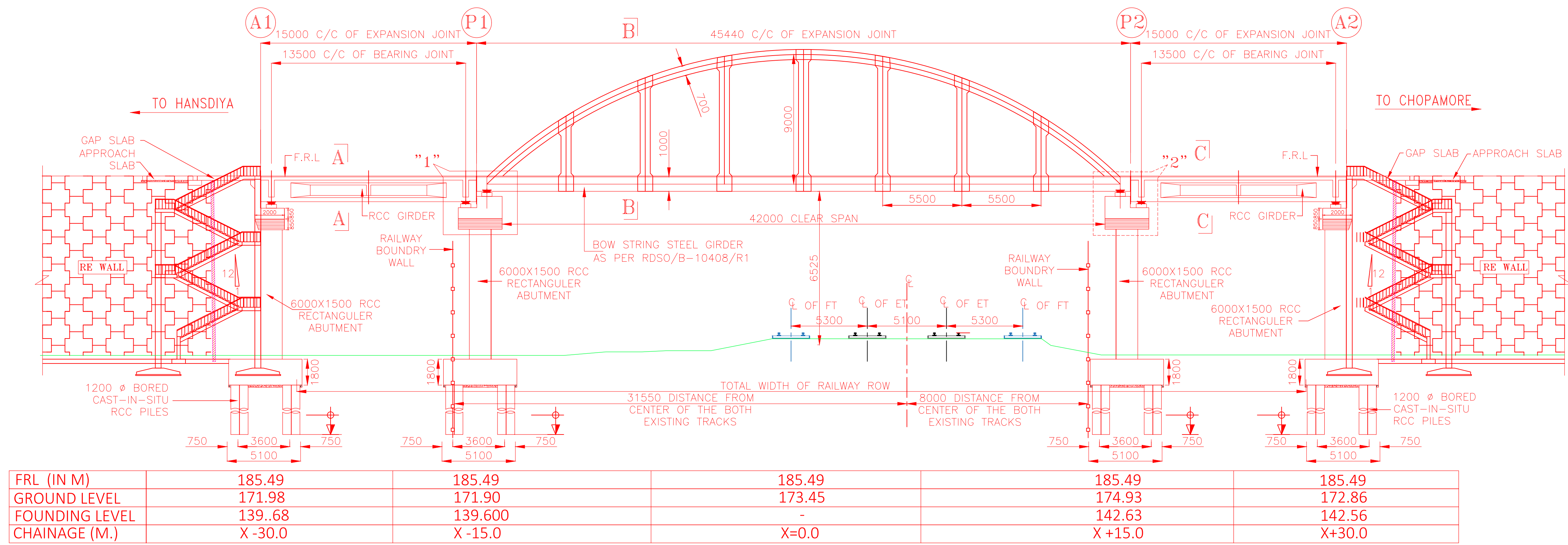
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G

H

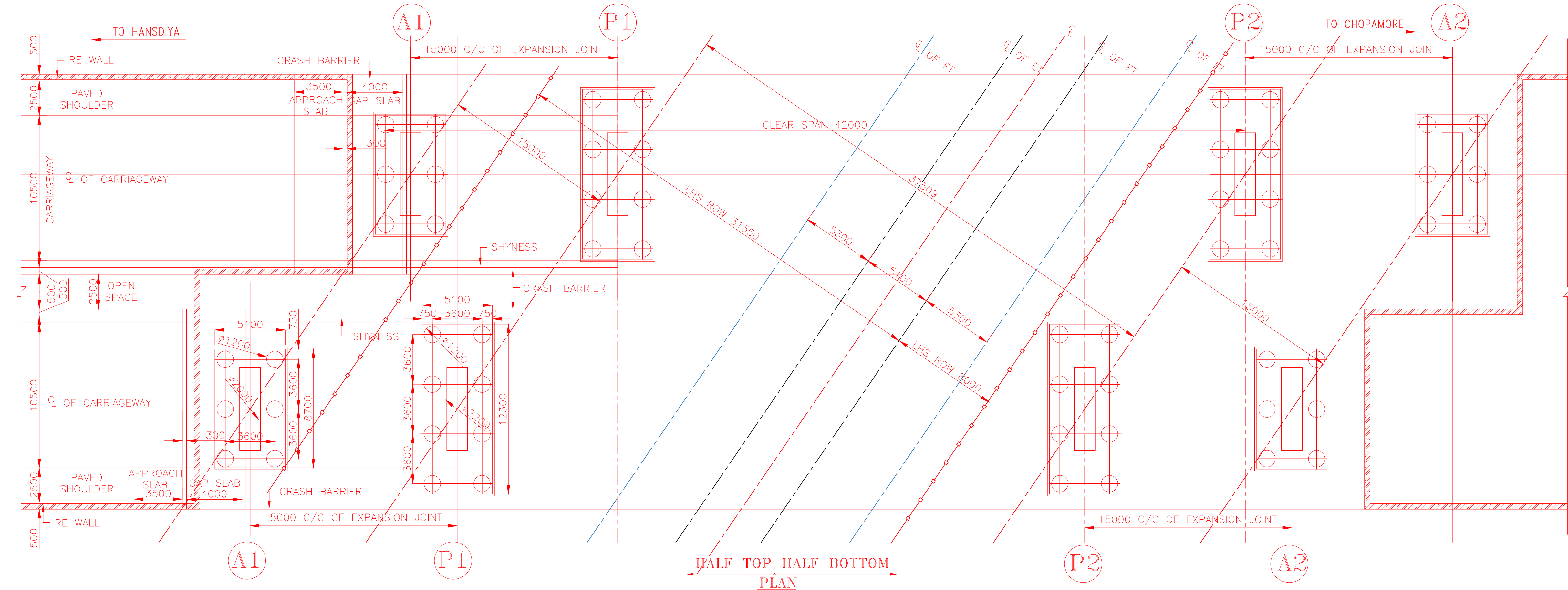
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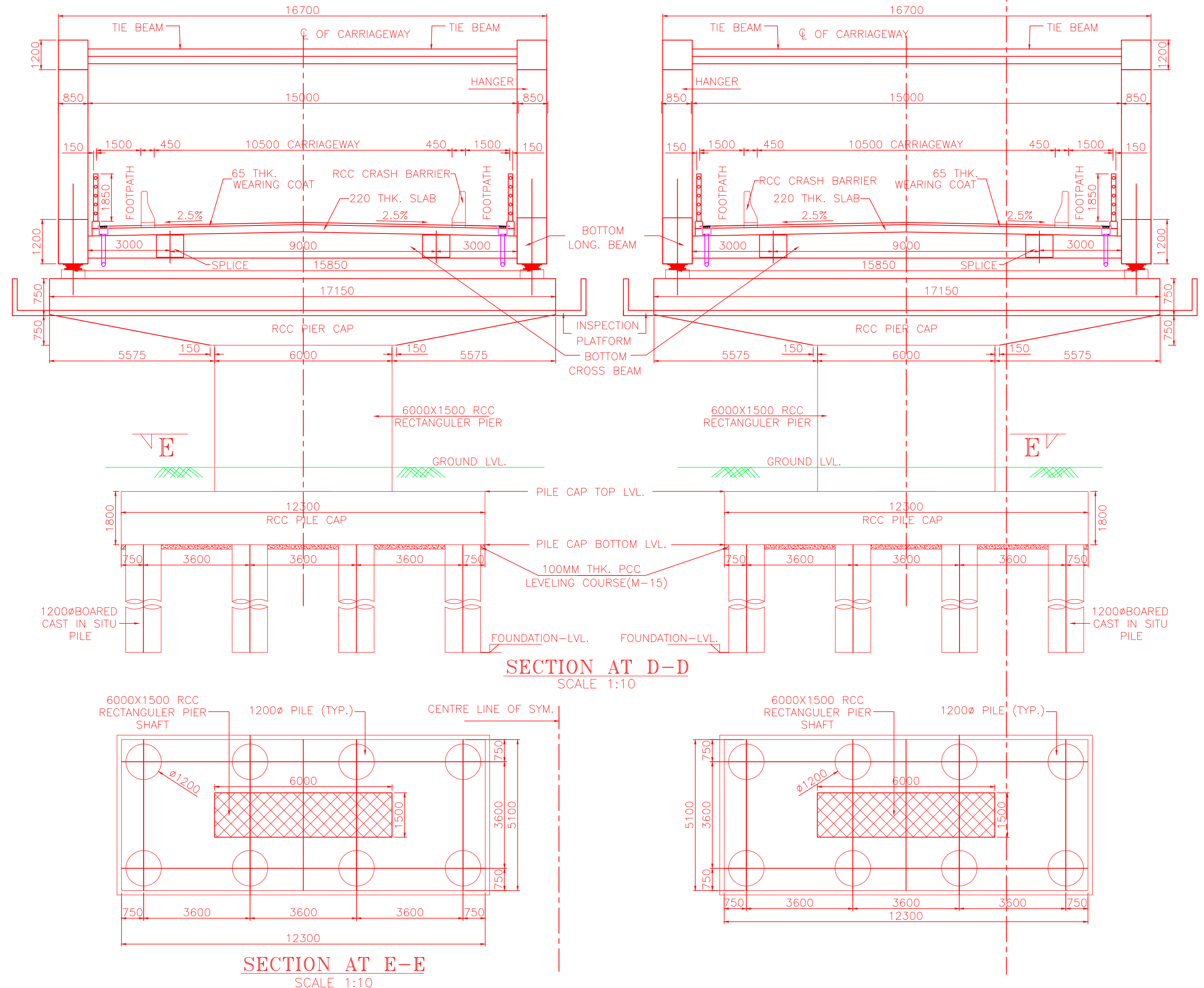


LONGITUDINAL ELEVATION
SCALE 1:1000

(*X= PROPOSED DESIGN CHAINAGE.)

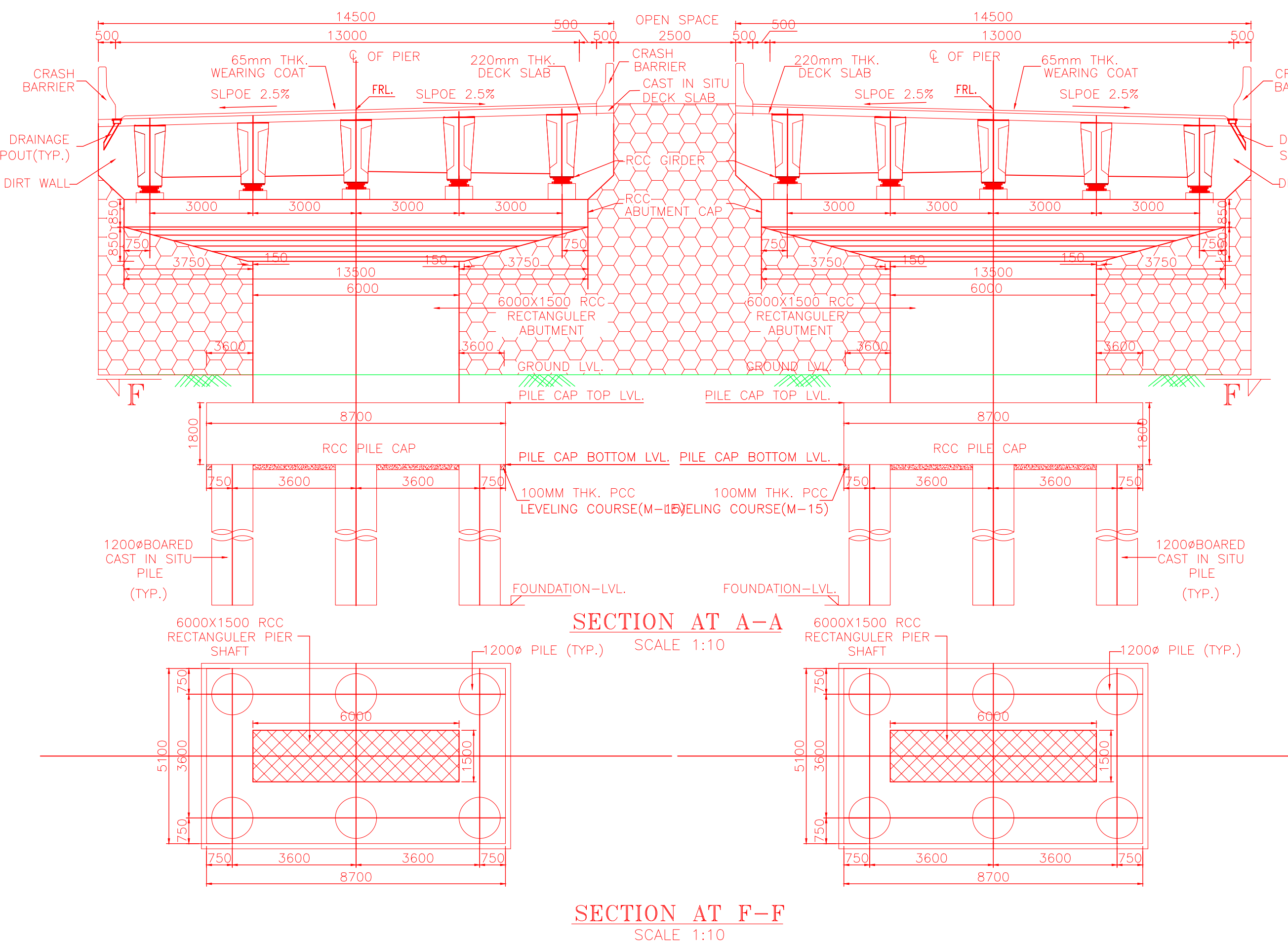


HALF TOP HALF BOTTOM
PLAN



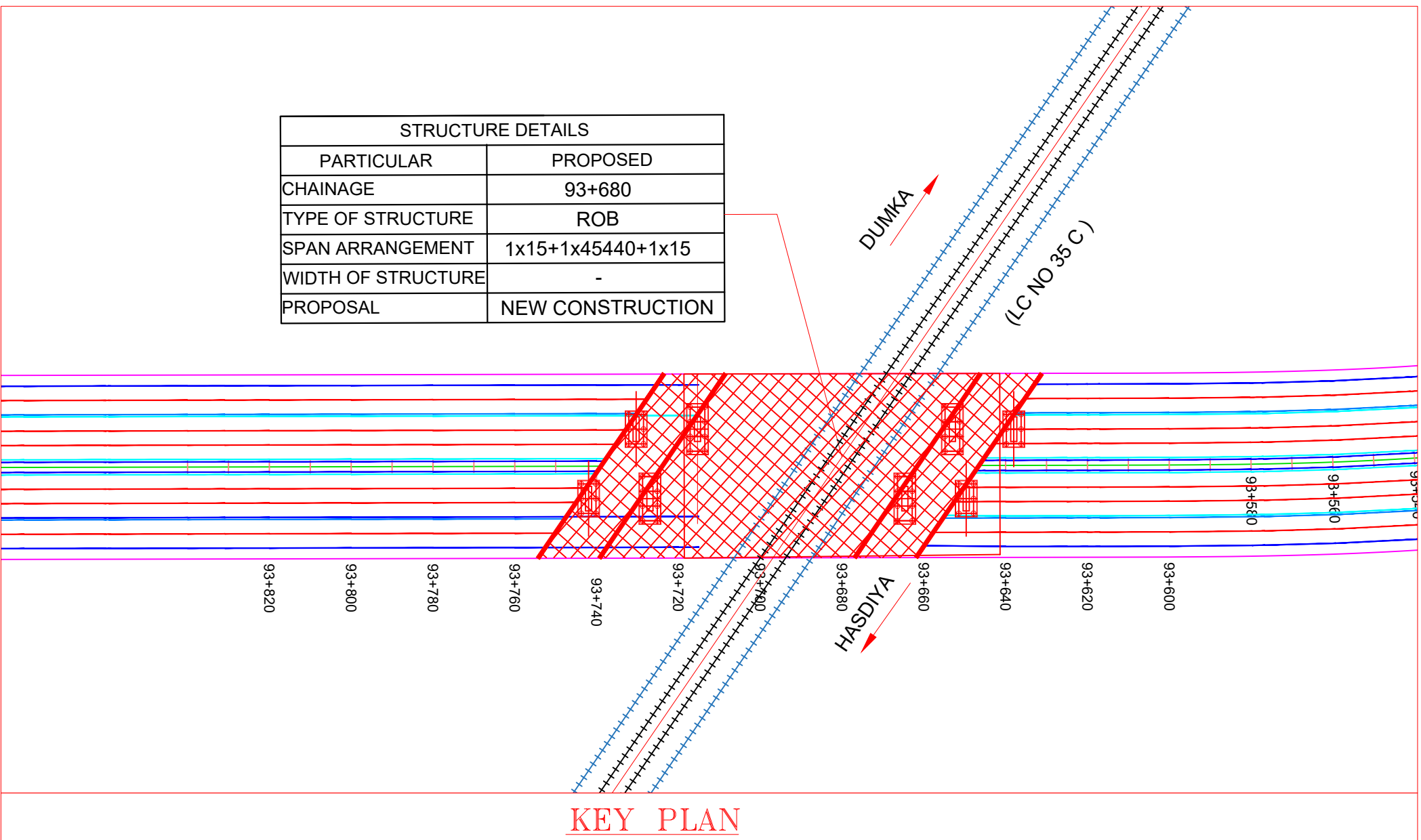
SECTION AT D-D
SCALE 1:10

SECTION AT E-E
SCALE 1:10

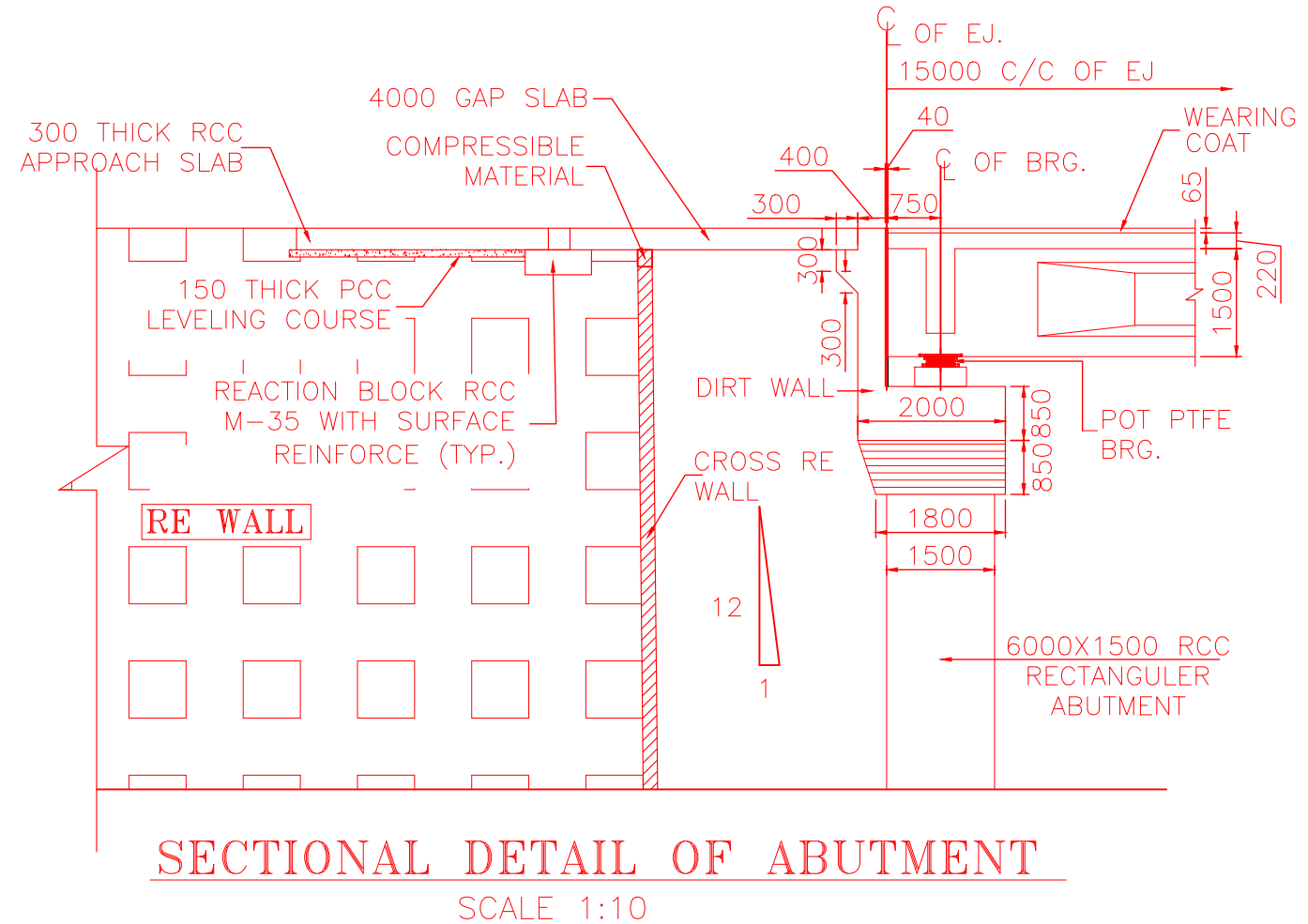


SECTION AT A-A
SCALE 1:10

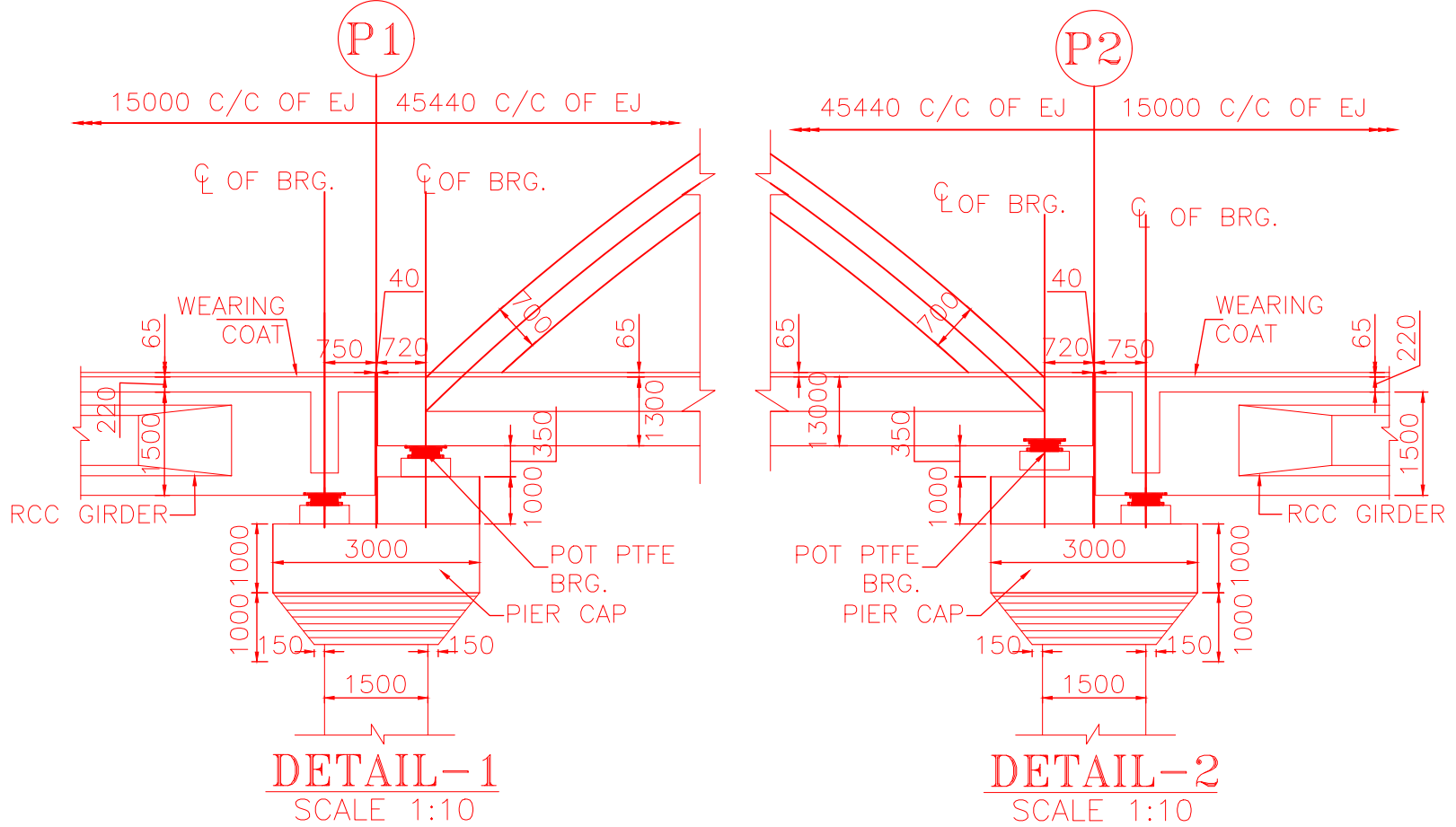
SECTION AT F-F
SCALE 1:10



KEY PLAN

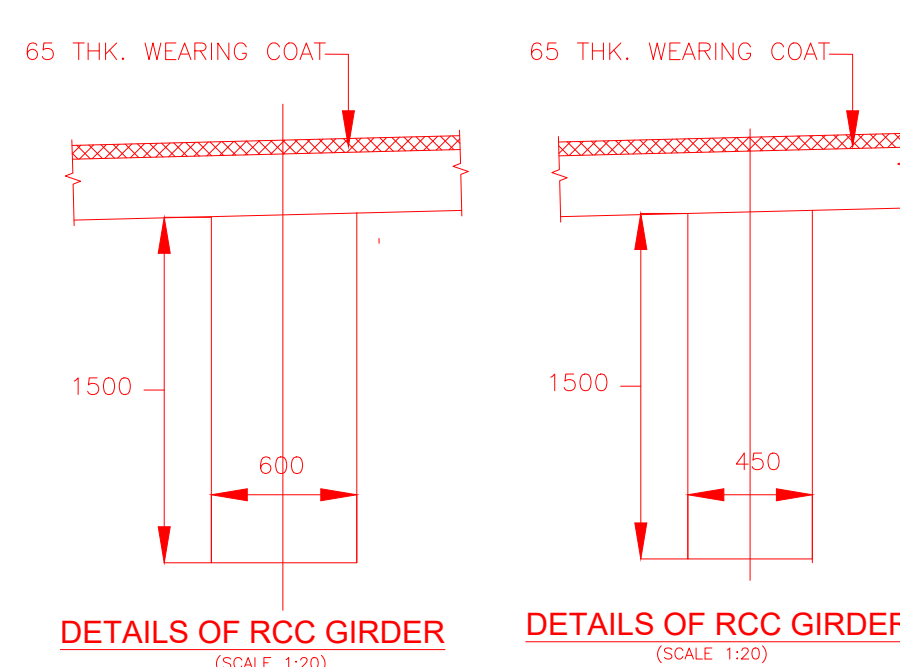


SECTIONAL DETAIL OF ABUTMENT
SCALE 1:10



DETAIL-1
SCALE 1:10

DETAIL-2
SCALE 1:10



DETAILS OF RCC GIRDER

DETAILS OF RCC GIRDER

- LEGEND:-**
- F.R.L - FINISHED ROAD LEVEL
 - G.L. - GROUND LEVEL
 - EJ - EXPANSION JOINT
 - BRG. - BEARING
 - C - CENTER LINE
 - WC - WEARING COURSE
 - FND. LVL. - FOUNDATION LEVEL
 - ET - EXISTING TRACKS
 - FT - FUTURE TRACKS

- LEGENDS**
- 1. PROPOSED WORK SHOWN IN RED IN SITE PLAN
 - 2. WORK TO BE DISMANTLED SHOWN IN GREEN IN SITE PLAN
 - 3. FUTURE WORK SHOWN IN BLUE IN SITE PLAN
 - 4. EXISTING WORK SHOWN IN BLACK IN SITE PLAN

- NOTES:-**
- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
 - NO DIMENSION SHALL BE MEASURED, ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
 - DIMENSION SHOWN IN GAD ARE TENTATIVE AND SUBJECT TO MODIFICATION AT THE TIME OF DETAILED DESIGN.
 - THE GRADE OF CONCRETE SHALL BE AS FOLLOWS:
 - RCC ABUTMENT AND ABUTMENT CAP - M35
 - RCC PIER & PIER CAP - M35
 - RCC PILE & PILE CAP - M35
 - RCC CRASH BARRIER - M40
 - PCC LEVELING COURSE - M15
 - THE ABOVE SHOWN GRADE OF CONCRETE ARE LIABLE TO CHANGE AFTER DETAILED DESIGN.
 - THE QUALITY CONTROL OF CONCRETE SHALL CONFORM TO IRC 112-2020.
 - THE LIVE LOAD COMBINATION CONSIDERED IN DESIGN SHALL BE AS PER TABLE 6A OF IRC 6-2017.
 - CLEAR COVER TO OUTERMOST STEEL SHALL BE AS FOLLOWS:
 - RCC PIER SHAFT & PIER CAP- 50mm
 - RCC ABUTMENT SHAFT & ABUTMENT CAP - 50mm
 - PILES SHAFT & PILE CAP - 75mm
 - RCC SLAB - 50mm
 - THE REINFORCEMENT SHALL BE HYSD BARS OF GRADE DESIGNATION Fe 500D CONFORMING TO IS 1786-2008.
 - WEARING COURSE SHALL BE 65mm THICK COMPRISING 40mm THICK BITUMINOUS CONCRETE OVER LAID WITH 25mm THICK BITUMINOUS MASTIC LAYER CONFORMING TO SECTION 500 OF M.O.R.T.H SPECIFICATION.
 - CHAINAGE OF STRUCTURE IS AT CENTER LINE OF PROPOSED STRUCTURE.
 - FINISHED ROAD LEVEL (FRL) IS AT THE CENTER LINE OF CARRIAGEWAY.
 - STRIP SEAL TYPE EXPANSION JOINT SHALL BE PROVIDED AS PER IRC SP 69-2011.
 - THE STRUCTURE LIES IN SEISMIC ZONE-III.
 - 1200mm DIA. & 30m LONG PILE SHALL BE PROPOSED AT SITE.
 - LAYING COMPACTION AND EXTENT OF BACKFILL BEHIND THE R.E WALL SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX 6 OF IRC :78-2014 HAVING PROPERTIES C=0 & $\phi \geq 30^\circ$
 - TRAFFIC DIVERSION SHALL BE PROVIDED AFTER CONSULTATION WITH THE STATE AND RAILWAY AUTHORITIES DURING EXECUTION OF WORK.
 - THE RCC/PSC SPANS HAVE BEEN DESIGNED FOR 1-LANE OF IRC CLASS 70R LOADING OR 2-LANES OF IRC CLASS A LOADING WHICHEVER GOVERNS AND FOR SV LOADING AS PER IRC 6-2017.

R0	FIRST SUBMISSION		FOR APPROVAL
Rev.	Revision Details	Date	PURPOSE

Drawn	
Designed	
Checked	

Owner:	EASTERN RAILWAY
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Project Name:	Consultancy Services for Prepration of Detailed Project Report for Devlopment of NH-133 from km 92.380 to km 129.370 in Dumka and Deoghar District inthe state of Jharkhand
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Drawing No:	MORTH/ ROB/ 93+680/ GAD	R0
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Scale:	AS SHOWN
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Title:	GENRAL ARRANGEMENT DRAWING OF ROB :93+680
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C.RLY.HQ(E)PLAN	PUCCA NO:GM(E)MB-
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SIGNATURE		
NAME		
DESIGNATION		

CLIENT:-

 **MINISTRY OF ROAD TRANSPORT & HIGHWAYS**
ROADS & BUILDINGS DEPARTMENT

CONSULTANT:-

 **M/s Marc Technocrats Pvt. Ltd in JV**
with Asian Geotech research service