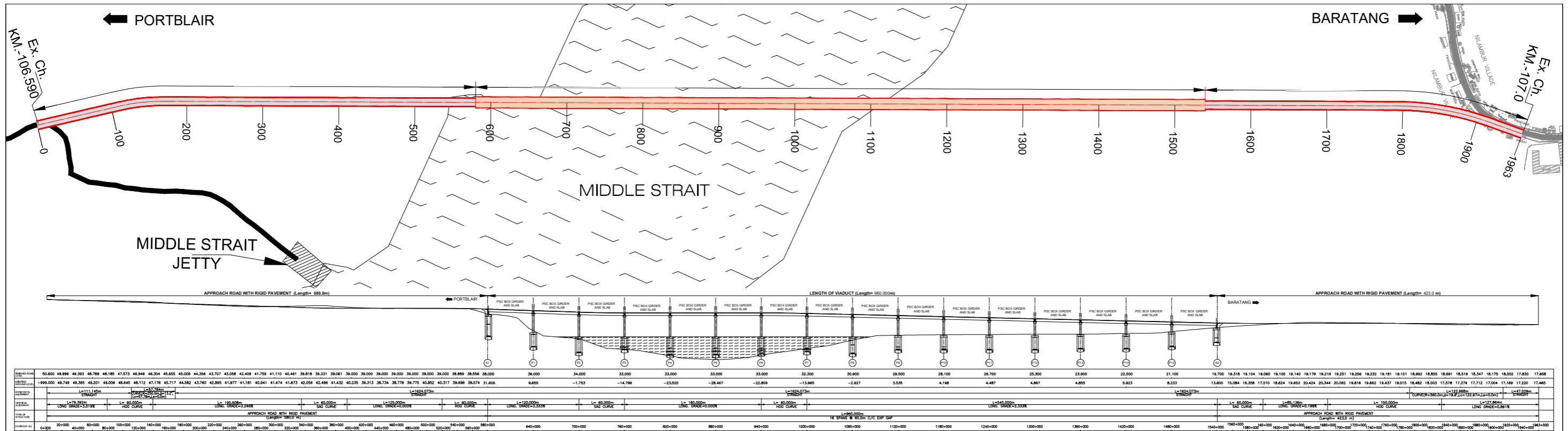
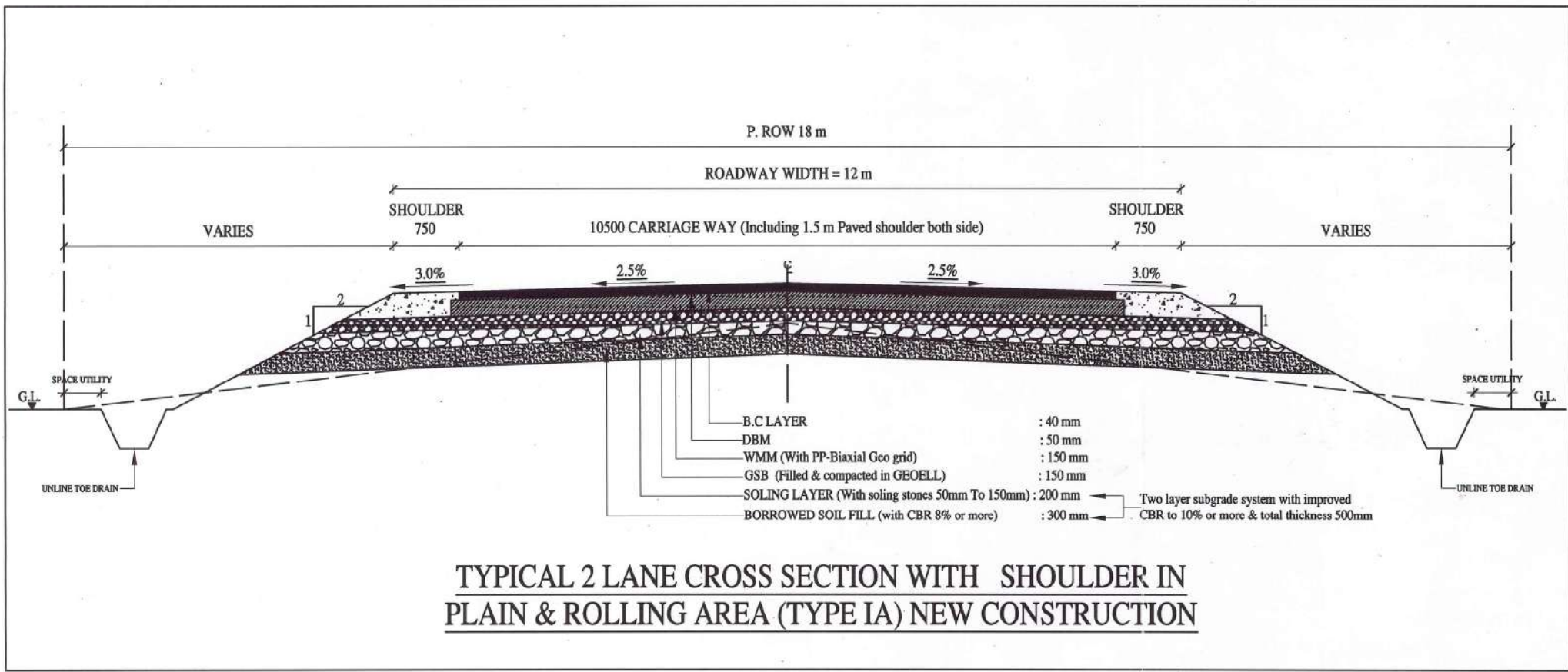


ALIGNMENT PLAN

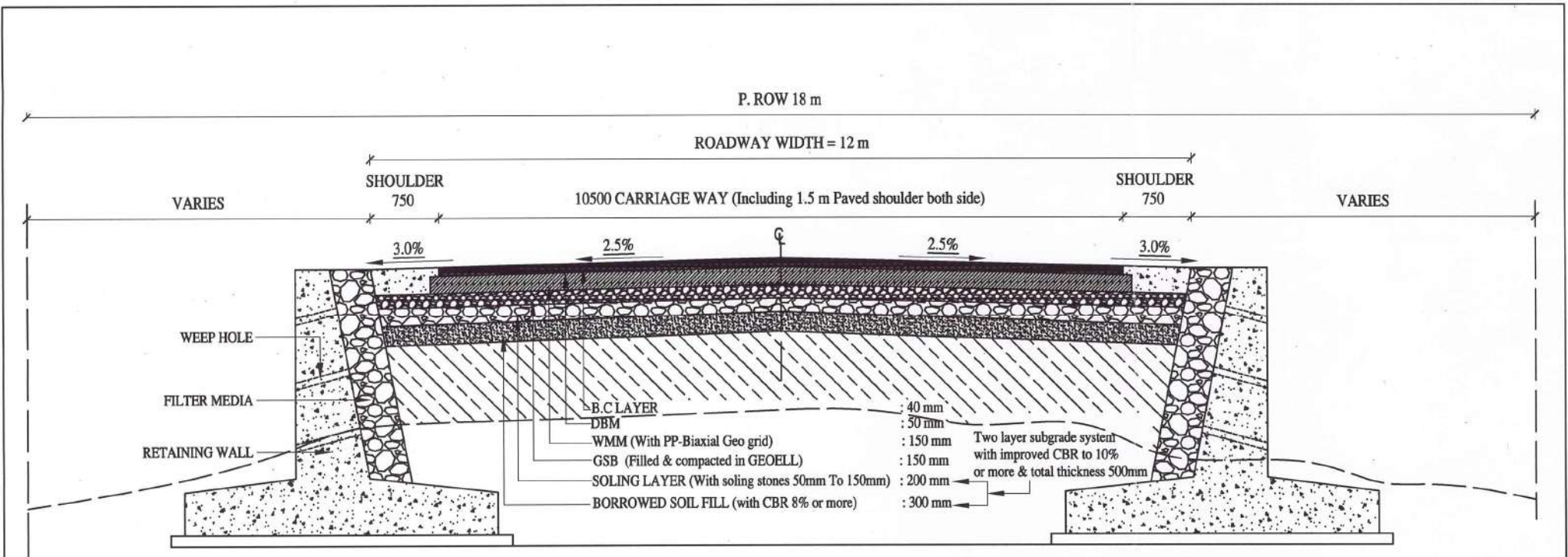


	SCALE :- 1 : 1500	CEC PROJECTS PVT.LTD IN JV WITH Chaitanya Projects Consultancy Pvt. Ltd. <small>C-8, 8th Floor, B-1, Tower, Sector-4 Vashi, Chhatrabad, U.P.</small>	PROJECT :- CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT FOR REHABILITATION AND UPGRADING TO 2 LANE/2 LANE WITH PAVED SHOULDERS CONFIGURATION AND STRENGTHENING OF PORTBLAIR - MAYABUNDER - DIGLIPUR SECTION (KM 0.00 TO KM 61, KM 104 TO KM 142 & KM 333) OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS (PACKAGE NO. SP/B/1)	DWG TITLE :- PLAN & PROFILE MIDDLE STRAIT CREEK BRIDGE	DRAWING No :- P-70/DPR/MSCB/P&P/D1 DATE : MARCH 2014 DRAWN BY : P.K.SHARMA DESIGNED BY : N.K.SHARMA CHECKED BY : S.K.SHARMA REVISION: RD
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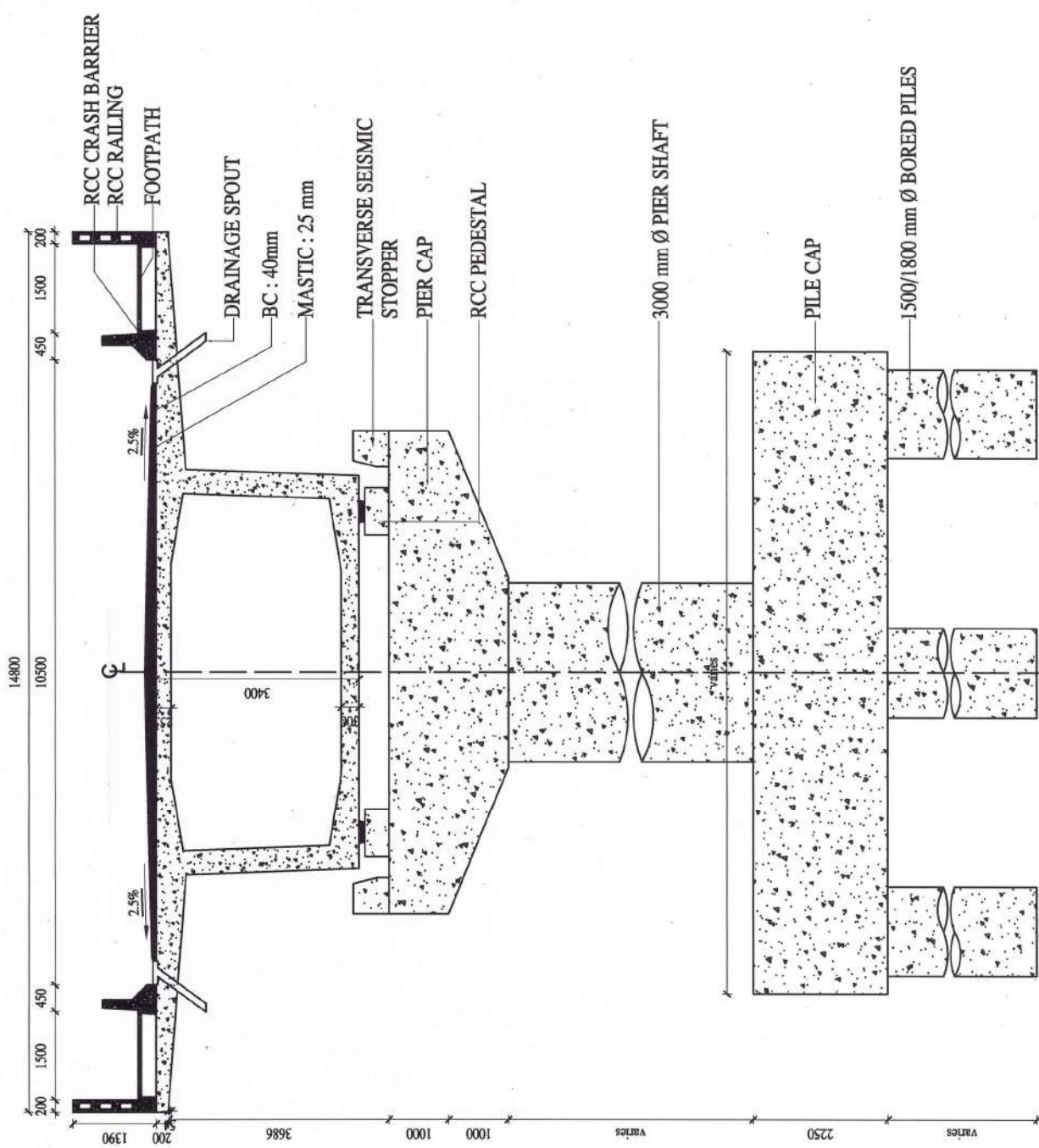
NOTE: Figures of FRL, OGL and Chainage may be referred from GAD, These figures are tentative.



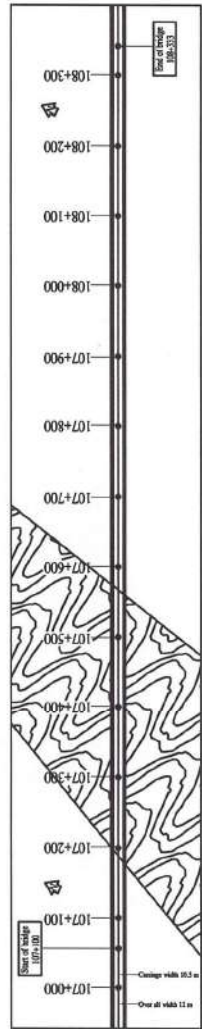
TYPICAL 2 LANE CROSS SECTION WITH SHOULDER IN PLAIN & ROLLING AREA (TYPE IA) NEW CONSTRUCTION



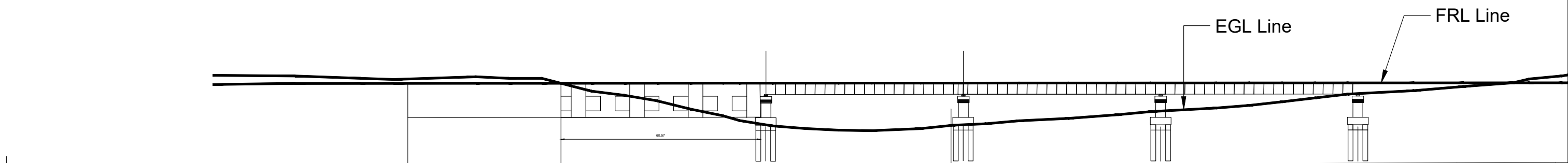
**TYPICAL 2 LANE CROSS SECTION WITH RETAINING WALL, SHOULDER IN
PLAIN & ROLLING AREA (TYPE IB) NEW CONSTRUCTION**



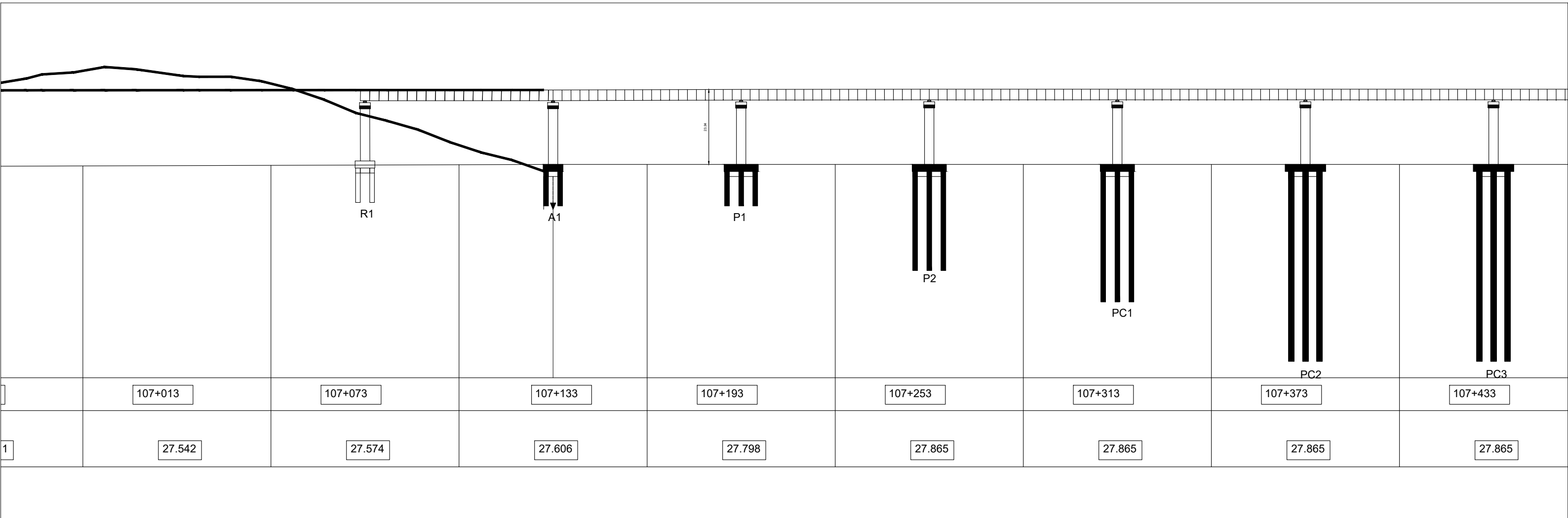
TYPICAL 2 LANE CROSS SECTION WITH SEGMENT & STRUCTURE
 WORK (TYPE II) NEW CONSTRUCTION

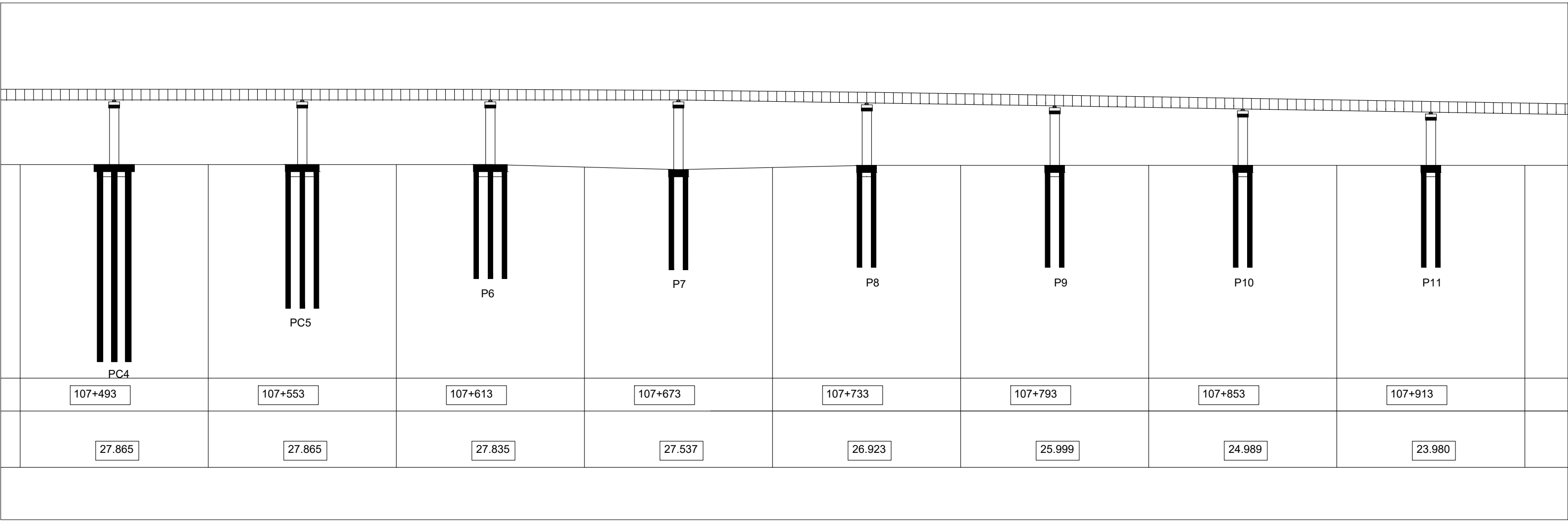


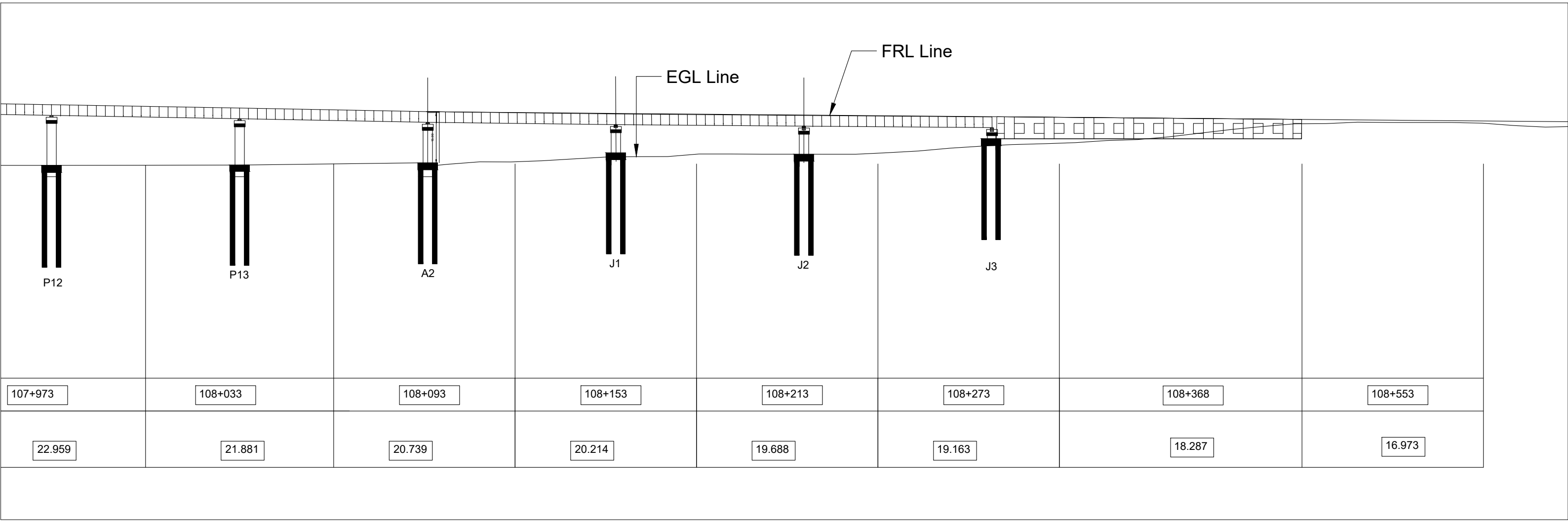
KEY PLAN



Chainage	106+590	106+653	106+713	106+773	106+833	106+893	106+953
FRL	27.346	27.368	27.405	27.431	27.458	27.484	27.51







P12

P13

A2

J1

J2

J3

EGL Line

FRL Line

107+973

108+033

108+093

108+153

108+213

108+273

108+368

108+553

22.959

21.881

20.739

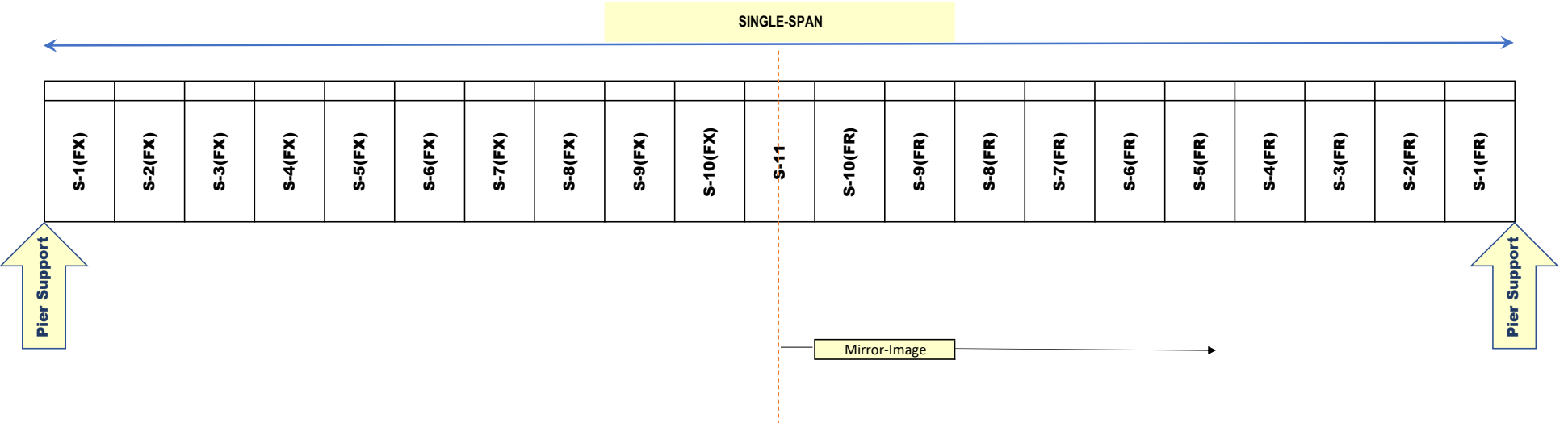
20.214

19.688

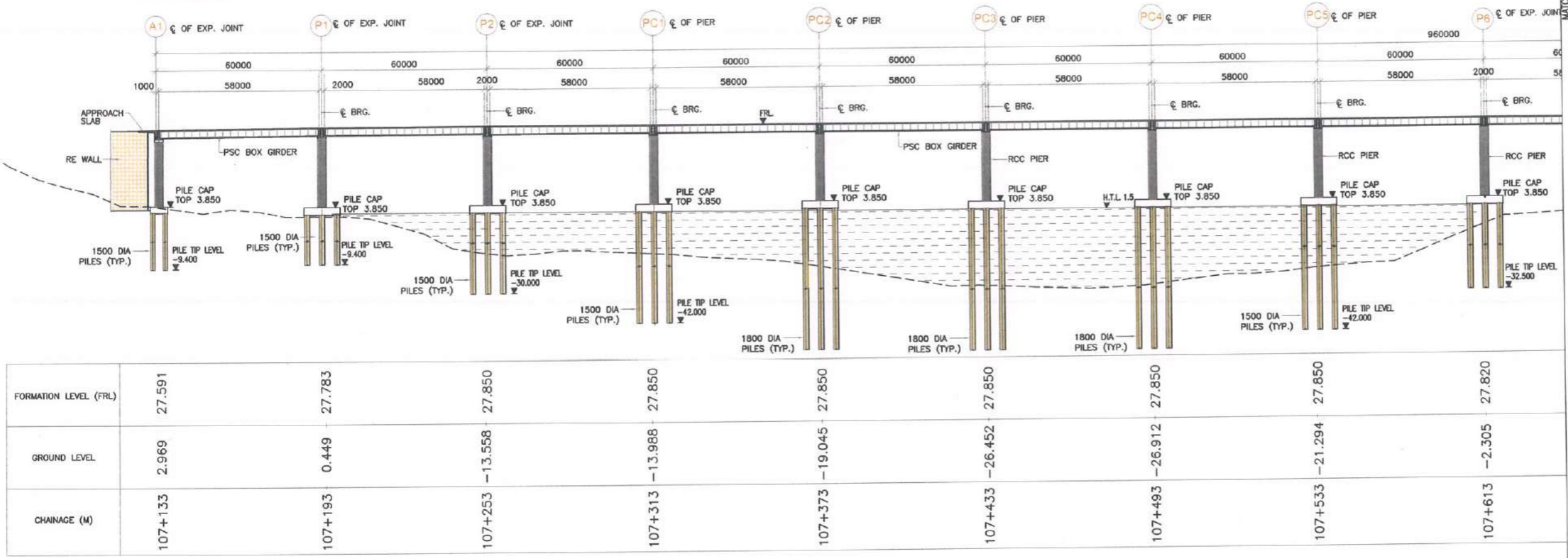
19.163

18.287

16.973

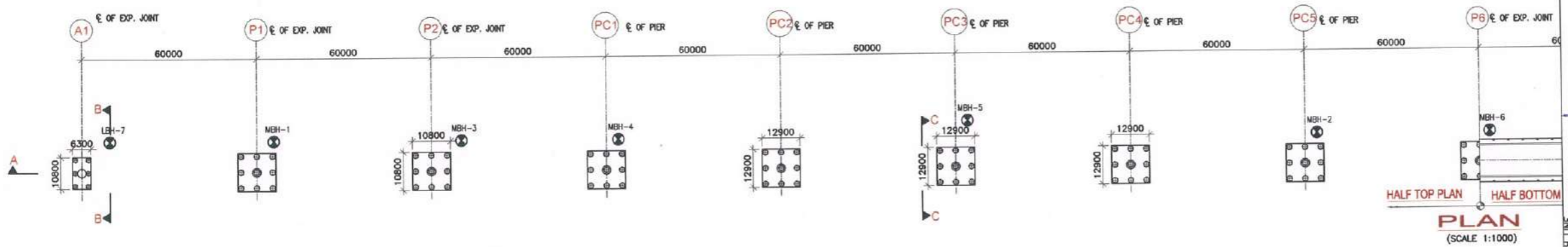


← TO PORTBLAIR

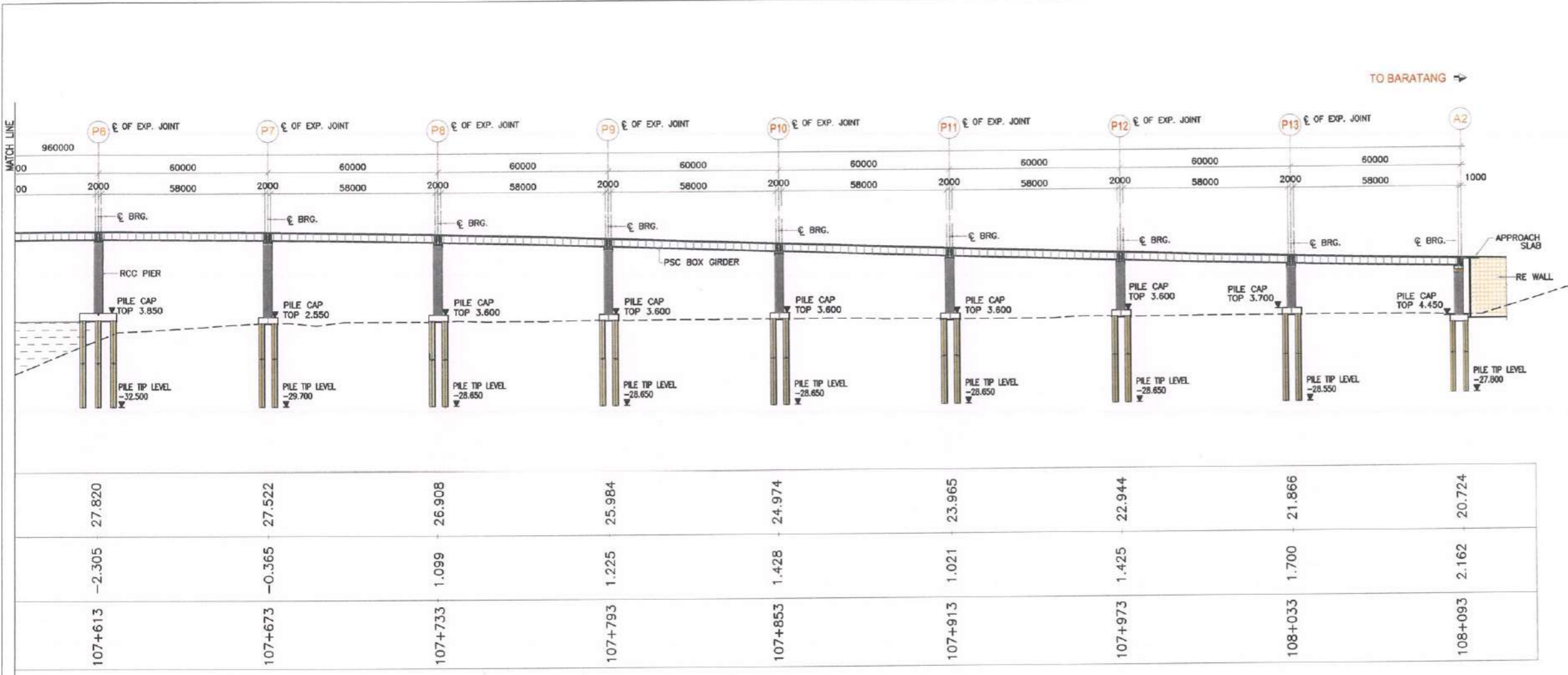


LONGITUDINAL SECTION A-A
(SCALE-1:1000)

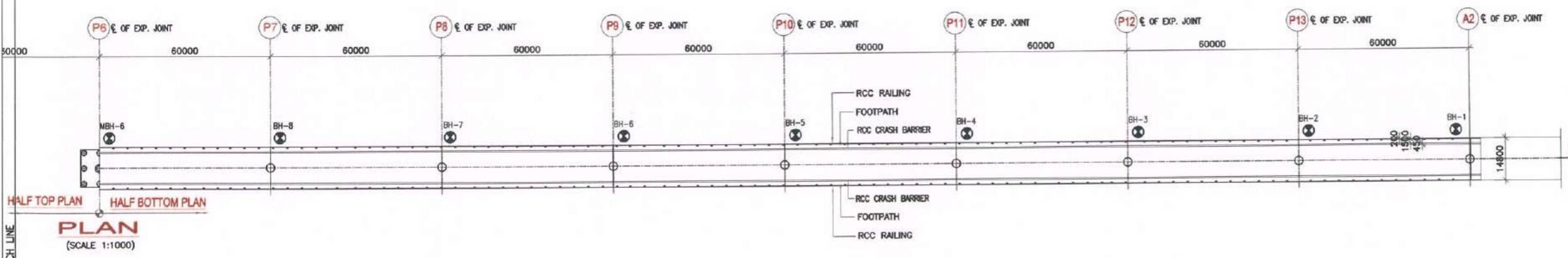
(M)	MBH-01	MBH-02	MBH-03	MBH-04	MBH-05	MBH-06	LBH-07
0.50							
1.00		Sandy Clay	Sandy Silty Clay	Silty Sand		Silty Clay	Sandy Clayey Silt
1.50							
2.00	Silty Sand						
2.50							
3.00							
3.50							
4.00							
4.50							
5.00			Sandy Clay		Sandy Clay		Clayey Silt
5.50							
6.00							
6.50							
7.00			Gravelly Silty Clay				Gravelly Clayey Silt
7.50							
8.00							
8.50							
9.00							
9.50			Silty Clay		Sandy Silty Clay		Sandy Silty Clay
10.00				Sandy Clay			
10.50							
11.00							
11.50							
12.00							
12.50							
13.00							
13.50							
14.00							
14.50	Weathered Rock	Sandy Silty Clay	Rock				Gravelly Silt
15.00							
15.50							
16.00							
16.50							
17.00							
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DESIGN CONSULTANT SAI INFRA ENGINEERS & PLANNERS	CONTRACTOR MANTENA VASISHTA BRIDGE JV	PROJECT CHECK CONSULTANT DSD INFRA TECH MANAGEMENT PVT LTD	SAFETY CONSULTANT KORANNE CONSULTANTS PVT LTD	AUTHORITY ENGINEER YONGMA ENGINEERING CO. LTD	CLIENT NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED	PROJECT CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK (BETWEEN KM 106.590 TO KM 107.762) OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.	DESIGNED BY: P. Negi	DRAWN BY: ANKIT	CHECKED BY: R. Agrahari	TITLE: GENERAL ARRANGEMENT DRAWING AT MIDDLE STRAIT CREEK
							DRAWING NO.: CREEK BR/101	SHEET: 1 OF 4		DATE: JAN 2022



LONGITUDINAL SECTION A-A
(SCALE=1:1000)



DETAILS OF BORE LOGS:-

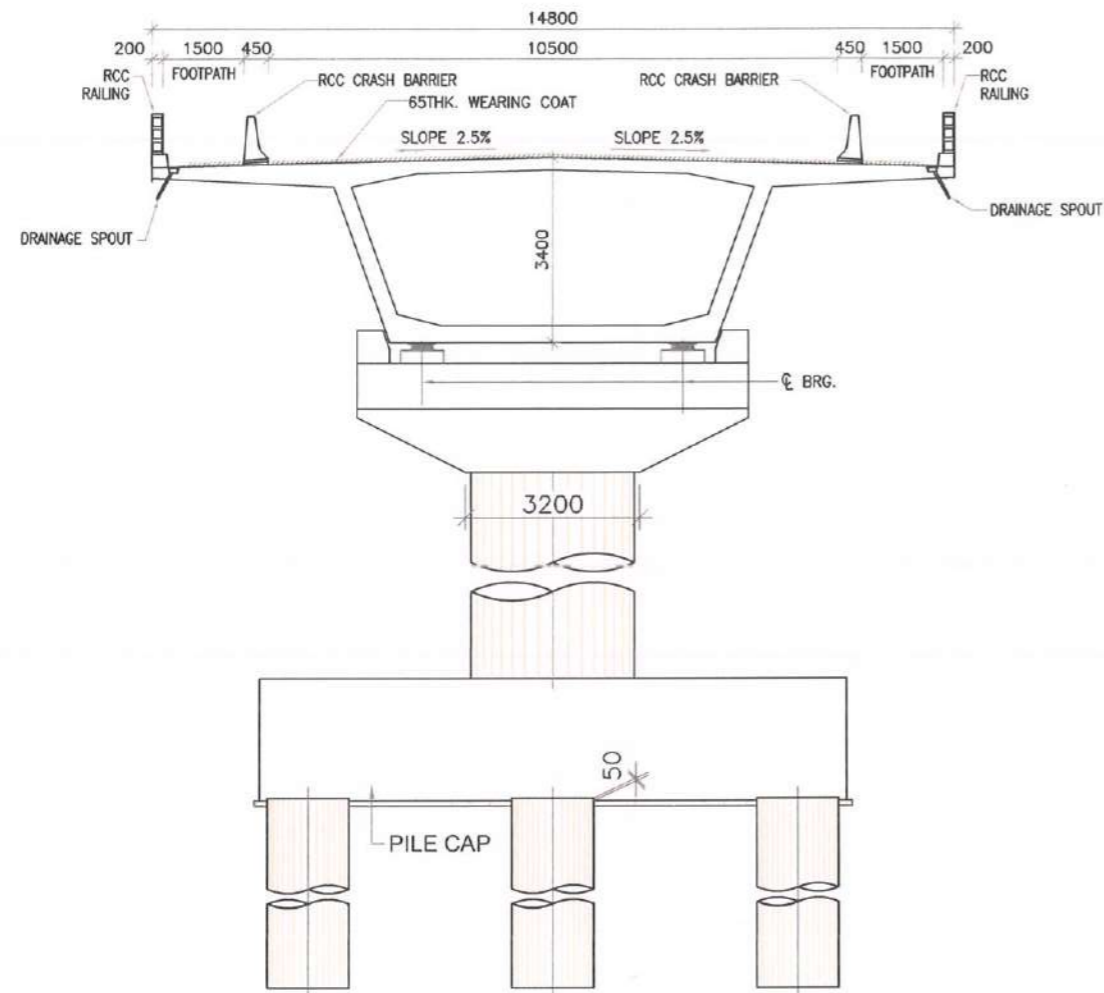
(M)	BH-01	BH-02	BH-03	BH-04	BH-05	BH-06	BH-07	BH-08
0.50								
1.00								
1.50								Silty Clay
2.00								
2.50								
3.00								
3.50								
4.00								
4.50								
5.00								
5.50								
6.00								
6.50								Sandy Silty Clay
7.00								
7.50								
8.00								
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10.00								
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11.00								
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28.00								
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29.00								
29.50								
30.00								
30.77								

DESIGNED BY	P. Negi	 	TITLE	GENERAL ARRANGEMENT DRAWING AT MIDDLE STRAIT CREEK	
DRAWN BY	ANKIT		DRAWING NO.	CREEK BR /101	
CHECKED BY	R. Agrahari		SHEET	2 OF 4	DATE

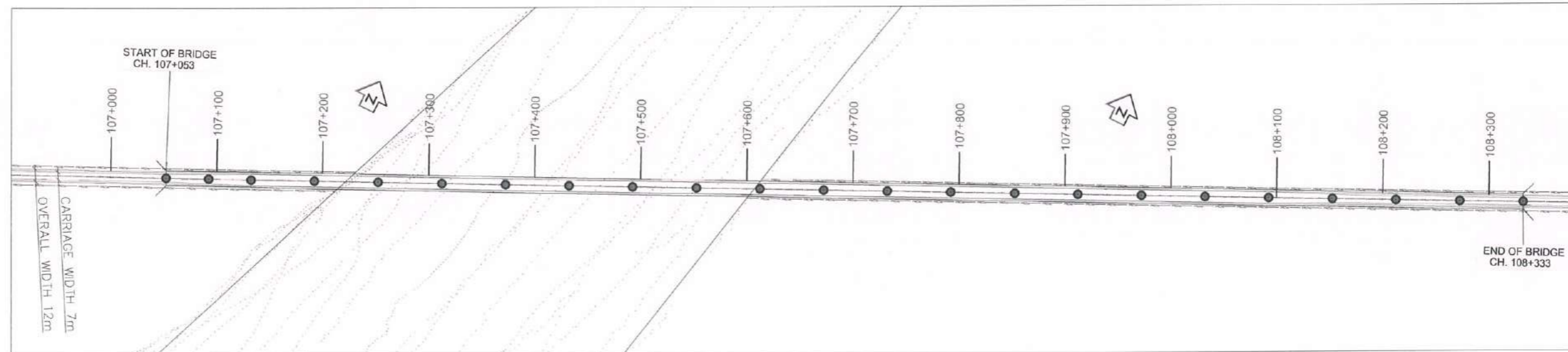
DESIGN CONSULTANT	CONTRACTOR	PROMOTEER/ CHECK CONSULTANT	SAFETY CONSULTANT	AUTHORITY ENGINEER	CLIENT	PROJECT
SAI INFRA ENGINEERS & PLANNERS	MANTENA VASISHTA BRIDGE JV	DSD INFRA TECH MANAGEMENT PVT LTD	KORANWE CONSULTANTS PVT LTD	YONGMA ENGINEERING CO., LTD	NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED	CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK (BETWEEN KM 106.590 TO KM 107.762) OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.

NOTES-

- ALL THE DIMENSIONS ARE IN MILLIMETER, LEVELS ARE IN METER AND CHAINAGES ARE IN KILOMETER, UNLESS OTHERWISE MENTIONED.
- NO DIMENSION SHALL BE MEASURED FROM THE DRAWING AND ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
- CHAINAGE AND LEVELS SHALL BE VERIFIED WITH THE RELEVANT PLAN & PROFILE DRAWING AND VARIATION SHALL BE REPORTED TO THE ENGINEER FOR MODIFICATIONS.
- LOCATION CHAINAGE OF THE STRUCTURE IS AT THE CENTER LINE OF THE PROPOSED STRUCTURE.
- ALL THE MATERIAL, SPECIFICATION AND LOADING SHALL CONFORM TO LATEST REVISION OF RELEVANT IRC CODES AND MANUALS.
- 65MM THICK WEARING COAT COMPRISING OF 40MM THICK BITUMINOUS CONCRETE OVERLAD WITH 25MM THICK BITUMEN MASTIC LAYER SHALL BE ADOPTED CONFORMING TO MORTH SPECIFICATIONS.
- EXPANSION JOINT SHALL BE MODULAR/STRIP SEAL TYPE CONFORMING TO IRC. CONCRETE SHALL BE DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC CUBE STRENGTH FOR DIFFERENT COMPONENT OF STRUCTURE SHALL BE AS FOLLOWS:
 PRESTRESSED (PSC) GIRDER -----M50
 PRESTRESSED (PSC) BOX GIRDER -----M60
 REINFORCED CONCRETE (RC) DECK SLAB ---M40
 REINFORCED CONCRETE (RC) WALL -----M30
 CRASH BARRIER -----M40
 PEDESTALS -----M50
 SUB STRUCTURE FOR ABUTMENT -----M50
 SUB STRUCTURE FOR PIER -----M50
 PILE FOUNDATION -----M40
 APPROACH SLAB -----M30
 LEVELLING COURSE (PCC) -----M15
- UNTENSIONED REINFORCEMENT STEEL SHALL BE HYSD BARS OF GRADE DESIGNATION Fe500D CONFORMING TO IS 1786.
- CONDITION OF EXPOSURE SHALL BE MODERATE AND DURABILITY REQUIREMENT SHALL BE AS PER IRC 112.
- THE WAVE VELOCITY CONSIDERED IS 10KM/HR. THE SAME HAS TO BE VERIFIED AND FOR ANY CHANGE NEEDS TO REPORTED TO THE DESIGNER.
- PRESTRESSING STEEL SHALL BE STRESS RELIEVED MULTIPLY STRANDS OF LOW RELAXATION TYPE CONFORMING TO IS 14268.U
- BEARINGS SHALL BE POT/PTE TYPE CONFORMING TO IRC 83 PART III.
- BACK FILLING BEHIND THE STRUCTURE SHALL CONSIST OF SELECTED EARTH CONFORMING TO IRC 78 HAVING PROPERTIES $c = 0$, $\phi = 30^\circ$ AND $\gamma_d = 20$ KN/M3.
- 100 ϕ WEEP HOLES SPACED AT 1000MM C/C BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN STAGGERED MANNER IN THE WALLS, ABOVE GROUND LEVEL.
- FOR ANY CHANGES IN THE DIMENSIONS OR DESIGN PARAMETERS FROM THE SITE CONDITIONS THE SAME NEEDS TO BE REPORTED TO THE DESIGNER.
- LIVE LOAD COMBINATIONS CONSIDERED FOR DESIGNING OF STRUCTURE SHALL BE AS PER IRC 6. FOR DIFFERENT CLEAR WIDTH OF DECK (W), LIVE LOAD FOR DESIGN PURPOSE IS AS FOLLOWS:
 $13.1M \leq W < 16.6M$ 4-LANE 1-LANE OF 70R FOR EVERY TWO LANE WITH 1-LANE OF CLASS A FOR THE REMAINING LANES OR 1-LANE OF CLASS A FOR EACH LANE.
- SEISMIC FORCES CONSIDERED FOR DESIGNING OF THE STRUCTURE IS AS PER IRC 6. THE DESIGN FACTORS CONSIDERED ARE AS FOLLOWS:
 ZONE : V, FACTOR: Z=0.36
 IMPORTANCE FACTOR : I = 1.50, $\alpha_v = \alpha_h * 2/3$

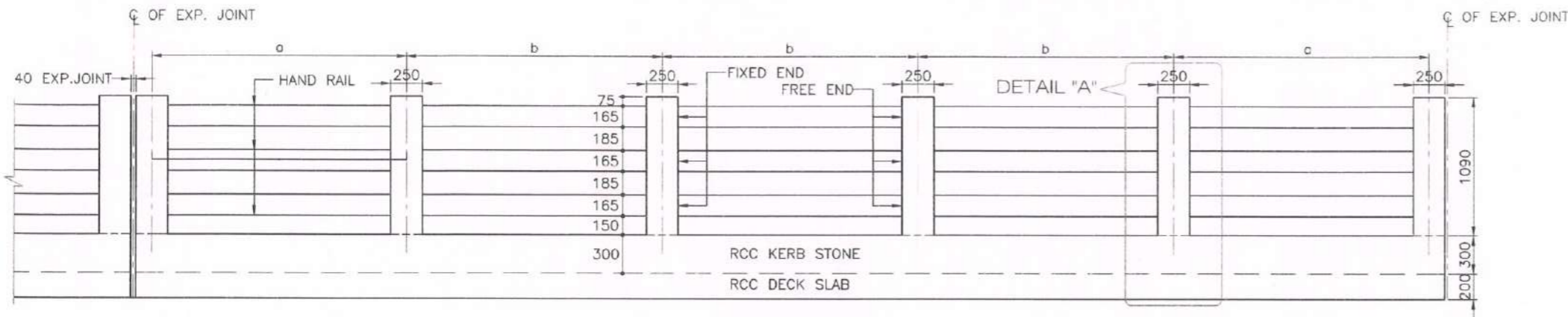


SECTION OF SUPER STRUCTURE
(SCALE 1:100)



KEY PLAN

REV	DATE	DISCUSSION FOR REVISION	DESIGN CONSULTANT	CONTRACTOR	PROJECT CHECK CONSULTANT	SAFETY CONSULTANT	AUTHORITY ENGINEER	CLIENT	PROJECT	DESIGNED BY	P. Negi	TITLE: GENERAL ARRANGEMENT DRAWING AT MIDDLE STRAIT CREEK
			DRAWN BY	ANKIT	DRAWING NO.	CREEK BR /101						
			CHECKED BY	R. Agrahari	SHEET	4 OF 4	DATE	JAN 2022				
			SAI INFRA ENGINEERS & PLANNERS	MANTENA VASISHTA BRIDGE JV	DSD INFRA TECH MANAGEMENT PVT LTD	KORANNE CONSULTANTS PVT LTD	YONGMA ENGINEERING CO., LTD	NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED	CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK (BETWEEN KM 106.590 TO KM 107.762) OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.			

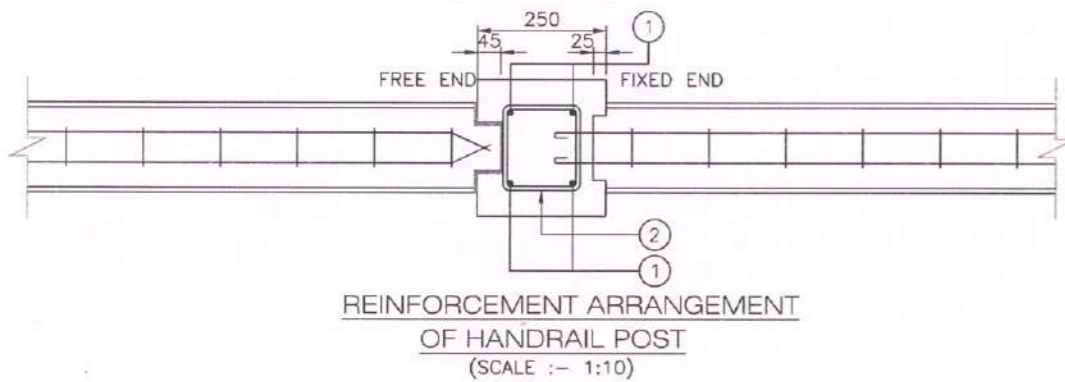
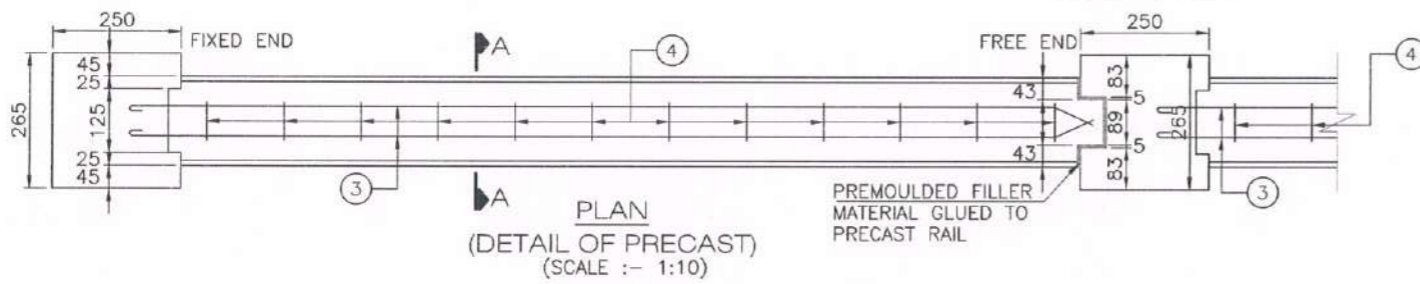
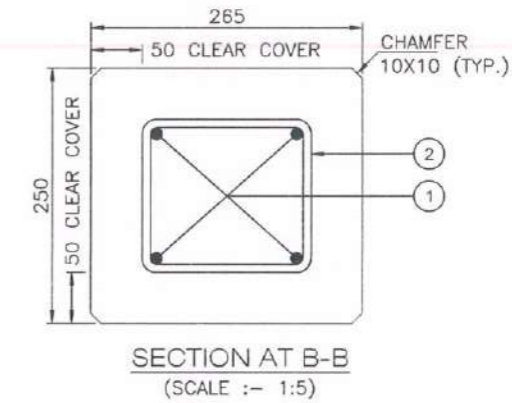
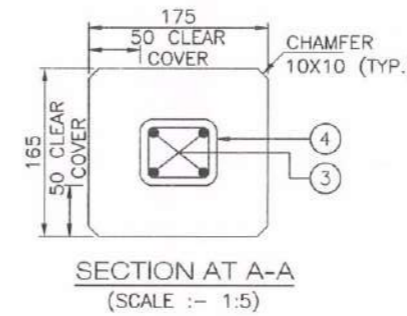
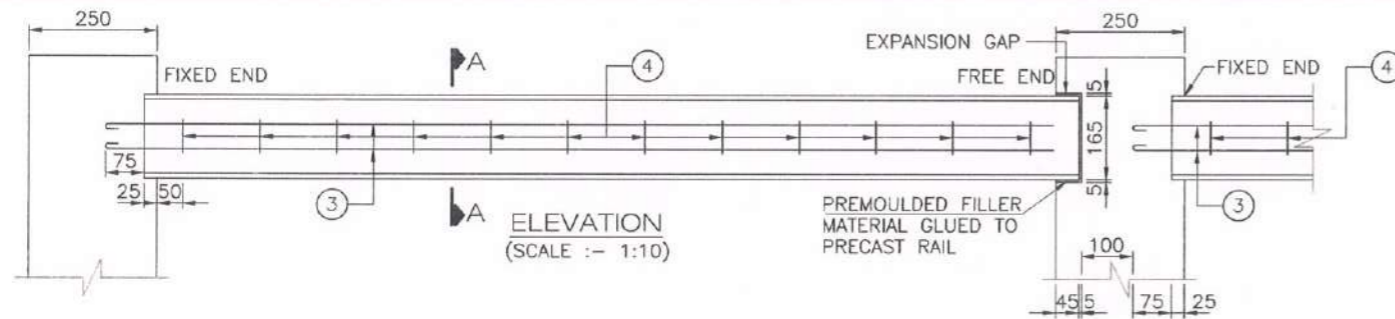


ELEVATION
(SCALE :- 1:30)

NOTES:-

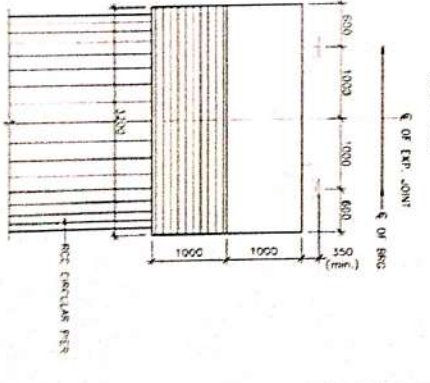
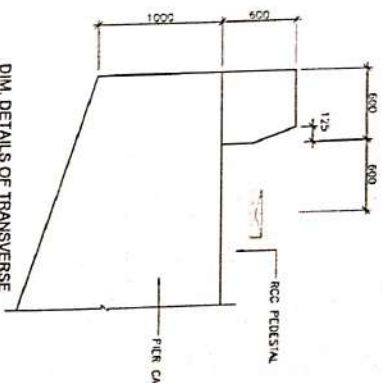
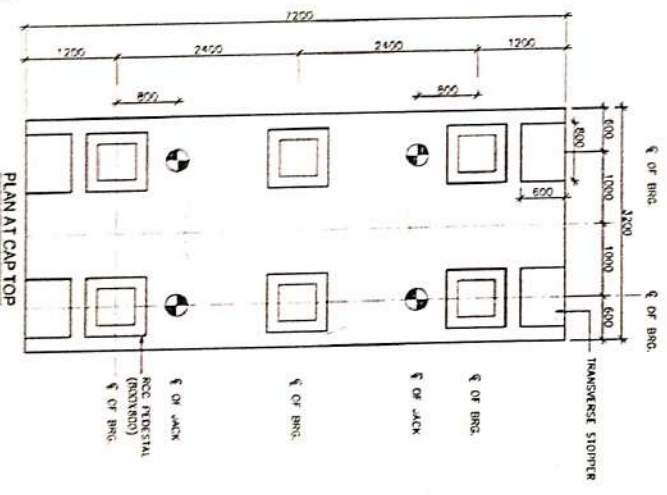
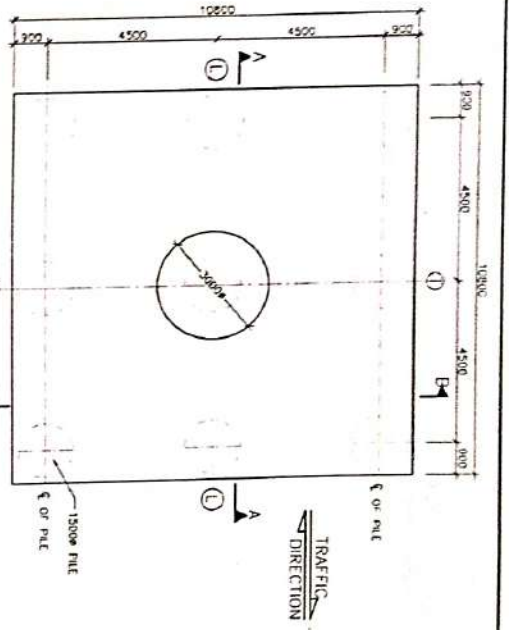
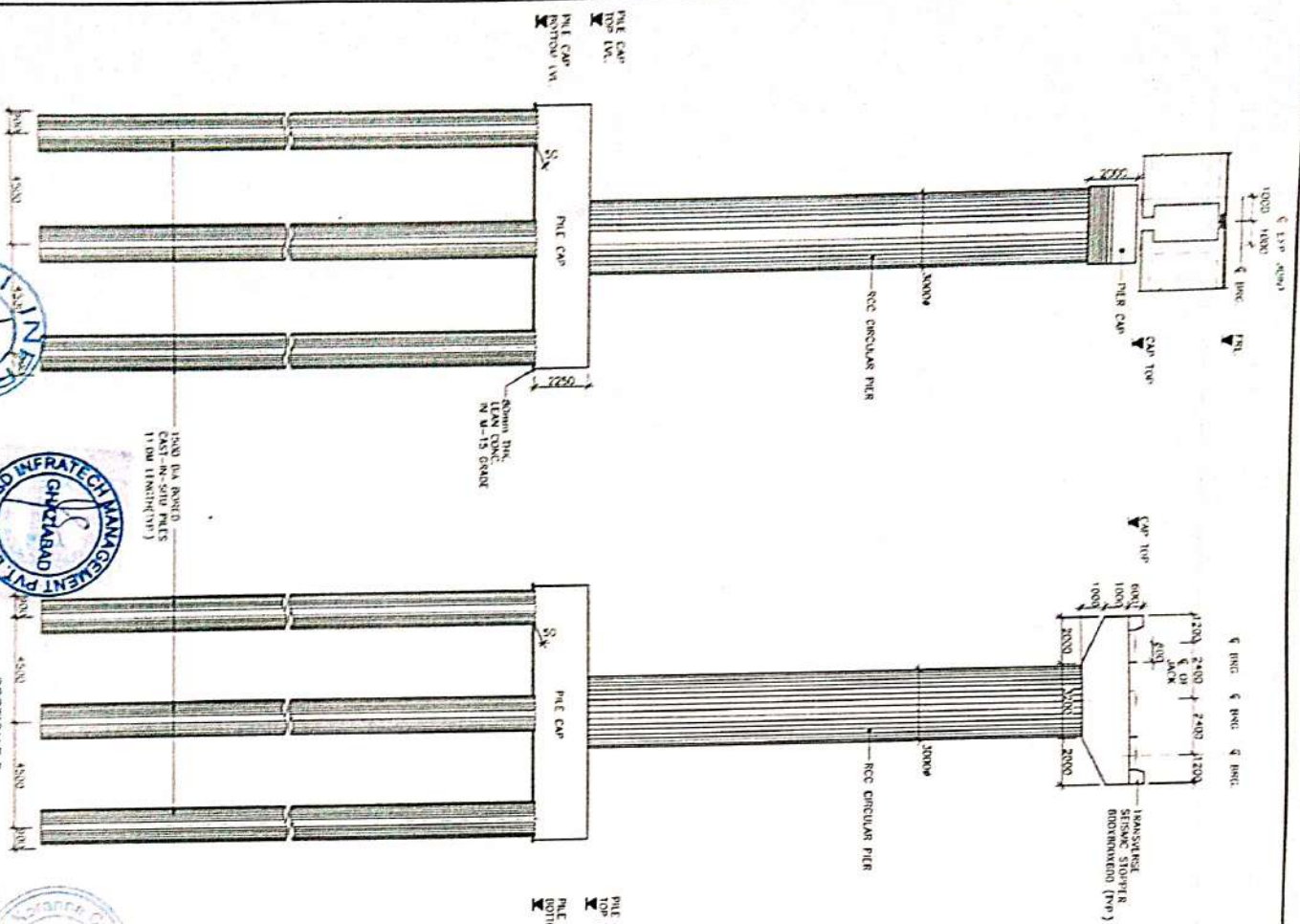
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS IN METRES UNLESS OTHERWISE MENTIONED, ONLY WRITTEN DIMENSION ARE TO BE FOLLOWED. NO DIMENSION IS TO BE SCALED.
2. THE HAND RAIL DESIGN HAS BEEN ADOPTED AS PER MORTH STANDARD DRAWINGS.
3. THE CONCRETE GRADE SHALL BE AS BELOW:-
CRASH BARRIER..... M40
RCC RAILING..... M30
4. THE REINFORCEMENT STEEL SHALL BE TMT BARS (Fe-500D) CONFORMING TO IS:1786.
5. REINFORCEMENT OF CRASH BARRIER & RAILING POST SHOULD BE SUITABLY ANCHORED IN DECK SLAB.
6. CASTING OF THE POST SHALL BE DONE IN SINGLE POUR AFTER ACCURATELY POSITIONING THE PRECAST HANDRAILS.
7. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH GENERAL ARRANGEMENT DRAWING OF THE RESPECTIVE BRIDGES.
8. RAILING SHALL BE CONSTRUCTED ONLY AFTER THE STRUCTURAL CONCRETE OF SUPERSTRUCTURE HAS HARDENED AND SHUTTERING IS RELEASED.
9. EXPANSION GAPS IN RAILING SHALL BE PROVIDED AT THE SAME LOCATIONS AS IN THE DECK SLAB.
10. CLEAR COVER TO OUTERMOST STEEL SHALL BE AS BELOW:-
CRASH BARRIER..... 40mm
RCC RAILING..... 50mm

a= TO BE ADJUSTED AS PER THE REQUIREMENT
b= 2000



REINFORCEMENT DETAILS			
S. NO.	BAR MKD.	BAR DIA & SPACING	BAR SHAPE
POST ONE NUMBER			
1.	1	4-12 Ø	75 1560 75
2.	2	2L-8 Ø 9 Nos.	144 149
HANDRAIL ONE NUMBER			
3.	3	5-10 Ø (FACE BAR)	
4.	4	2L-8 Ø @ 100 c/c	59 49

DESIGN CONSULTANT SAI INFRA ENGINEERS & PLANNERS 10/10, 2 nd Floor, Sector 10, Gurgaon-122002 Ph: +91-122-5948000 Fax: +91-122-5948001 Email: saiinfraengg@gmail.com	CONTRACTOR MAINTENA VASISHTA BRIDGE JV MAINTENA VASISHTA BRIDGE JV 10/10, 2 nd Floor, Sector 10, Gurgaon-122002 Ph: +91-122-5948000 Fax: +91-122-5948001 Email: saiinfraengg@gmail.com	PROJECT MANAGEMENT DSD INFRA MANAGEMENT PVT. LTD. 10/10, 2 nd Floor, Sector 10, Gurgaon-122002 Ph: +91-122-5948000 Fax: +91-122-5948001 Email: saiinfraengg@gmail.com	SAFETY CONSULTANT NAGI 10/10, 2 nd Floor, Sector 10, Gurgaon-122002 Ph: +91-122-5948000 Fax: +91-122-5948001 Email: saiinfraengg@gmail.com	AUTHORITY ENGINEER YONGMA ENGINEERING CO., LTD. 10/10, 2 nd Floor, Sector 10, Gurgaon-122002 Ph: +91-122-5948000 Fax: +91-122-5948001 Email: saiinfraengg@gmail.com	CLIENT NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED 30 Floor, P.T. Building 4 - Park Road, Connaught Place New Delhi - 110028	PROJECT CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK (BETWEEN KM 106.590 TO KM 107.762) OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.	DESIGNED BY P. Negi	DRAWN BY ANKIT	CHECKED BY R. Agrahari	TITLE DIMENSION & REINFORCEMENT DETAILS OF CRASH BARRIER & R.C.C. RAILING	DRAWING NO MISC/01	SHEET DATE JAN 2022
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NO	DESCRIPTION	QTY	UNIT	REMARKS
1	PILE	4	NO	
2	PILE CAP	1	NO	
3	TRANSVERSE STOPPER	1	NO	
4	PILE CAP	1	NO	
5	PILE CAP	1	NO	

- NOTES:**
1. ALL DIMENSIONS ARE IN METERS. LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
 2. NO DIMENSION SHALL BE MEASURED FROM THE DIMENSIONS ONLY UNLESS OTHERWISE SPECIFIED.
 3. THE REINFORCEMENT SHALL BE AS PER BRIS OF (GRADE IS SPECIFIED BY 5500 OR 5000) COMPARE TO IS 1786-2008.
 4. CONCRETE SHALL BE DESIGN WITH MINIMUM 28 DAYS COMPRESSIVE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
 - a. RCC PIER SAWT M30
 - b. PIER CAP & STOPPER M40
 - c. PILE & PILE CAP M40
 - d. PCC FILLING COURSE M15
 5. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IRC:112
 - a. PILE 75mm
 - b. PILE CAP 75mm
 - c. PIER /PIER CAP 50mm
 - d. OTHERS 50mm
 6. CONDITION OF EXPOSURE IS MODERATE.
 7. THE LOCATION OF JACK FOR LIFTING THE SUPERSTRUCTURE TO REPLACE BEARINGS ETC. IS SHOWN. THIS SHALL BE DISTINCTLY ETCHED FOR EASY IDENTIFICATION ON THE END CROSS ORDER AND ABUTMENT/PIER CAPS.

SI (Scale 1:50)

CHICAGO (Scale 1:50)

GOOD FOR

REVISION

NO	DESCRIPTION	DATE	BY	CHECKED BY
1				
2				

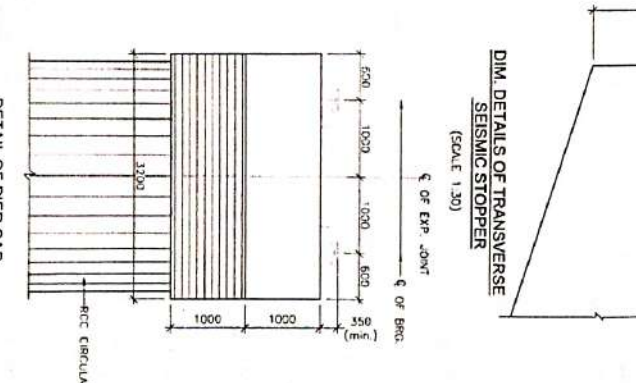
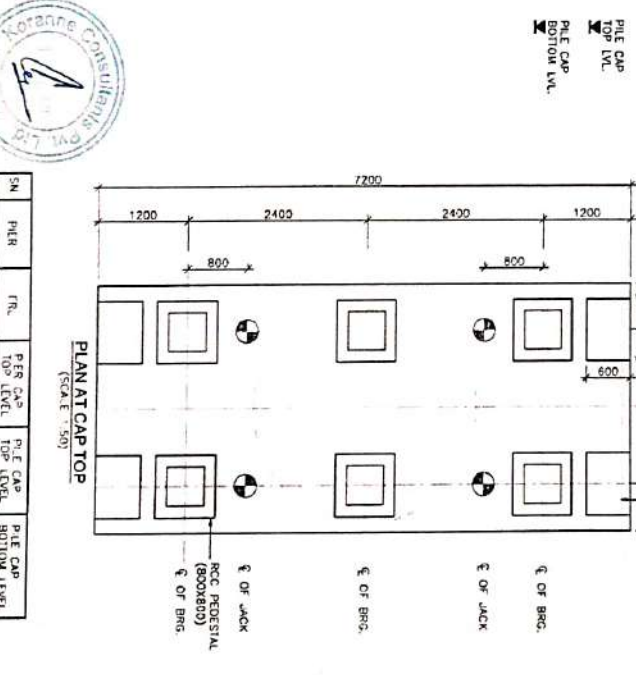
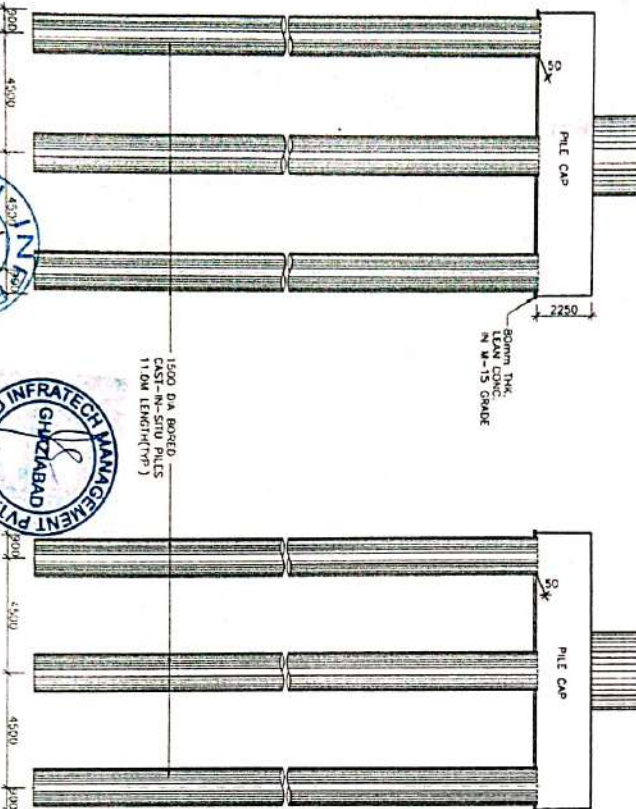
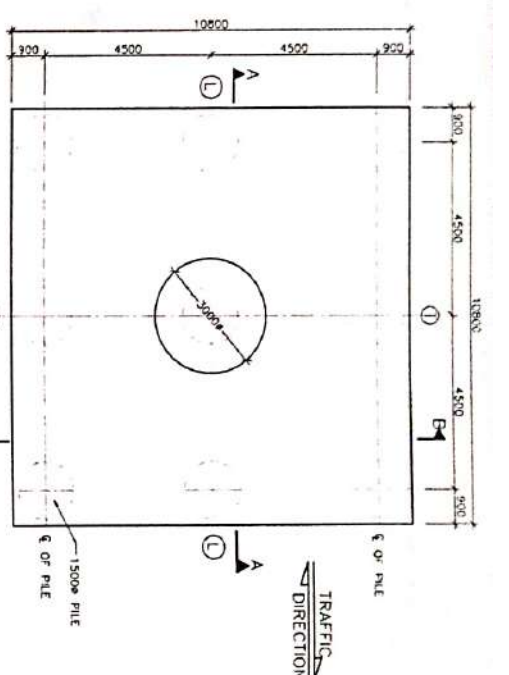
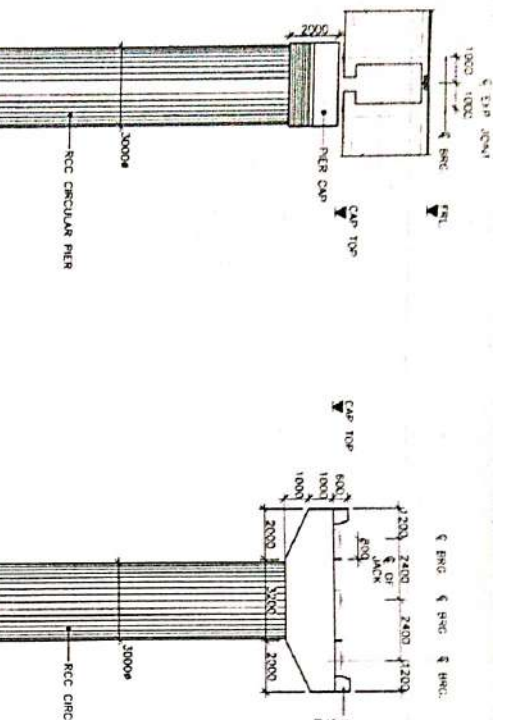
CONSTRUCTION OF MAJOR BRIDGE OVER RAILROAD TRACKS AT THE JUNCTION OF THE RAILROAD TRACKS AND THE BRIDGE.

DESIGNED BY [Signature]

CHECKED BY [Signature]

DATE 12/04/2021

SHEET 12 OF 20



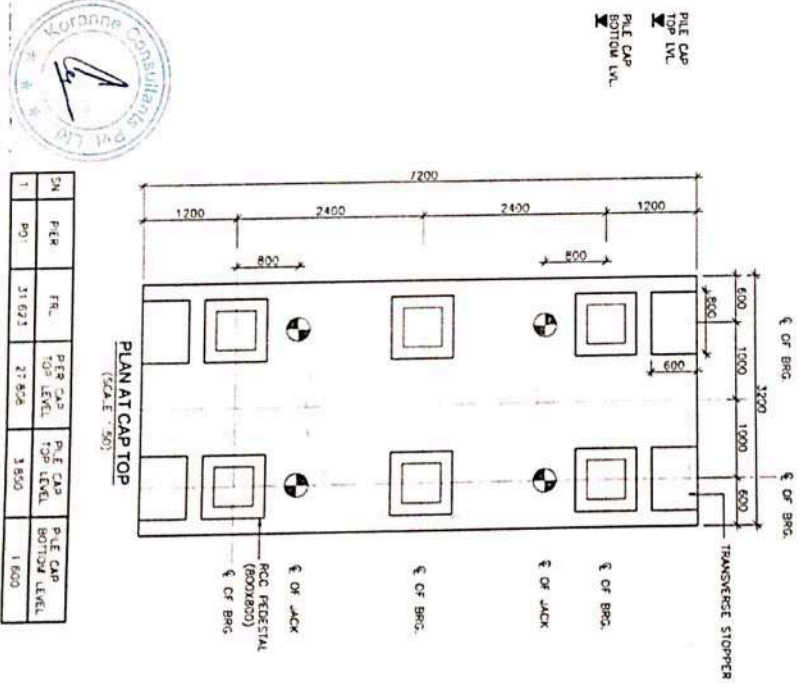
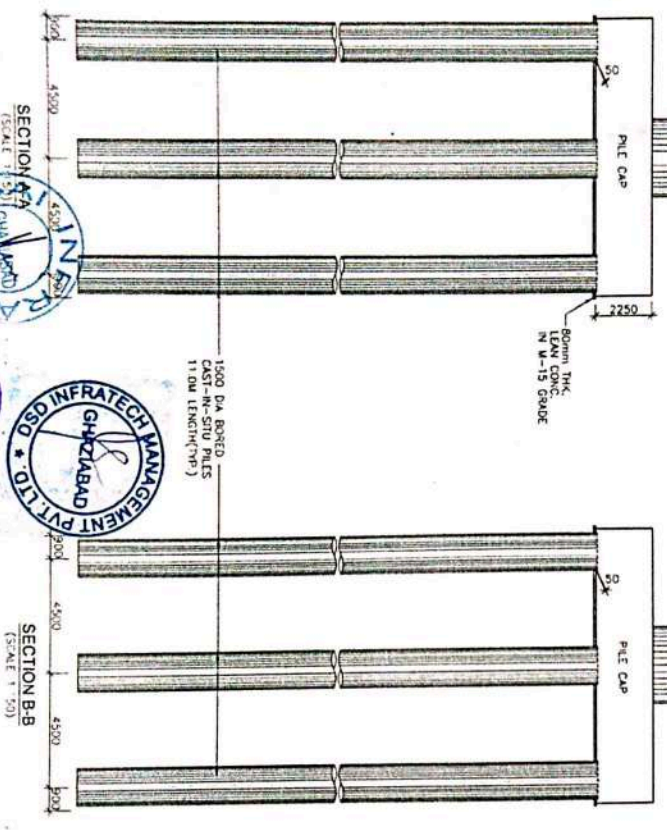
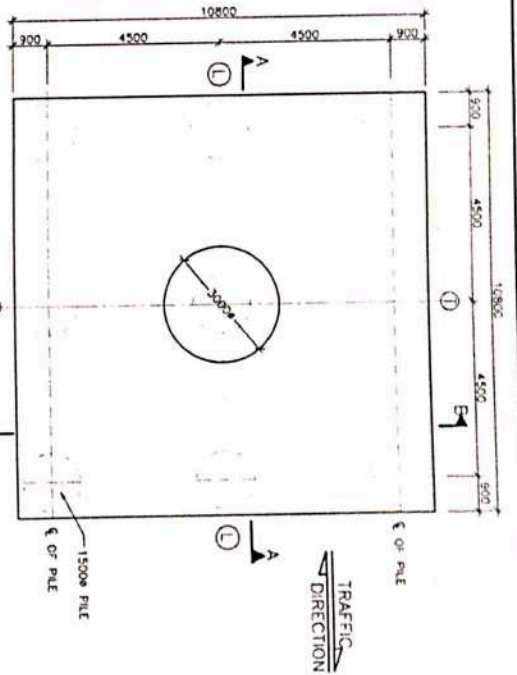
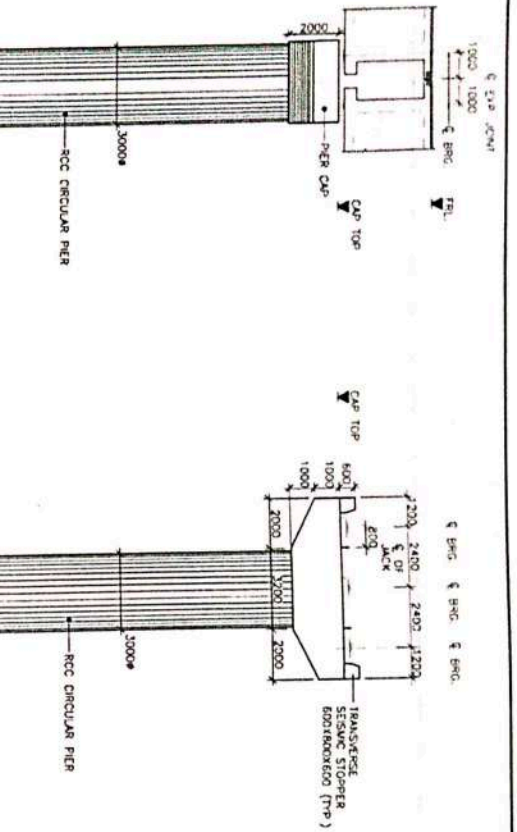
SN	PIER	FR.	PER CAP TOP LEVEL	PIE CAP TOP LEVEL	PILE CAP BOTTOM LEVEL
1	P91	31.023	27.005	3.650	1.600

DISC'D BY	P. No	DATE	TITLE
DRAWING	ANIT	20/04/2021	DIMENSIONAL & BEING DETAIL OF PIER FOR CREEK BRIDGE

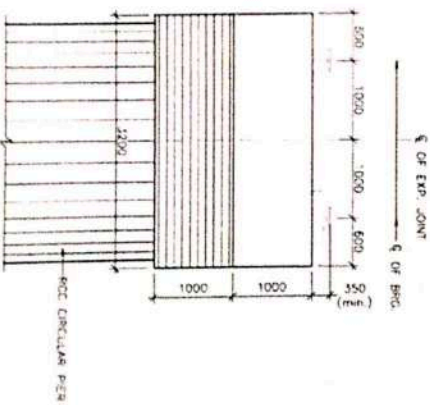
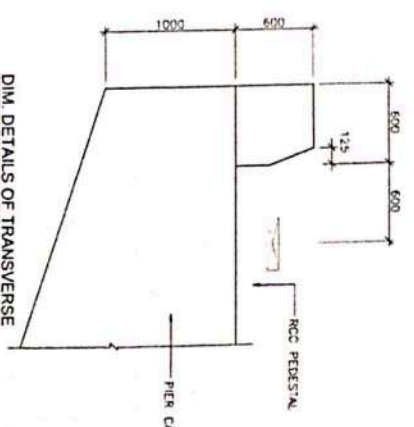
- NOTES:-**
1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
 2. NO DIMENSION SHALL BE MEASURED FROM THE CHAMFERS.
 3. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 4. THE REINFORCEMENT SHALL BE AS PER SANS OF (GRADE DESIGNATION IS 500D CRS) CONFORMING TO IS 1786-2008. CHARACTERISTIC CURVE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
 - a. RCC PIER SHAFT M50
 - b. PIER CAP & STOPPER M40
 - c. PIER CAP M40
 - d. PILE & PILE CAP M15
 - e. RCC LEVELING COURSE M15
 5. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IRC-112
 - a. PILE 75mm
 - b. PILE CAP 75mm
 - c. PIER/PIER CAP 50mm
 - d. OTHERS 50mm
 6. CONDITION OF EXPOSURE IS MODERATE.
 7. THE LOCATION OF JACK FOR LIFTING THE SUPERSTRUCTURE TO REPLACE BEARINGS ETC. IS SHOWN. THIS SHALL BE DISTINCTLY EIGHTED FOR EASY IDENTIFICATION ON THE END CROSS CHIEFER AND ABUTMENT/PIER CAPS.

DATE: 12.04.2021
 CHECKED BY: R. Anshu
 DRAWING NO: CREEK-BR-209 (01 OF 03)

Techniko Consultancy Services Pvt. Ltd.
 AUTHORITY FOR THE PROJECT
 IN ASSOCIATION WITH
 YONGMA ENGINEERING CO. LTD.
 IN ASSOCIATION WITH
 KOTANNE CONSULTANCY PVT. LTD.
 SAFETY CONSULTANT
 GOOD FOR CONSTRUCTION



NO	PIER	FL	PIER CAP TOP LEVEL	PIER CAP BOTTOM LEVEL
1	B0	31.623	27.828	1.800



- NOTES:-**
1. ALL DIMENSIONS ARE IN MILLIMETERS. PILES ARE TO BE WRITTEN IN CASE OTHERWISE MENTIONED.
 2. NO DIMENSION SHALL BE MEASURED FROM THE SHALLOWS.
 3. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 4. THE REINFORCEMENT SHALL BE M25C BARS OF (GRADE DESIGNATION # 3000 CRS) CONFORMING TO IS 1786-2008 CONCRETE SHALL BE DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC CURB STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
 - a. PILE: M40
 - b. PIER CAP & STOPPER: M40
 - c. PRECAST: M40
 - d. PILE & PIER CAP: M40
 - e. RCC LEVELING COURSE: M15
 - f. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IRC:112
 5. PILE: 75mm
 a. PILE CAP: 75mm
 b. PIER / PIER CAP: 50mm
 c. OTHERS: 50mm
 6. CONDITION OF EXPOSURE IS MODERATE.
 7. THE LOCATION OF JACK FOR LIFTING THE SUPERSTRUCTURE TO REPLACE BEARINGS ETC IS SHOWN. THIS SHALL BE DISTINCTLY CLOSED FOR EASY IDENTIFICATION ON THE END CROSS CHECKER AND ABUTMENT/PIER CAPS.

SI

INFRATECH MANAGEMENT PVT. LTD. CHAKZABAD

TRIGG CHECK CONSULTANT

SUITTY CONSULTANT

ALTIMORIN ROAD PLAN

CONSTRUCTION OF MAJOR BRIDGE OVER MANDOL STRAIT CREEK (BETWEEN KM 108.590 TO KM 107.762) OF NH-222 IN THE UNION TERRITORY OF ANDHRA PRADEH & VICINAR ISLANDS.

PROJECT

DESIGNED BY P. Naga

DRAWN BY ASHIT

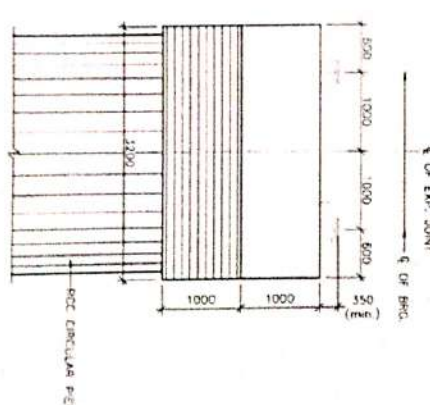
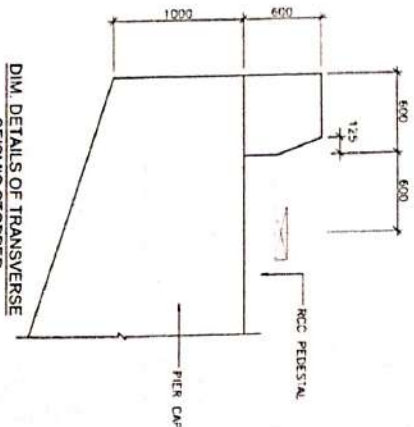
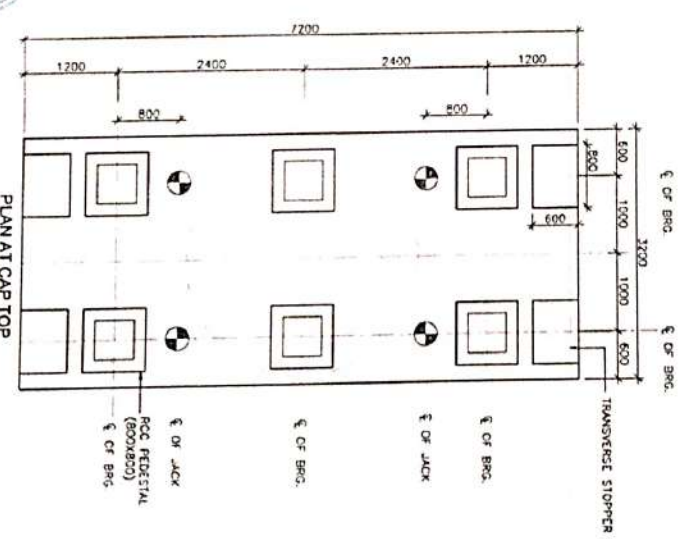
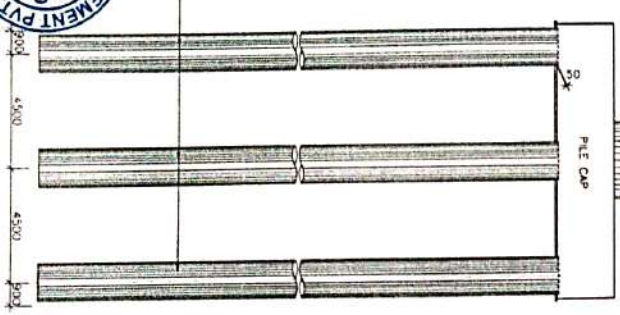
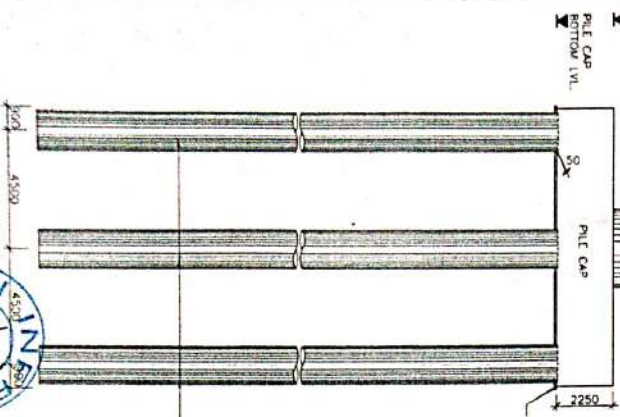
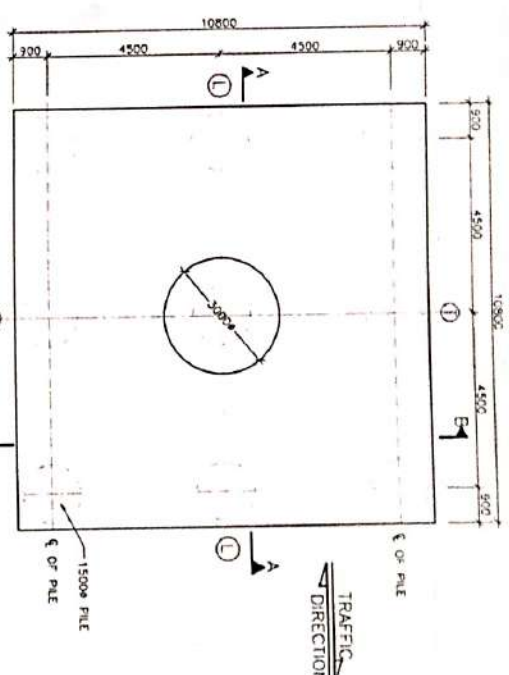
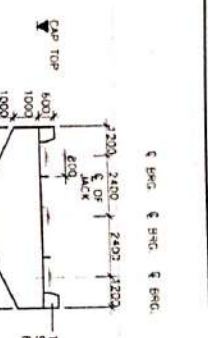
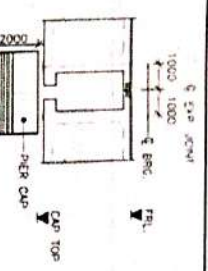
CHECKED BY K. V. Prasad

TITLE DIMENSIONAL & REIN. DETAIL OF PIER FOOT FOR CREEK BRIDGE

DATE 12.04.2021

PROJECT NO. CREEK-BR-209 (01 OF 03)

In Association with



NO.	PIER	REL.	PILE CAP TOP LEVEL	PILE CAP TOP LEVEL	PILE CAP BOTTOM LEVEL
1	B0	31.623	21.828	1.850	1.600



SI

INFRA TECH MANAGEMENT PVT. LTD.
CHENNAI

REGIONAL CHECK CONSULTANT

SAFETY CONSULTANT

PROJECT

CONSTRUCTION OF MAJOR BRIDGE OVER NERUDA STRAIT CREEK (BETWEEN ANCHALAI & NICOBAR ISLANDS).

DESIGNED BY P. Nigam

DRAWN BY ANIL

CHECKED BY R. Arjunan

TITLE

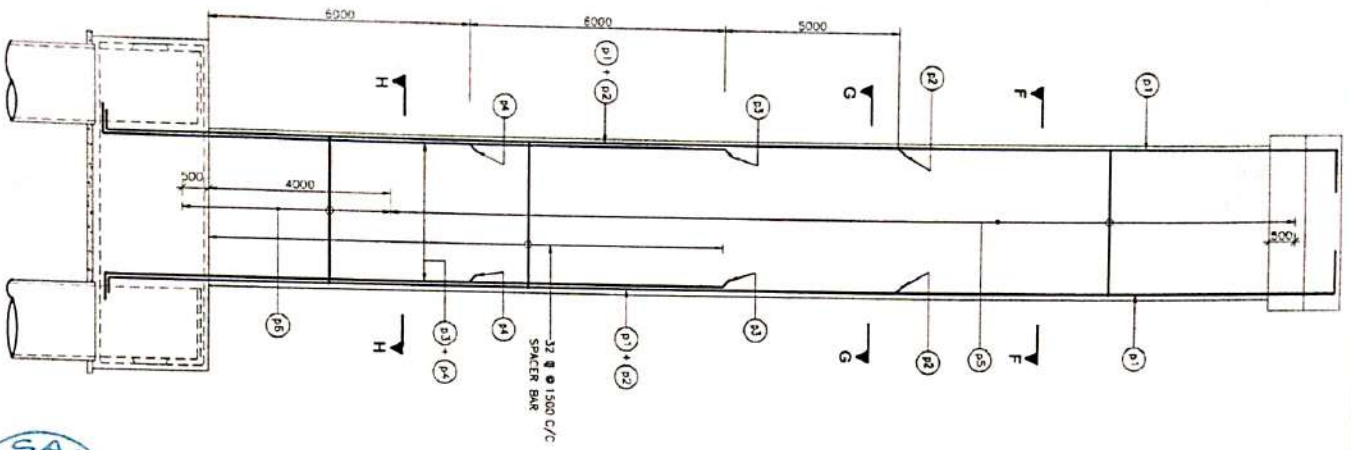
DIMENSIONAL & REIN. DETAIL OF PIER FOOT FOR CREEK BRIDGE

CHECKED BY CHEEK-BR-209 (01 OF 03)

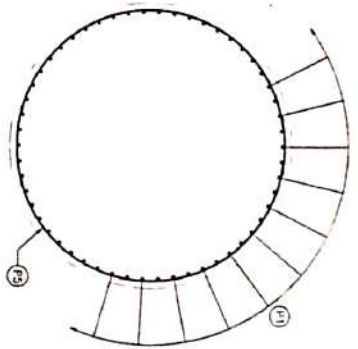
DATE 12/24/2021

- NOTES:-**
1. ALL DIMENSIONS ARE IN MILLIMETERS. LETTERS ARE IN WRITERS HANDS UNLESS OTHERWISE MENTIONED.
 2. NO DIMENSION SHALL BE MEASURED FROM THE BEAMS/S.
 3. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 4. THE REINFORCEMENT SHALL BE M20, BARS OF (GRADE OR SPECIFICATION (As soon as) conforming to IS 1786-2008 CHARACTERISTIC CURVE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
 - a. WDG 480
 - b. WDG 450
 - c. WDG 420
 - d. WDG 380
 - e. WDG 350
 - f. WDG 320
 5. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IRC:112
 - a. PILE CAP 75mm
 - b. PIER CAP 50mm
 - c. PIER PER CAP 50mm
 - d. OTHERS 50mm
 6. CONDITION OF EXPOSURE IS MODERATE.
 7. THE LOCATION OF JACK FOR LIFTING THE SUBSTRUCTURE TO REPLACE BEAMS/MS ETC IS SHOWN. THIS SHALL BE DISTINCTLY IDENTIFIED FOR EASY IDENTIFICATION ON THE END CROSS SECTION AND ABUTMENT/PIER CAPS.

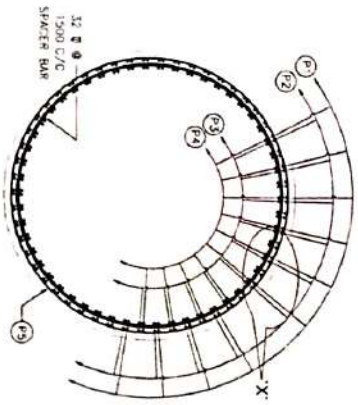
In Association with



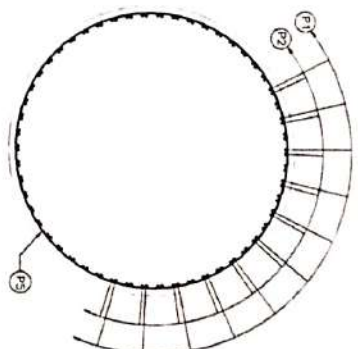
REINF. DETAILS OF PIER COLUMN
(SCALE 1:75)



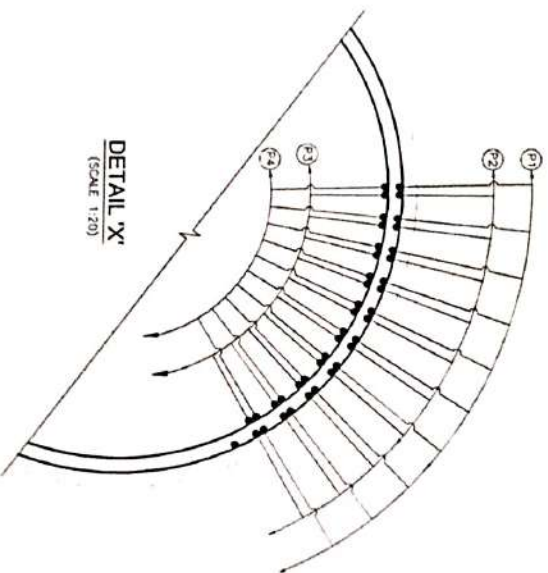
SECTION F-F
(SCALE 1:40)



SECTION H-H
(SCALE 1:40)



SECTION G-G
(SCALE 1:40)



DETAIL 'X'
(SCALE 1:20)

SCHEDULE OF PIER REINFORCEMENT

BAR NO.	BAR DIA. (mm)	SPACING/NO.	SHAPE
P1	32	58 Nos	—
P2	32	58 Nos	—
P3	32	58 Nos	—
P4	32	58 Nos	—
P5	16	125 C/C	○
P6	25	75 C/C	○

- NOTES**
- ALL DIMENSIONS ARE IN MILLIMETERS AND ANGLES ARE IN DEGREES UNLESS OTHERWISE SPECIFIED.
 - DIMENSIONS ARE NOT TO BE SCALED ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 - 1-1 REPRESENTS LONGITUDINAL AS OF THE BRIDGE.
 - 1-2 REPRESENTS TRANSVERSE AS OF THE BRIDGE.
 - HIGH FIELD STRENGTH DETACHED BARS OR SPACE DISCONTINUITY 15000 C/C COMPENSING TO 6.1785 SHALL ONLY BE USED.
 - REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETION.
 - LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE. MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOWS (AS PER IRC: 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (L) OF 50% ONLY.
 $LAP LENGTH = \begin{cases} a) \text{ Bar: } 1.0 \text{ FOR } 25\text{K} & 25\% \\ b) \text{ Bar: } 1.15 \text{ FOR } 25\text{K} & 25\% \\ c) \text{ Bar: } 1.4 \text{ FOR } 25\text{K} & 25\% \end{cases}$
 - DEVELOPMENT LENGTH (L_{DEVL})
 $L_{DEVL} = \begin{cases} a) \text{ Bar: } 1.0 \text{ FOR } 25\text{K} & 25\% \\ b) \text{ Bar: } 1.15 \text{ FOR } 25\text{K} & 25\% \\ c) \text{ Bar: } 1.4 \text{ FOR } 25\text{K} & 25\% \end{cases}$
 - FOR UNFURNISHABLE BOND CONDITION THE 'B' SHOULD BE MULTIPLIED BY FACTOR OF 1.43 FOR 83.33mm (1/3")
 'B' SHOULD BE INCREASED BY MULTIPLIER FACTOR (1.00) (1/3")
 - NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.

DEPARTMENT
SI
MAINTENANCE

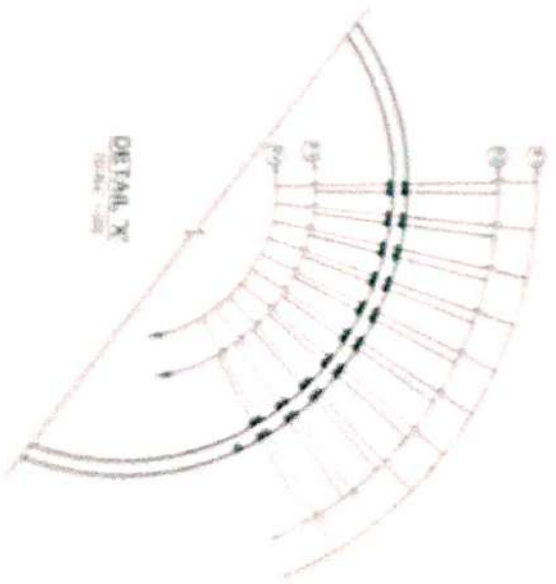
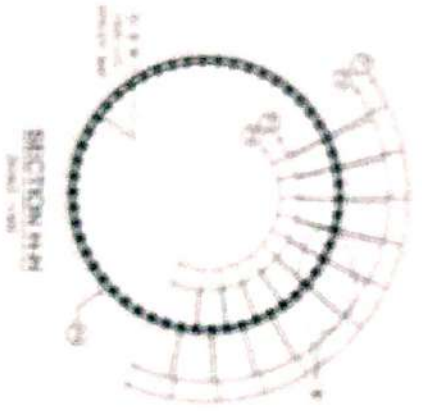
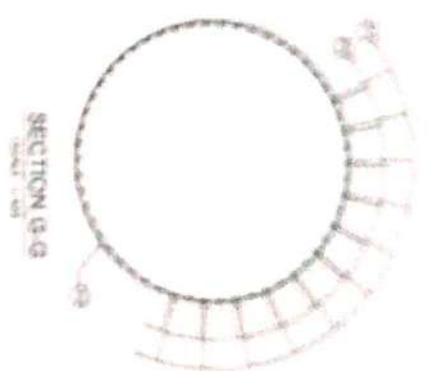
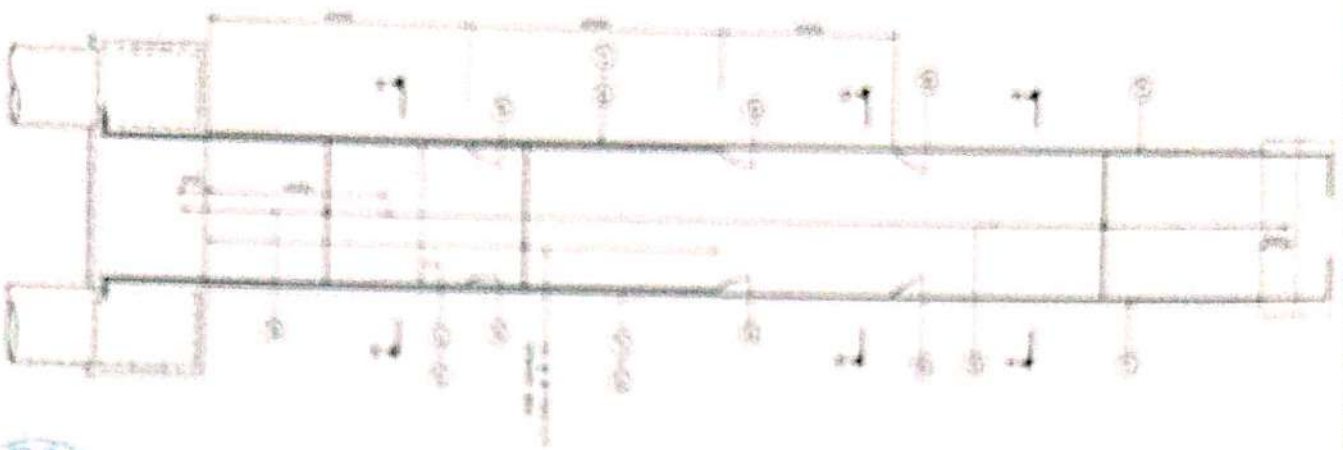
PROJECT
 CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK BETWEEN KM 106.590 TO KM 107.762 OF NH-27 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.

RESPONSIBLE BY P. N. S. **DATE** 12.04.2021

DRAWN BY S. S. **CHECKED BY** S. S.

REVISION
 1. DIMENSIONAL & REINF. DETAIL OF PIER P01 FOR CREEK BRIDGE
 CHECKED BY: S. S. DATE: 12.04.2021

REINFORCEMENT DETAILS OF PIER COLUMN



REINFORCEMENT OF PIER COLUMN

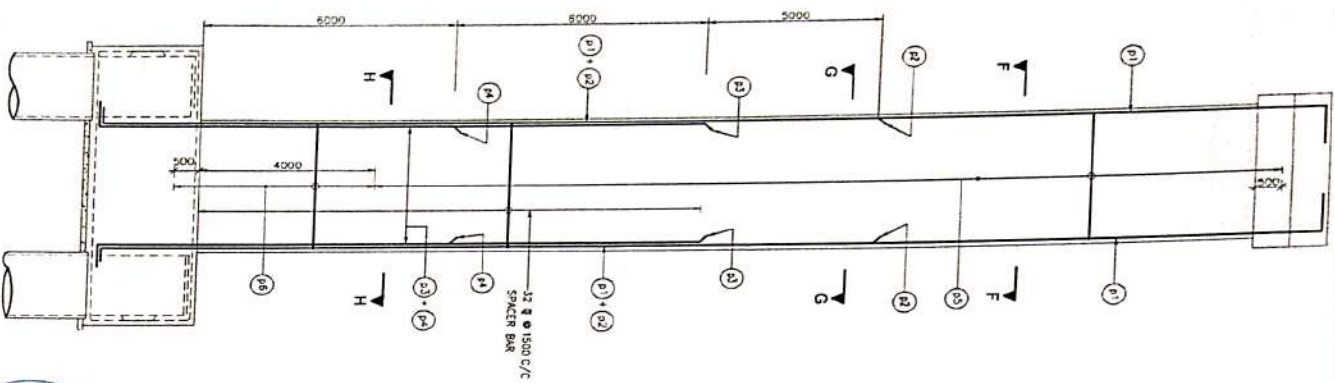
NO.	DESCRIPTION	QUANTITY	UNIT
1
2
3
4
5
6
7
8
9
10

NOTES:
 1. REINFORCEMENT SHALL BE PROVIDED AS PER THIS DRAWING.
 2. ALL REINFORCEMENT SHALL BE PROVIDED AS PER THE SPECIFICATIONS.
 3. THE REINFORCEMENT SHALL BE PROVIDED AS PER THE SPECIFICATIONS.
 4. THE REINFORCEMENT SHALL BE PROVIDED AS PER THE SPECIFICATIONS.
 5. THE REINFORCEMENT SHALL BE PROVIDED AS PER THE SPECIFICATIONS.
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 8. THE REINFORCEMENT SHALL BE PROVIDED AS PER THE SPECIFICATIONS.
 9. THE REINFORCEMENT SHALL BE PROVIDED AS PER THE SPECIFICATIONS.
 10. THE REINFORCEMENT SHALL BE PROVIDED AS PER THE SPECIFICATIONS.

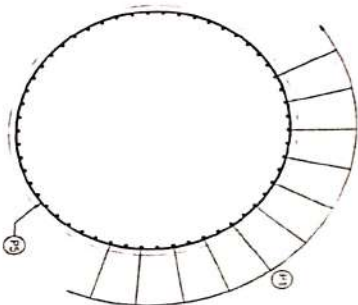
SI

PREPARED BY: ...
 CHECKED BY: ...
 APPROVED BY: ...

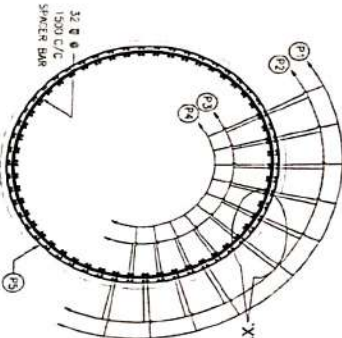
PROJECT: ...
 DRAWING NO.: ...
 DATE: ...



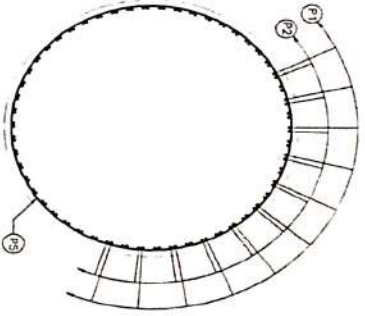
REINF. DETAILS OF PIER COLUMN
(SCALE 1:75)



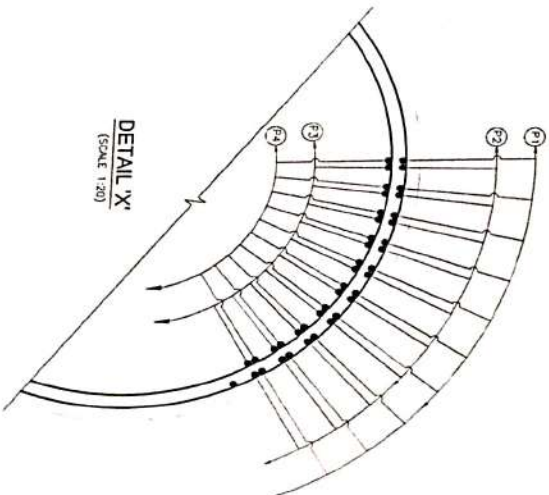
SECTION F-F
(SCALE 1:40)



SECTION H-H
(SCALE 1:40)



SECTION G-G
(SCALE 1:40)



DETAIL X-X
(SCALE 1:20)

SCHEDULE OF PIER REINFORCEMENT

BAR NO.	DIA (mm)	SPACING/Nos	SHAPE
P1	32	58 Nos	I
P2	32	58 Nos	I
P3	32	58 Nos	I
P4	32	58 Nos	I
P5	16	125 C/C	O
P6	25	75 C/C	O

- NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALD OUT WRITING DIMENSIONS SHALL BE FOLLOED.
 3. L-1, -2, -3, -4, -5, -6, -7, -8, -9, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49, -50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60, -61, -62, -63, -64, -65, -66, -67, -68, -69, -70, -71, -72, -73, -74, -75, -76, -77, -78, -79, -80, -81, -82, -83, -84, -85, -86, -87, -88, -89, -90, -91, -92, -93, -94, -95, -96, -97, -98, -99, -100, -101, -102, -103, -104, -105, -106, -107, -108, -109, -110, -111, -112, -113, -114, -115, -116, -117, -118, -119, -120, -121, -122, -123, -124, -125, -126, -127, -128, -129, -130, -131, -132, -133, -134, -135, -136, -137, -138, -139, -140, -141, -142, -143, -144, -145, -146, -147, -148, -149, -150, -151, -152, -153, -154, -155, -156, -157, -158, -159, -160, -161, -162, -163, -164, -165, -166, -167, -168, -169, -170, -171, -172, -173, -174, -175, -176, -177, -178, -179, -180, -181, -182, -183, -184, 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SI PROJECT CONSULTANT

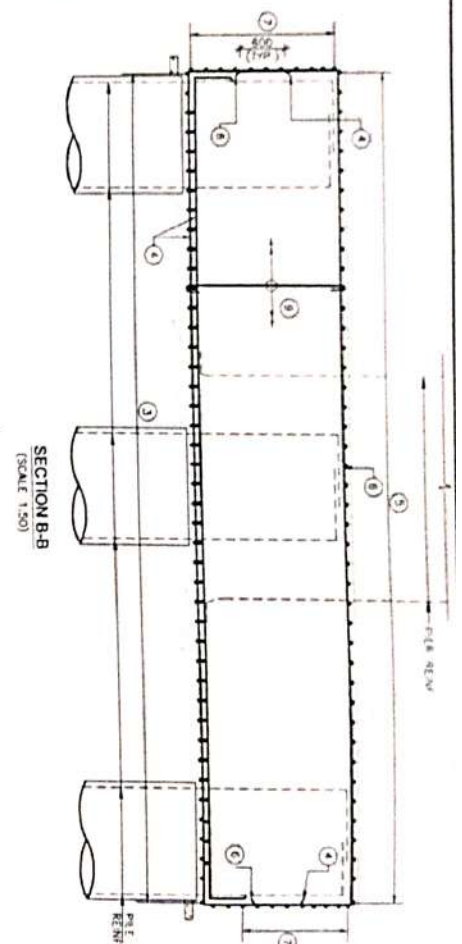
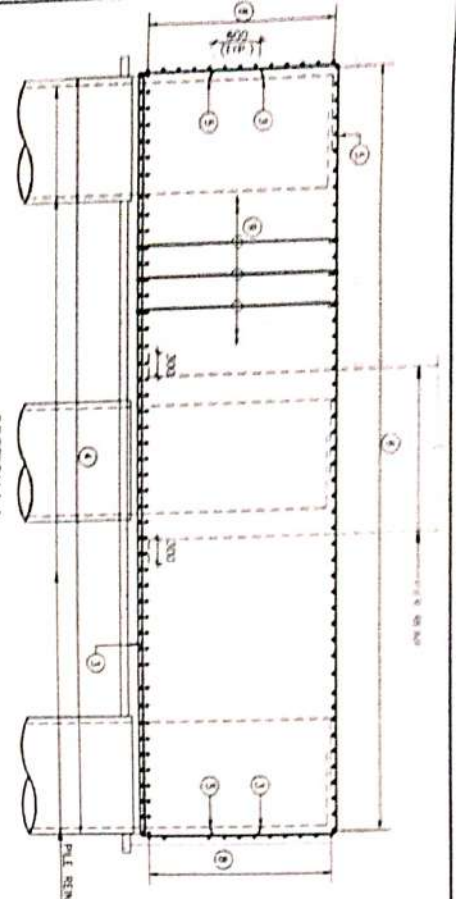
SAI INFRA PROJECT CONSULTANT

INFRATECH MANAGEMENT PVT. LTD. PROJECT CONSULTANT

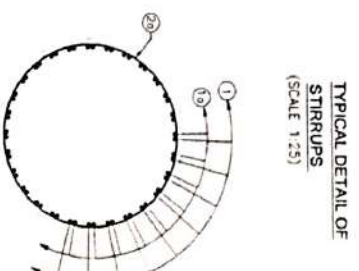
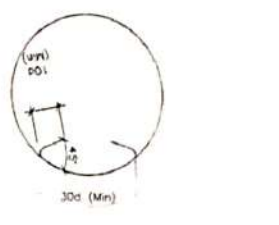
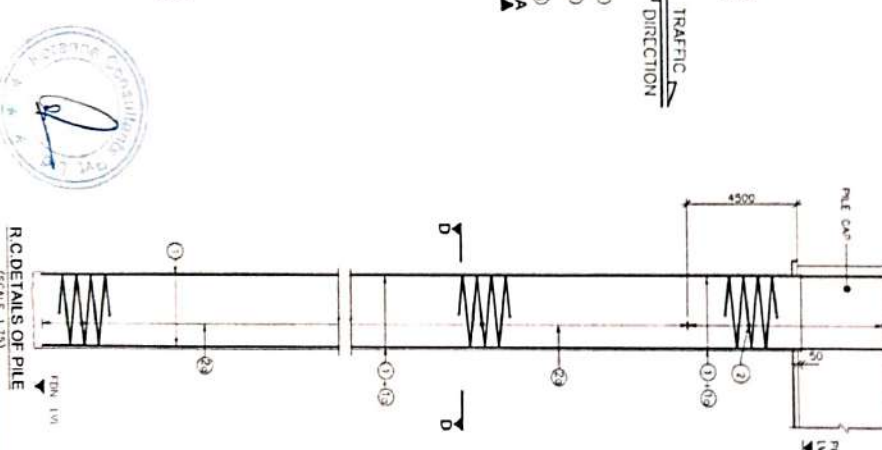
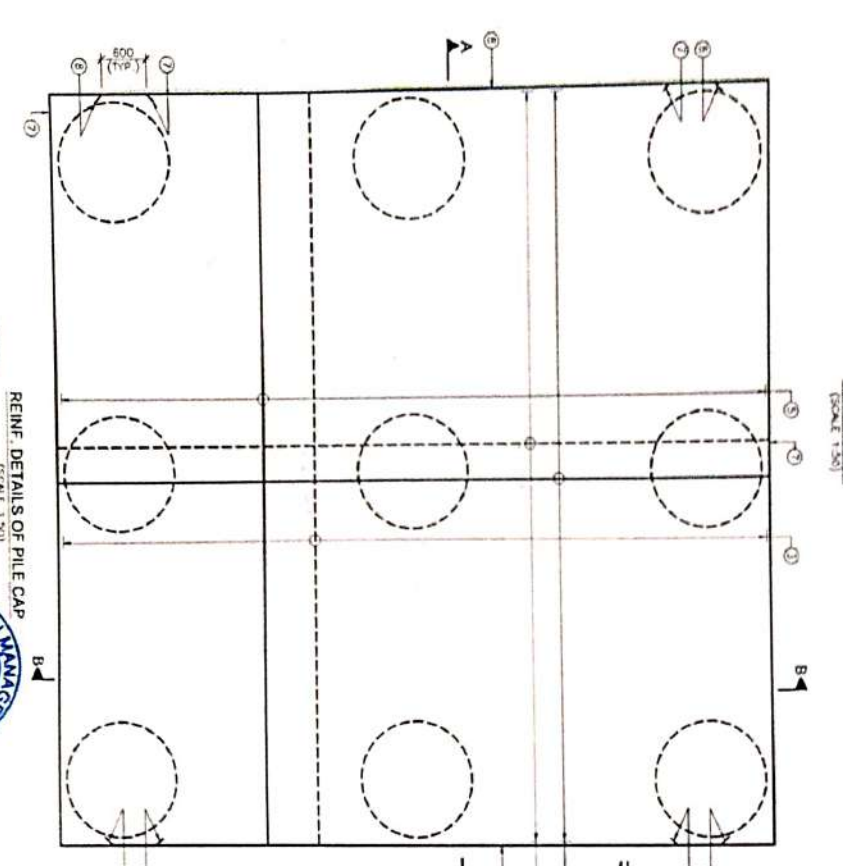
GOOD FOR PROJECT CONSULTANT

CONSTRUCTION OF MAJOR BRIDGE OVER WOODL STREET CROSS BETWEEN KM 10.500 (10+720) OF NH-213 IN THE UNION TERRITORY OF ANDHRA PRADESH

CREER-ER-209 (03 OF 03)



S/N	BAR NO	DIA (mm)	SPACING	USE
1	25	22	Var	Shaft
2	25	27	Var	Floor
3	16	125	C/C	Floor
4	28	125	C/C	Floor
5	12	125	C/C	Floor
6	12	150	C/C	Floor
7	12	150	C/C	Floor
8	12	150	C/C	Floor
9	12	150	C/C	Floor



NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS AND UNLESS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALD ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. L-1 REPRESENTS LONGITUDINAL USE OF THE BRIDGE.
4. T-1 REPRESENTS TRANSVERSE USE OF THE BRIDGE.
5. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION F-500 OR EQUIVALENT TO BE 1785 SHALL ONLY BE USED.
6. REINFORCEMENT OF PIER SHAFT S. TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETING.
7. LAP LENGTH OF REINFORCEMENT SHALL BE ADDED AS FAR AS POSSIBLE IN CASE OF REINFORCEMENT BARS UNANCHORED. DEVELOPMENT LENGTH SHALL BE CALCULATED AS FOLLOWS (AS PER SP. 112 SECTION 5) WITH MINIMUM ANCHOR LAPPING (L) OF 500 MM ONLY.
8. LAP LENGTH IS:
 - a. 1.2 FOR 25% WELDED
 - b. 1.3 FOR 50% WELDED
 - c. 1.4 FOR 100% WELDED
9. DEVELOPMENT LENGTH (l_{wd})
 - a. 48 d
 - b. 48 d FOR 405 (F40SD)
 - c. 48 d FOR 405 (F40SD)
 - d. 48 d FOR 405 (F40SD)

FOR UNANCHORED BOND CONDITION THE IS SHOULD BE MULTIPLIED BY FACTOR OF 1.4. FOR #32MM IS SHOULD BE INCREASED BY MULTIPLIER FACTOR (100) 7 NO KINKS SHALL BE FORMED IN THE BARS WHILE LAYING.

LEGEND:

—	TOP/INNER FACE
- - -	BOTTOM/OUTER FACE
---	VARIABLE LENGTH

REIN. DETAILS OF PILE CAP (SCALE 1:20)

R/C DETAILS OF PILE (SCALE 1:20)

TYPICAL DETAIL OF STRIRUPS (SCALE 1:25)

SECTION D-D (SCALE 1:30)

PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER MIDDL STRAIT CANAL BETWEEN KM 85+500 TO KM 102+500 OF NH 212 BY THE UNION TERRITORY OF ANDHRA PRADEH & MICHALAN DISTRICT.

CLIENT: PWD, GOVT. OF ANDHRA PRADEH.

DESIGNED BY: P. Naga

DRAWN BY: ANAMI

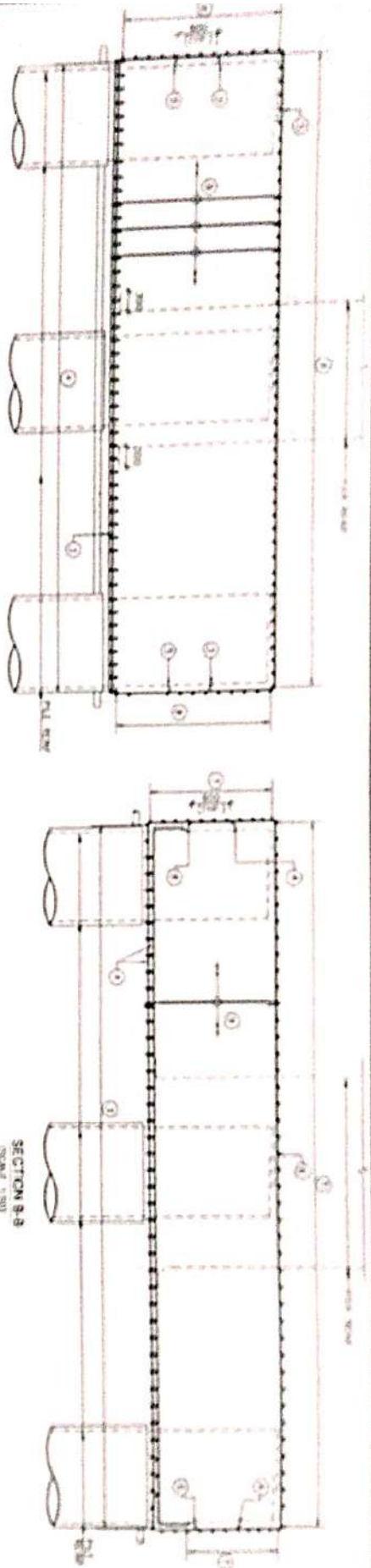
CHECKED BY: K. Srinivas

DATE: 12.04.2024

PROJECT LOCATION: MAJOR BRIDGE OVER MIDDL STRAIT CANAL BETWEEN KM 85+500 TO KM 102+500 OF NH 212 BY THE UNION TERRITORY OF ANDHRA PRADEH & MICHALAN DISTRICT.

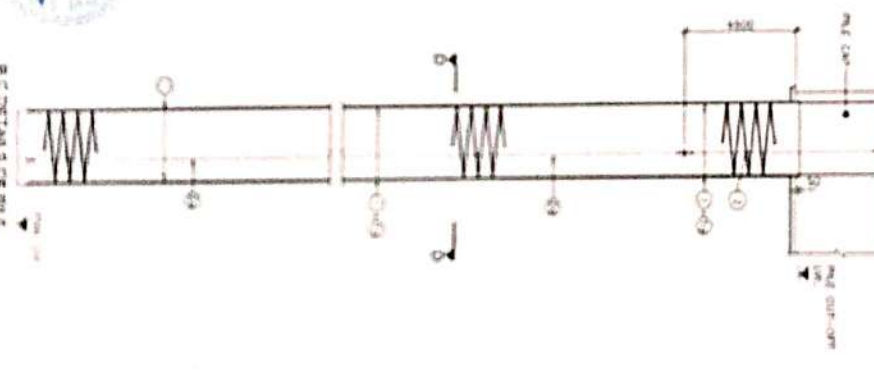
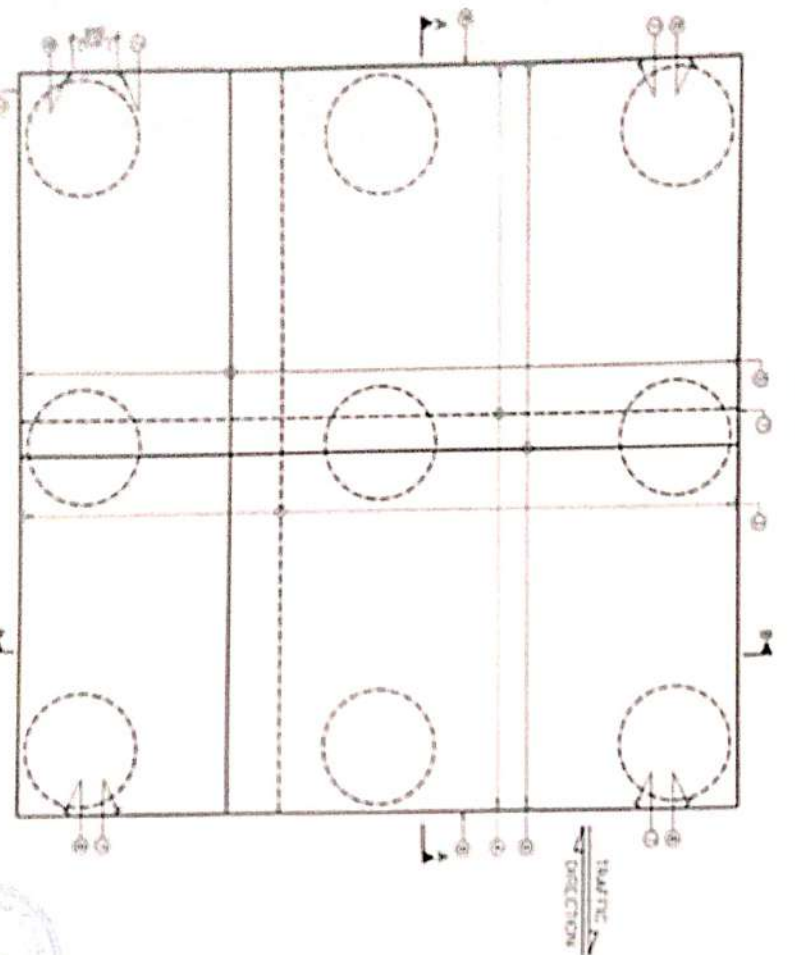
SCALE: 1:20

DATE: 12.04.2024



SCHEDULE OF PILE & PILE CAP REINFORCEMENT

NO.	BAR	SIZE	LENGTH	NO. OF BARS	REMARKS
1	1	16	22.00	4	LONGITUDINAL
2	2	16	22.00	4	LONGITUDINAL
3	3	16	22.00	4	LONGITUDINAL
4	4	16	22.00	4	LONGITUDINAL
5	5	16	22.00	4	LONGITUDINAL
6	6	16	22.00	4	LONGITUDINAL
7	7	16	22.00	4	LONGITUDINAL
8	8	16	22.00	4	LONGITUDINAL
9	9	16	22.00	4	LONGITUDINAL
10	10	16	22.00	4	LONGITUDINAL
11	11	16	22.00	4	LONGITUDINAL
12	12	16	22.00	4	LONGITUDINAL



TYPICAL DETAIL OF STRIPPERS
(SCALE 1/20)

SECTION D-D
(SCALE 1/20)

NOTES

- All reinforcement shall be as per IS 456:2000 and IS 1786:2008.
- Concrete shall be of grade M 20.
- Concrete shall be cast in layers of 150 mm.
- Concrete shall be compacted by using mechanical vibrators.
- Concrete shall be cured for 14 days.
- Concrete shall be protected by 20 mm thick concrete.
- Concrete shall be protected by 20 mm thick concrete.
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- Concrete shall be protected by 20 mm thick concrete.
- Concrete shall be protected by 20 mm thick concrete.

LEGEND

1	20	20	20
2	20	20	20
3	20	20	20
4	20	20	20
5	20	20	20
6	20	20	20
7	20	20	20
8	20	20	20
9	20	20	20
10	20	20	20
11	20	20	20
12	20	20	20

REINFORCEMENT & SECTION DETAILS OF PILE CAP

GENERAL NOTES:

1. All reinforcement shall be as per IS 456:2000 and IS 1786:2008.
2. Concrete shall be of grade M 20.
3. Concrete shall be cast in layers of 150 mm.
4. Concrete shall be compacted by using mechanical vibrators.
5. Concrete shall be cured for 14 days.
6. Concrete shall be protected by 20 mm thick concrete.
7. Concrete shall be protected by 20 mm thick concrete.
8. Concrete shall be protected by 20 mm thick concrete.
9. Concrete shall be protected by 20 mm thick concrete.
10. Concrete shall be protected by 20 mm thick concrete.
11. Concrete shall be protected by 20 mm thick concrete.
12. Concrete shall be protected by 20 mm thick concrete.
13. Concrete shall be protected by 20 mm thick concrete.
14. Concrete shall be protected by 20 mm thick concrete.
15. Concrete shall be protected by 20 mm thick concrete.

DESIGNER: [Signature]

CHECKER: [Signature]

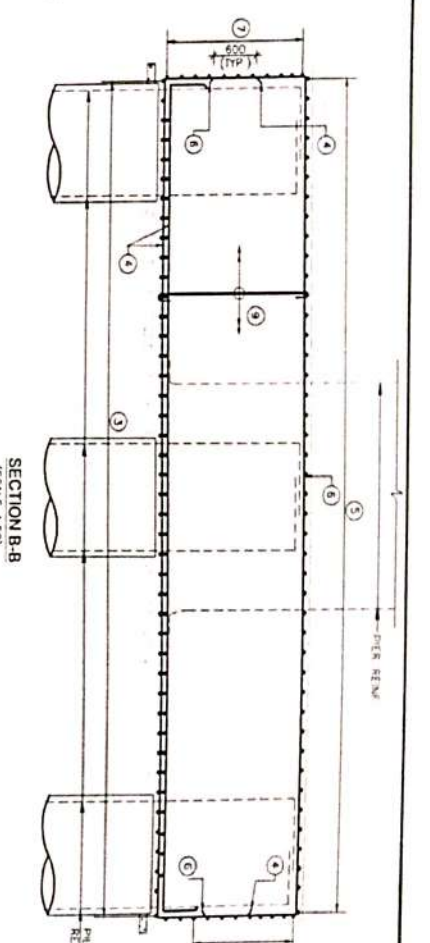
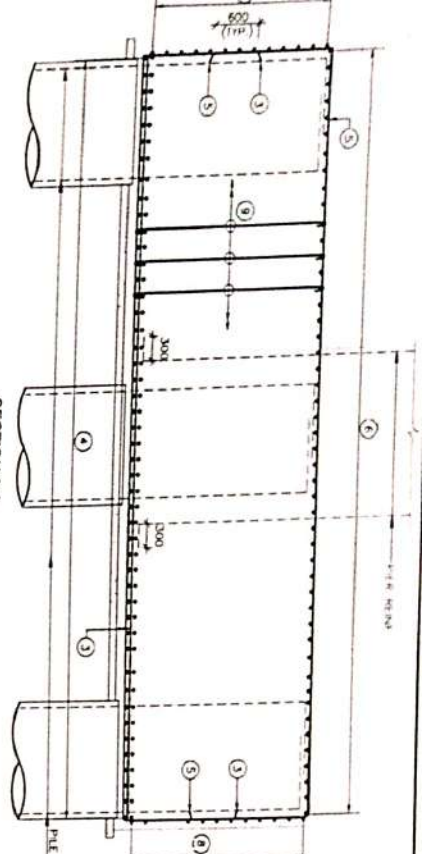
DATE: [Date]

PROJECT: [Project Name]

SCALE: [Scale]

REVISIONS:

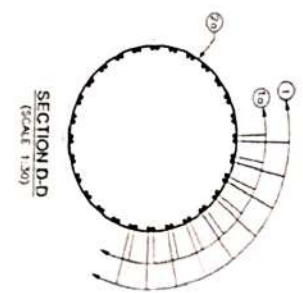
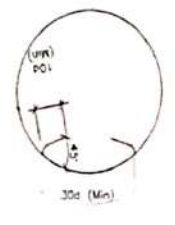
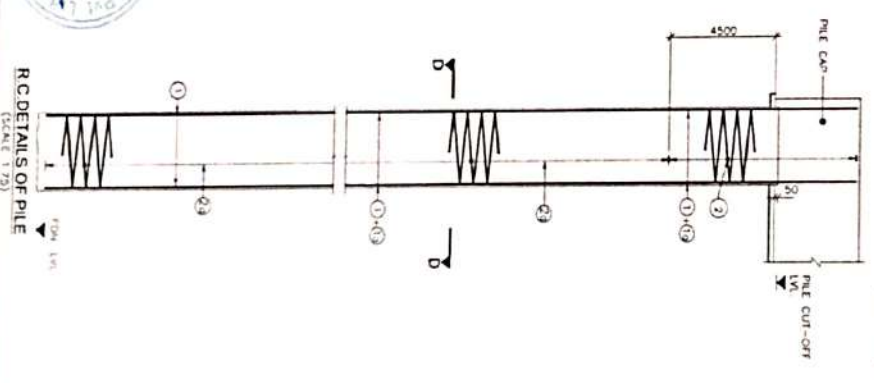
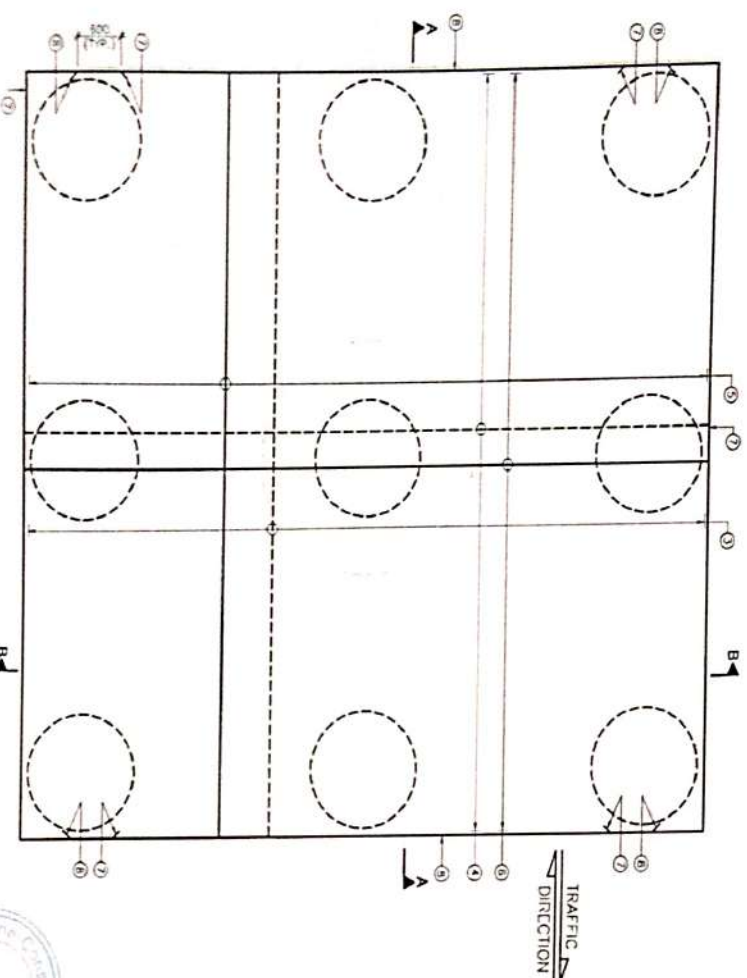
NO.	DESCRIPTION
1	ISSUED FOR TENDER
2	ISSUED FOR CONSTRUCTION



SCHEDULE OF PILE & PILE CAP REINFORCEMENT

BAR No.	DIA (mm)	SPACING/No.	SHAPE
1	25	22 Nos	Shaded
2	25	22 Nos	
3	16	125 C/C	Ø 1500
4	16	125 C/C	Ø 1500
5	20	120 C/C (2 LAYERS)	Ø 1300
6	20	120 C/C	
7	12	150 C/C	
8	12	150 C/C	
9	12	SPACING*	

* SPACING = Ø 240MM IN LONGITUDINAL DIRECTION AND 120MM C/C TRANSVERSELY

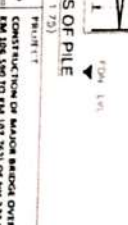


NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LENGTHS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. L-L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
4. T-T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE.
5. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE 460 SHALL BE USED.
6. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE IT'S CONCRETING.
7. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE, LAPPING OF BARS BECOMES UNAVOIDABLE, CALCULATED AS FOLLOWS (AS PER IRC: 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (L) OF 50% ONLY.
 - LAP LENGTH IS = $\frac{1}{3}$ Bond
 - = 1.15 FOR 460 MPa
 - = 1.15 FOR 253 MPa
 - = 1.15 FOR 235 MPa
 - = 1.15 FOR 215 MPa
 - = 1.15 FOR 195 MPa
 - = 1.15 FOR 175 MPa
8. DEVELOPMENT LENGTH (Sd) = $\frac{\sigma_s \times d}{4 \times \tau}$
 - Sd = $\frac{1}{3}$ Bond
 - Sd = 1.15 FOR 460 MPa
 - Sd = 1.15 FOR 253 MPa
 - Sd = 1.15 FOR 235 MPa
 - Sd = 1.15 FOR 215 MPa
 - Sd = 1.15 FOR 195 MPa
 - Sd = 1.15 FOR 175 MPa
9. FOR UNDESIRABLE BOND CONDITION, THE R SHOULD BE MULTIPLIED BY FACTOR OF 1.43 FOR 460 MPa, 1.57 FOR 253 MPa, 1.71 FOR 235 MPa, 1.86 FOR 215 MPa, 2.00 FOR 195 MPa, 2.14 FOR 175 MPa.
10. NO JOINTS SHALL BE FORMED IN THE BARS WHILE LAPPING.

LEGEND:

---	TOP/INNER FACE
---	BOTTOM/OUTER FACE
---	BOTH FACE
---	VARIABLE LENGTH



CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIGHT CHANNEL BETWEEN KM 10.5 AND KM 11.5 ON NH-223 IN THE UNION TERRITORY OF AZAD JAMMU & KASHMIR.

DESIGNED BY
MANOJ K. SINGH

CHECKED BY
R. SINGH

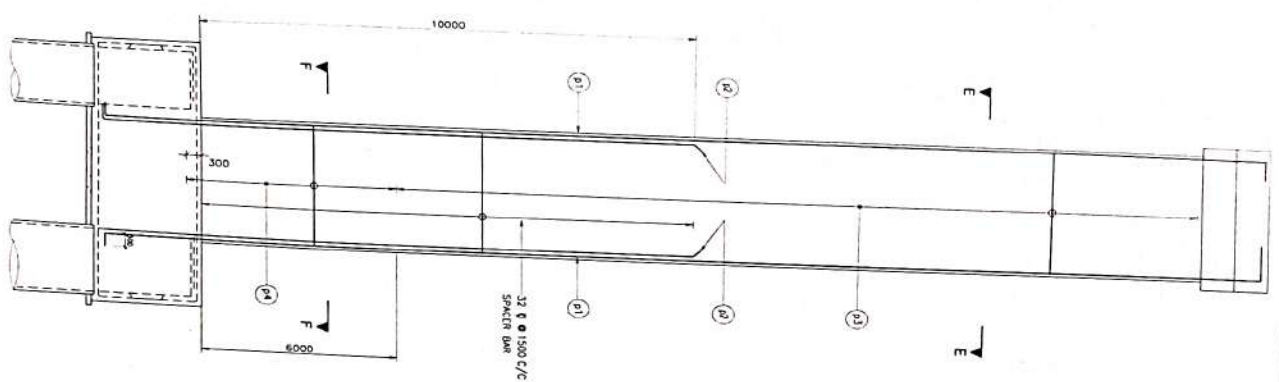
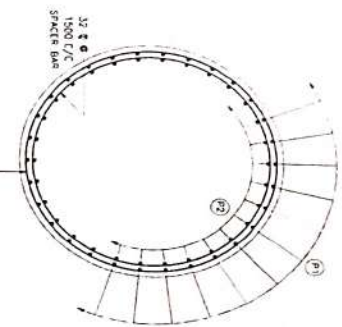
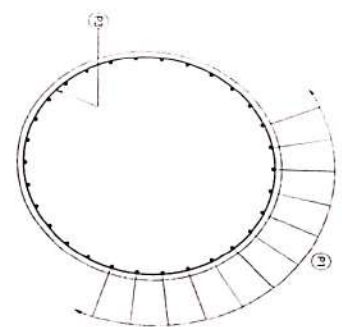
TITLE
PILE CAP REINFORCEMENT

DATE
12.04.2023

SHEET
01 OF 03

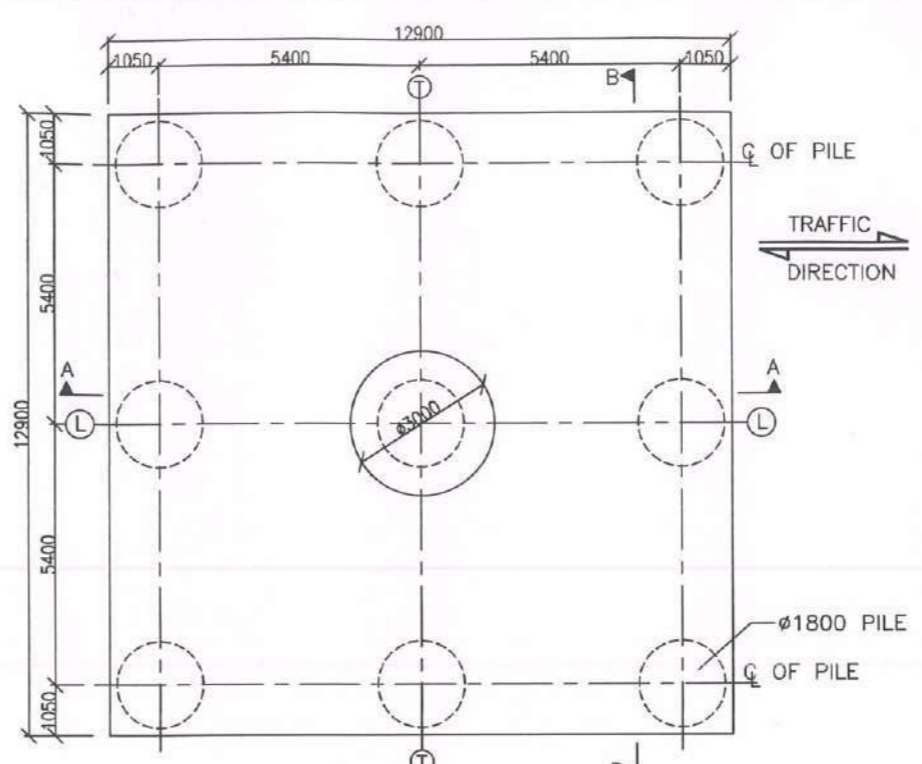
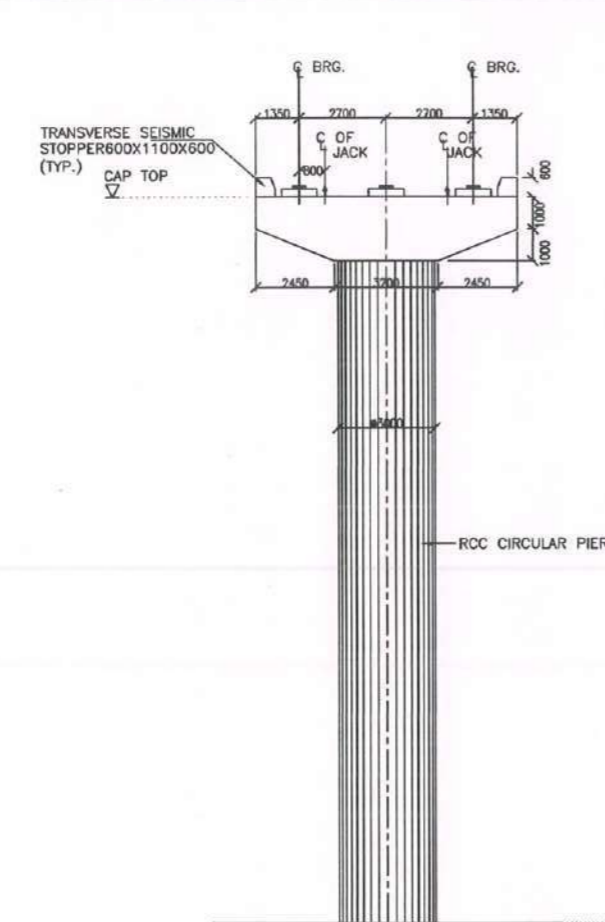
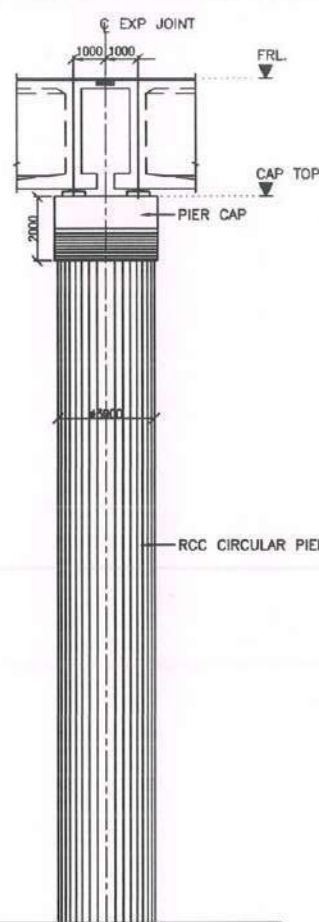
SCHEDULE OF PIER REINFORCEMENT

Slab No.	Slab Thick (mm)	Slab Area (sq. m)	Slab No.	Slab Thick (mm)	Slab Area (sq. m)
F1	25	64	1	1	64
F2	25	64	2	1	64
F3	25	64	3	1	64
F4	20	160	4	1	160



REINFORCEMENT DETAILS OF PIER COLUMN
(SCALE 1:25)

<p>S&W ENGINEERING SERVICES</p>	<p>(C)N&K&T</p>	<p>P&P</p>	<p>S&T</p>	<p>A&E</p>	<p>V&K</p>	<p>A&S</p>	<p>DESIGNED BY: F. Naji</p>	<p>TITLE: DIMENSIONAL & REINFORCEMENT DETAILS OF PIER FOR CREEK BRIDGE - P13</p>
							<p>DRAWN BY: A. Fadi</p>	
<p>PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER ARDOL STRAIT CREEK BETWEEN ARDOLAH & NUBAR ISLANDS</p>							<p>SHEET</p>	<p>DATE: MAY 2019</p>

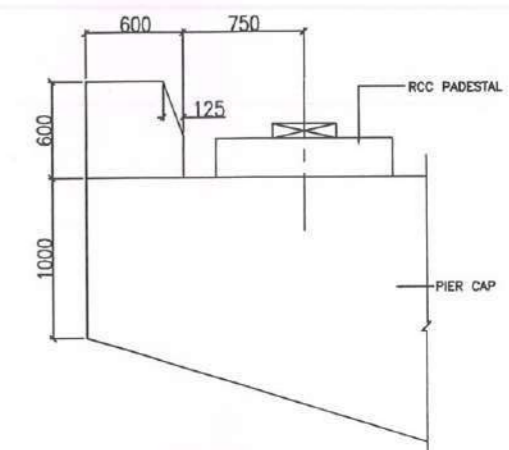


PLAN AT PILE CAP TOP
(SCALE 100)

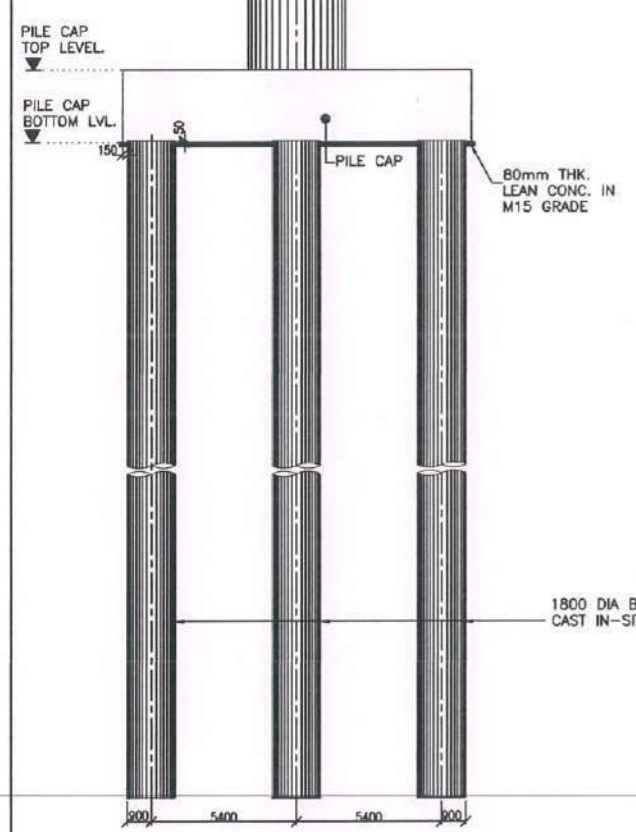
- NOTES:-**
1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
 2. NO DIMENSION SHALL BE MEASURED FROM THE DRAWINGS. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. THE REINFORCEMENT SHALL BE HYSD. BARS OF (GRADE DESIGNATION F_y 500D CRS) CONFORMING TO IS 1786-2008.
 4. CONCRETE SHALL DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC CUBE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOW:

a. RCC PIER SHAFT	M50
b. PIER CAP & STOPPER	M40
c. PEDESTAL	M50
d. PILE & PILE CAP	M40
e. PCC LEVELLING COURSE	M15
 5. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IRC:112.

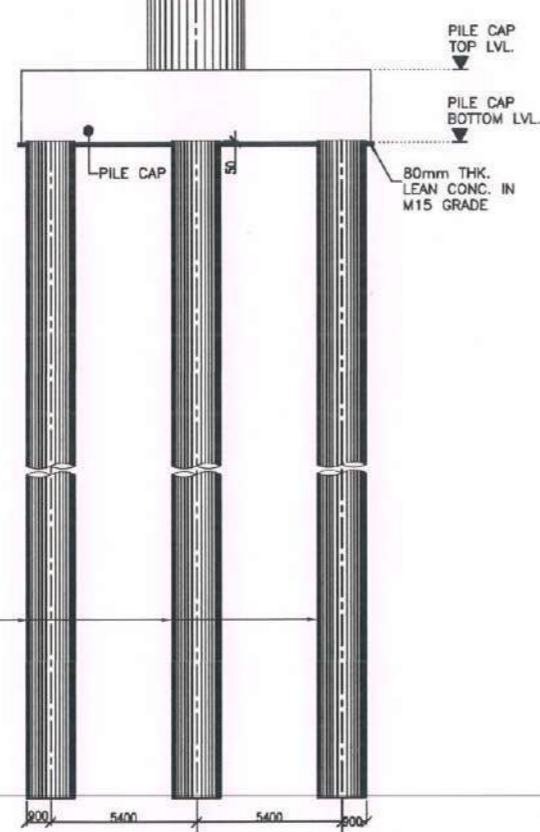
a. PILE 75mm
b. PILE CAP 75mm
c. PIER /PIER CAP 40mm
d. OTHERS 50mm
 6. CONDITION OF EXPOSURE IS MODERATE.
 7. THE LOCATION OF JACK FOR LIFTING THE SUPERSTRUCTURE TO REPLACE BEARINGS ETC. IS SHOWN. THIS SHALL BE DISTINCTLY ETCHED FOR EASY IDENTIFICATION ON THE END CROSS GIRDER AND ABUTMENT/PIER CAPS
 8. GROUND IMPROVEMENT TO BE DONE BY LIME SLURRY INJECTION FOR A DEPTH OF AT LEAST 10m BELOW THE E.G.L.
 9. CORROSION RESISTANCE STEEL & SULPHUR RESISTANT CEMENT TO BE USED.
 10. THE VERTICAL PILE LOAD CAPACITY CONSIDERED IS 900T FOR 1.8M DIA. THE SAME SHALL BE VERIFIED AT SITE BEFORE ACTUAL EXECUTION OF WORK.



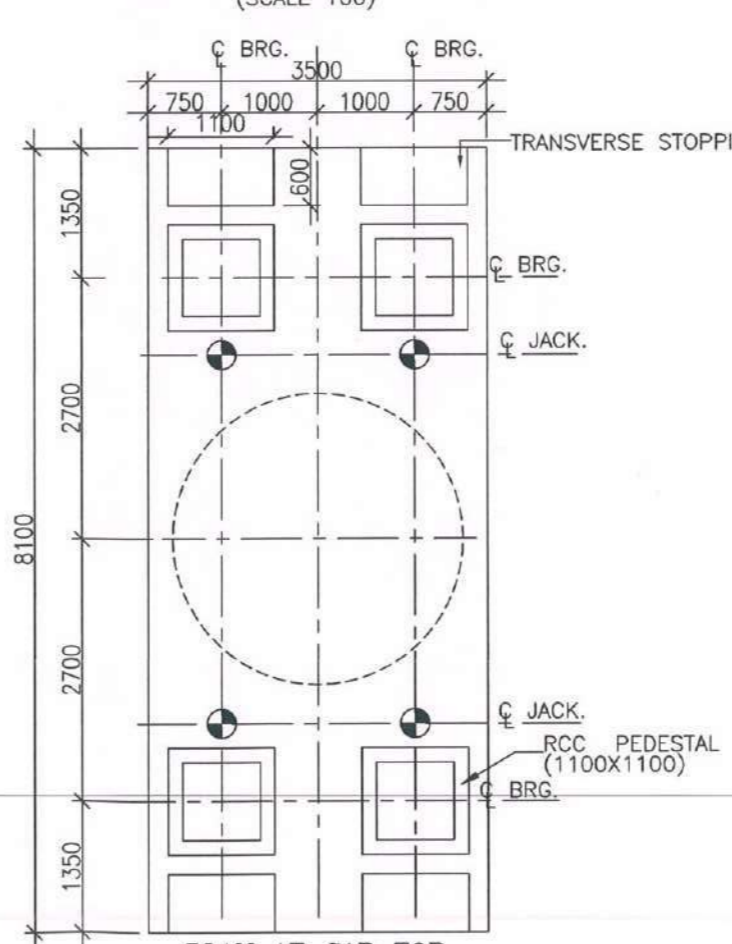
DETAILS OF TRANSVERSE SEISMIC STOPPER
(SCALE 1:30)



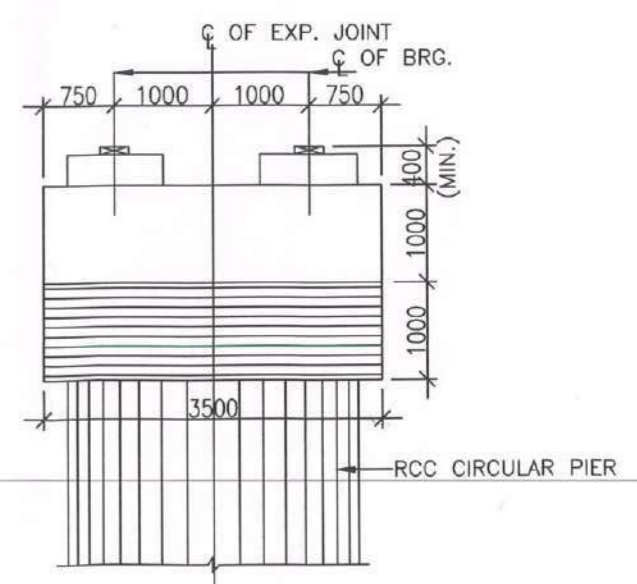
SECTION A-A
(SCALE 150)



SECTION B-B
(SCALE 150)



PLAN AT CAP TOP
(SCALE 1:50)



DETAIL OF PIER CAP
(SCALE 1:50)

SN	PIER	FRL	PIER CAP TOP LVL	PILE CAP TOP LVL	PILE CAP BOTTOM LVL
1	PC2	27.850	23.985	3.850	1.600

DESIGN CONSULTANT SALINFRA ENGINEERS AND PLANNERS	CONTRACTOR MANTENA CONSTRUCTION PVT LTD	PROJECT CHECK CONSULTANT TECH MANAGEMENT PVT LTD	SAFETY CONSULTANT KORAM CONSULTANTS PVT LTD	AUTHORITY ENGINEER YOUGMA ENGINEERING CO LTD ASSOCIATION WITH TECHNICO CONSULTANCY SERVICES PVT LTD	CLIENT - NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED	PROJECT CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK (BETWEEN KM 106.590 TO KM 107.762) OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.	DESIGNED BY: P.Negi		TITLE DIMENSIONAL & REINF.DETAIL OF PIER PC2 FOR CREEK BRIDGE
							DRAWN BY: Ankit		
CHECKED BY: R.Agrahar								SHEET 01 OF 03	DATE: JAN 2022

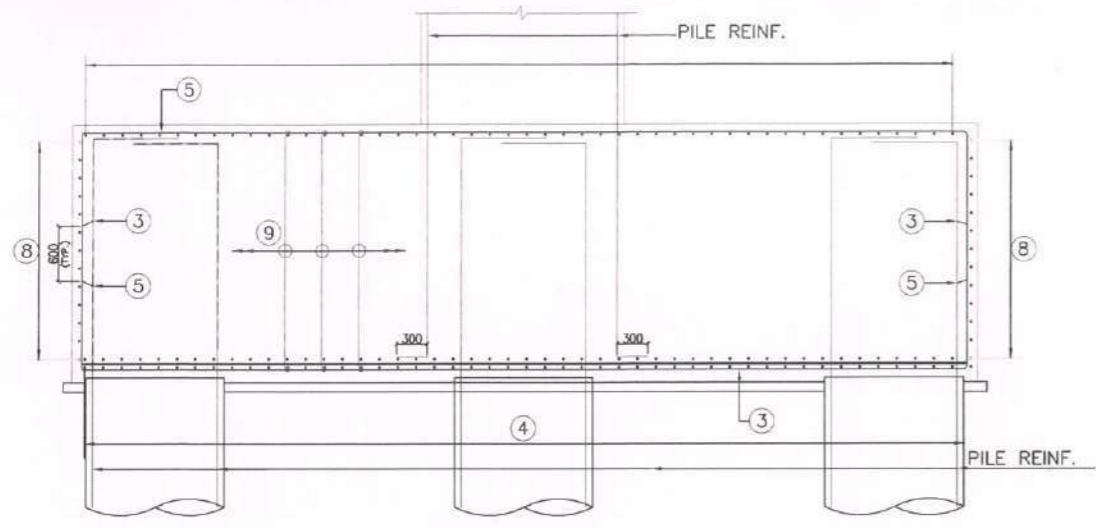
SCHEDULE OF PILE & PILE CAP REINFORCEMENT

BAR MARK	DIA (mm)	SPACING /Nos.	SHAPE
1	32	26 Nos.	
1a	32	26 Nos.	
1b	32	26 Nos.	
2	16	125 C/C	○ 1300
2a	10	125 C/C	○ 1300
3	32	125 C/C (2LAYERS)	┌───┐
4	32	125 C/C (2LAYERS)	┌───┐
5	20	125 C/C	┌───┐
6	20	125 C/C	┌───┐
7	10	150 C/C	┌───┐
8	10	150 C/C	┌───┐
9	12	SPACING*	┌───┐

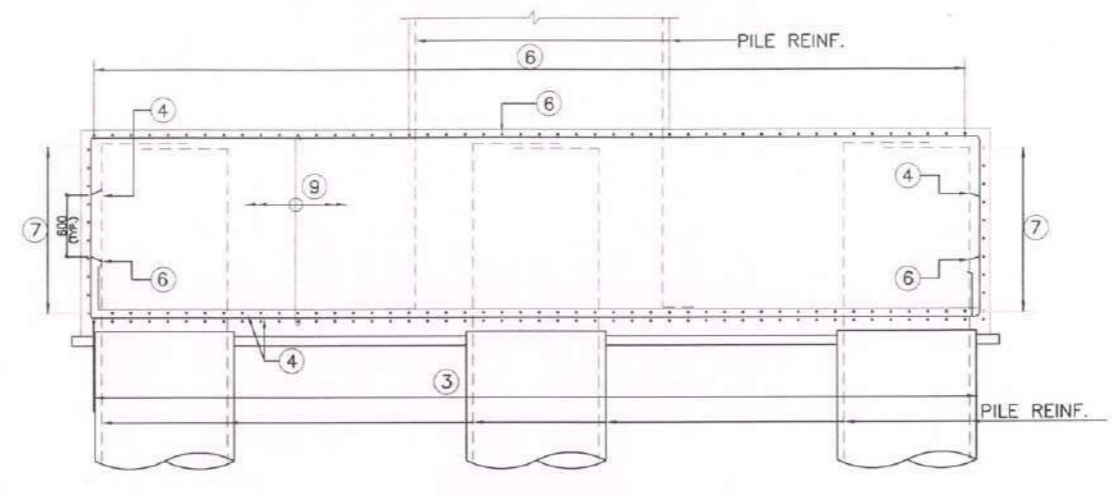
SPACING* = @250MM IN LONGITUDINAL DIRECTION AND 250MM C/C TRANSVERSELY

NOTES:

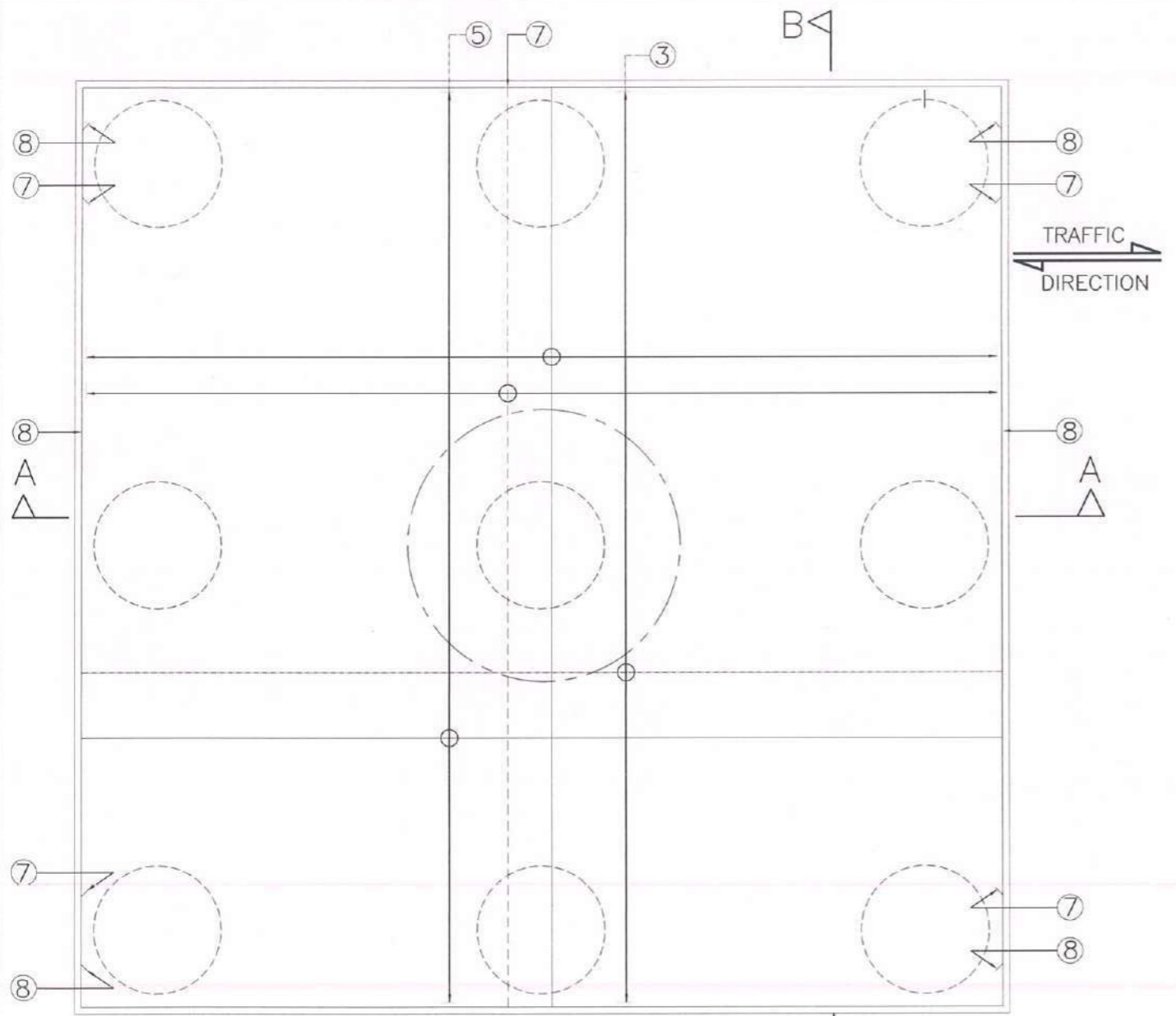
- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
- DIMENSIONS ARE NOT TO BE SCALED AND ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
- L-L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE T-T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
- HIGH YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION Fe-500D CRS CONFORMING TO IS:1786 SHALL ONLY BE USED.
- REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE IT'S CONCRETING.
- LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOWS (AS PER IRS:112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50% ONLY
 $LAP LENGTH l_s = a_1 \cdot l_{bnet}$
 $a_1 = 1.0$ FOR $p\% < 25\%$
 $a_1 = 1.15$ FOR $25\% < p\% < 33\%$
 $a_1 = 1.14$ FOR $33\% < p\% < 50\%$
 (IRC:112-2011, CLAUSE:15.2.3.3)
 DEVELOPMENT LENGTH (l_{bnet})
 $l_{bnet} = a \cdot l_b$ ($a=1.0$)
 $l_b = k \cdot d$
 $k = 40$ FOR M30 (Fe500D)
 $k = 36$ FOR M35 (Fe500D)
 $k = 34$ FOR M40 (Fe500D)
 FOR UNFAVORABLE BOND CONDITION THE l_b SHOULD BE MULTIPLIED BY FACTOR OF 1.43. FOR $d > 32mm$ l_b SHOULD BE INCREASED BY MULTIPLYING FACTOR (100/132-f).
 THE LAP ANCHORAGE LENGTH TO BE INCREASED BY 25% AS PER 18.2.3.2 OF IRC 112 FOR EPOXY COATED REINFORCEMENT.
- NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.
- GROUND IMPROVEMENT TO BE DONE BY LIME SLURRY INJECTION FOR A DEPTH OF AT LEAST 10m BELOW THE E.G.L.
- CORROSION RESISTANCE STEEL & SULPHUR RESISTANT CEMENT TO BE USED.



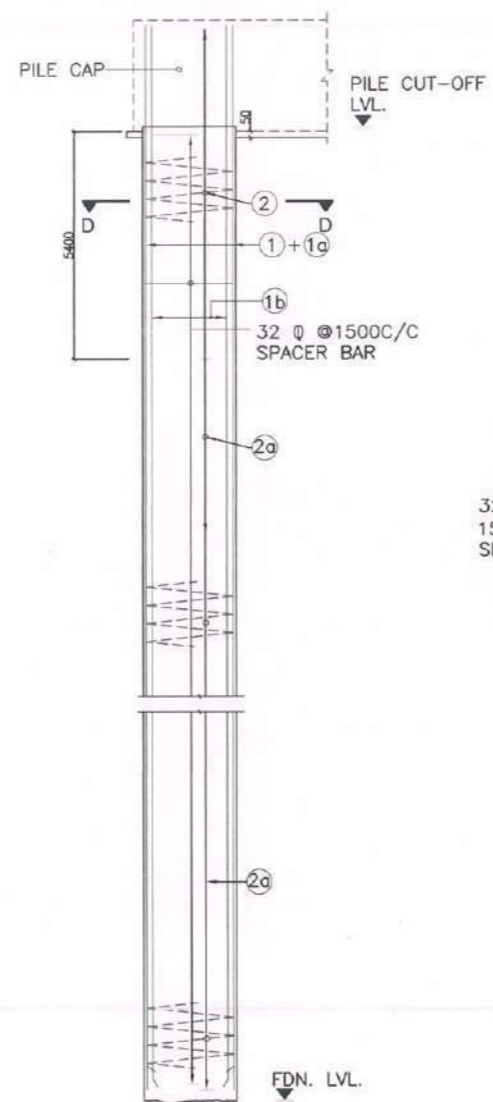
SECTION A-A
(SCALE 1:50)



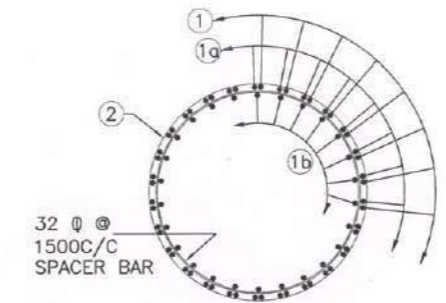
SECTION B-B
(SCALE 1:50)



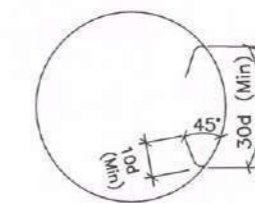
REINF. DETAILS OF PIPE CAP
(SCALE 1:50)



R.C. DETAILS OF PILE
(SCALE 1:50)



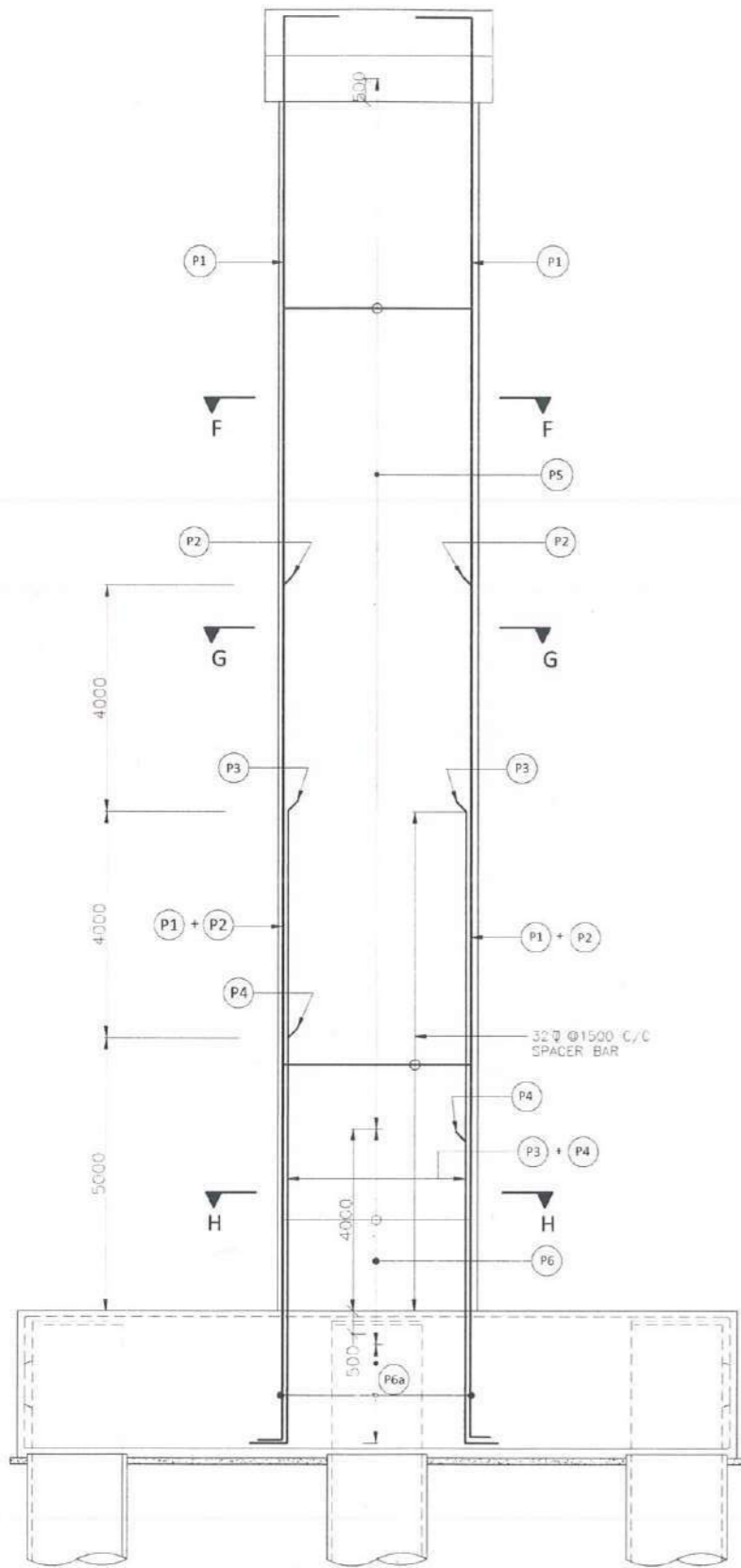
SECTION D-D
(SCALE 1:50)



TYPICAL DETAIL OF STIRRUPS
(SCALE 1:50)

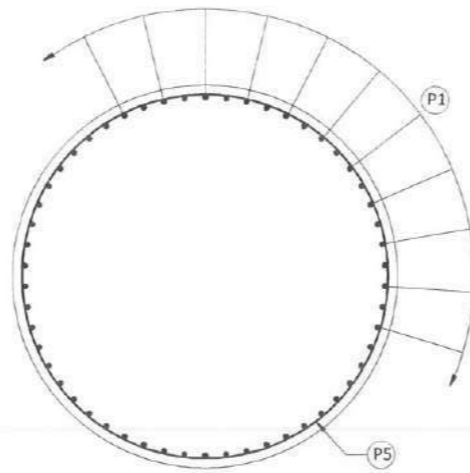
LEGEND	
—	TOP/EARTH FACE
—	BOTTOM/OUTER FACE
B/F	BOTH FACE
V.L	VARYING LENGTH

 DESIGN CONSULTANT 1413, 3TB Enclave, Delhi-110030 Ph: +91-9619905183 Email: saiiinfra19@gmail.com	 CONTRACTOR Mantena House 2-56/33/12A Khandasmal, Madhapur Hyderabad	 PROJECT CHECK CONSULTANT 307, 3rd Floor, Noida Plot No. C-19, Rd. No. 18/1 Wazirpur East, Noida-201301 Tel: 91-11-26105500 Email: saghaziabad@gmail.com	 AUTHORITY ENGINEER YOUNGMA ENGINEERING CO.LTD ASSOCIATION WITH TECHNIKO CONSULTANCY SERVICES PVT.LTD	 CLIENT - 3rd Floor, PTI Building 4-Parliament Street New Delhi-Delhi-110001	PROJECT CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK [BETWEEN KM 106.590 TO KM 107.762] OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.	DESIGNED BY: P.Negi DRAWN BY: Ankit CHECKED BY: R.Agrahari	TITLE: DIMENSIONAL & REINF.DETAIL OF PIER PC2 FOR CREEK BRIDGE DRAWING NO: CREEK-BR - 214 SHEET 02 OF 03 DATE: JAN 2022
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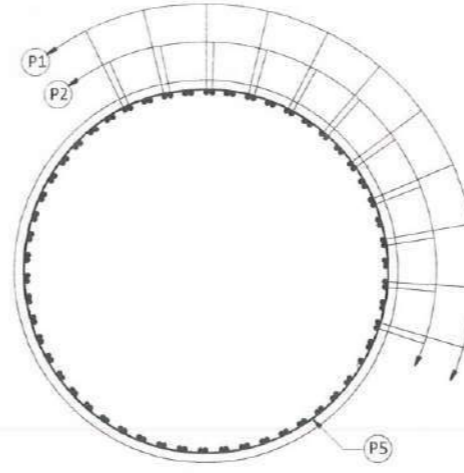
REINF. DETAILS OF PIER COLUMN

(SCALE 1:100)



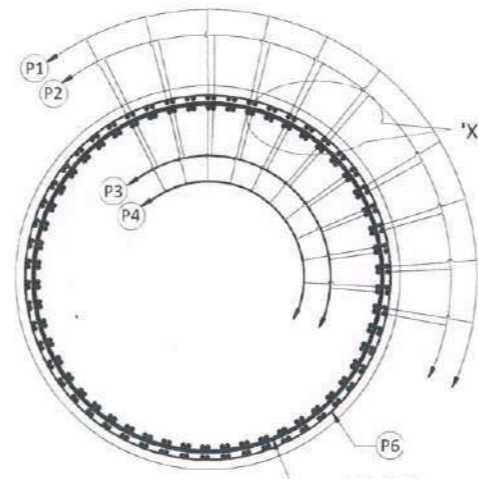
SECTION F-F

(SCALE 1:40)



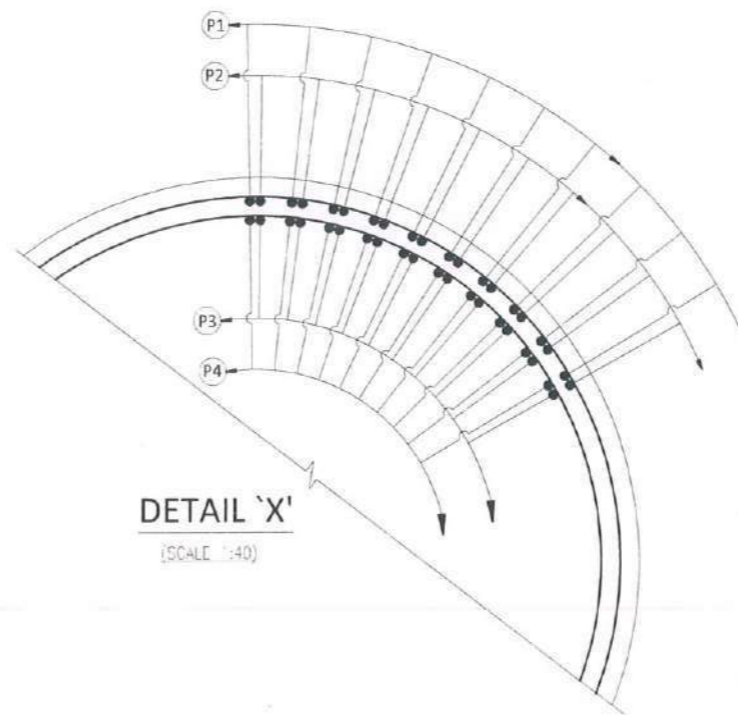
SECTION G-G

(SCALE 1:40)



SECTION H-H

(SCALE 1:40)



DETAIL 'X'

(SCALE 1:40)

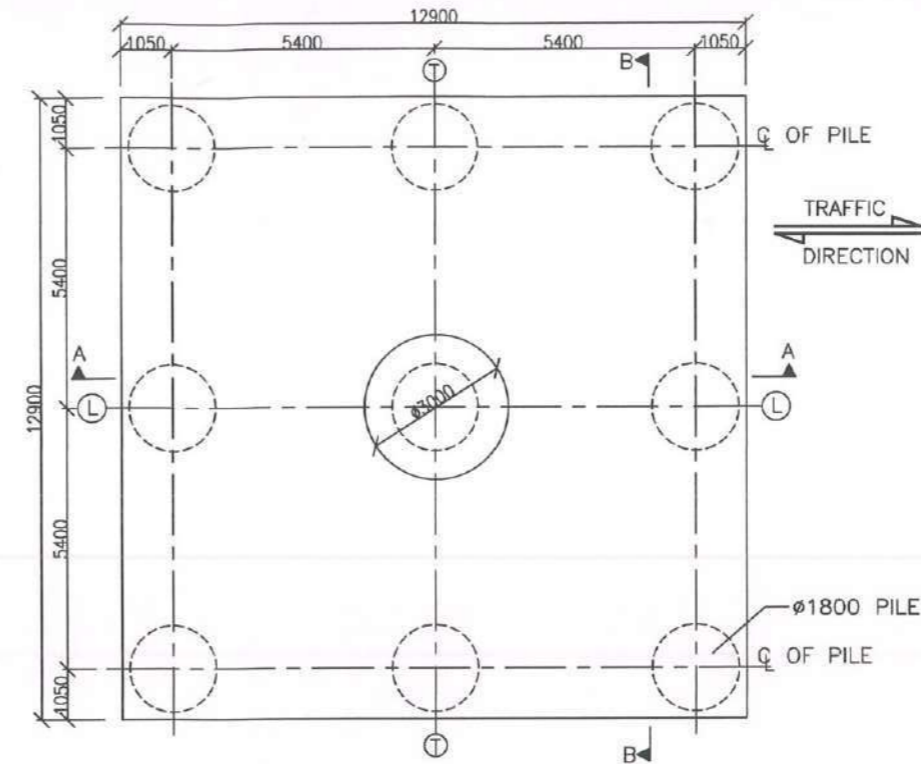
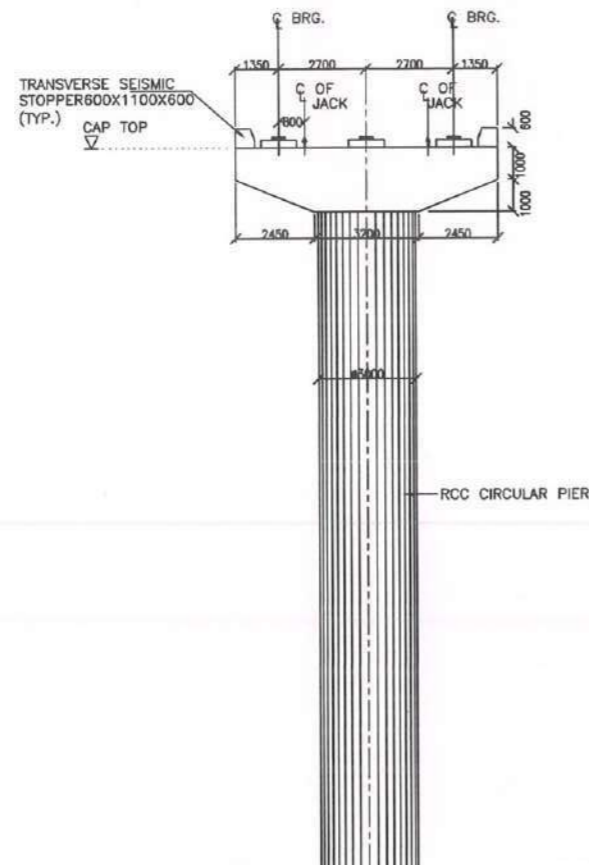
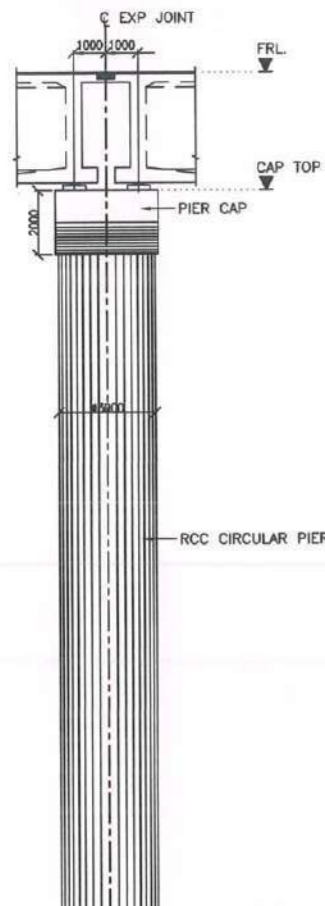
NOTES

- ALL DIMENSIONS ARE IN MILLIMETERS, AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
- DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- L-L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
T-T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
- HIGH YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION Fe-500 CRS CONFORMING TO IS: 1786 SHALL ONLY BE USED.
- REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETING.
- LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE CALCULATED AS FOLLOWS (AS PER IRC: 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (e) OF 50% ONLY.
LAP LENGTH $l_s = a \cdot l_{bnet}$
 $a_1 = 1.0$ for $p\% < 25\%$
 $a_1 = 1.15$ for $25\% < p\% < 33\%$
 $a_1 = 1.4$ for $33\% < p\% < 50\%$
DEVELOPMENT LENGTH (l_{bnet})
 $l_{bnet} = a \cdot l_b$ ($a=1.0$)
 $l_b = k \sigma_s / f_y$
 $k = 40$ FOR M30 (Fe500D)
 $k = 36$ FOR M35 (Fe500D)
FOR UNFAVORABLE BOND CONDITION THE l_b SHOULD BE MULTIPLY BY FACTOR OF 1.43 FOR $\phi > 32mm$ l_b SHOULD BE INCREASED BY MULTIPLYING FACTOR (100/132- ϕ).
- THE LAP ANCHORAGE LENGTH TO BE INCREASED BY 25% AS PER 18.2.3.2 OF IRC 112 FOR EPOXY COATED REINFORCEMENT.
- NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.
- GROUND IMPROVEMENT TO BE DONE BY LIME SLURRY INJECTION FOR A DEPTH OF AT LEAST 10m BELOW THE E.G.L.
- CORROSION RESISTANCE STEEL & SULPHUR RESISTANT CEMENT TO BE USED.

SCHEDULE OF PIER REINFORCEMENT

BAR MKD.	DIA (MM)	SPACING/Nos	SHAPE
P1	32	54 Nos	L
P2	32	54 Nos	L
P3	32	54 Nos	L
P4	32	54 Nos	L
P5	16	125 C/C	○
P6	32	100 C/C	○
P6c	12	200 C/C	○

DESIGN CONSULTANT S4I INFRA ENGINEERS AND PLANNERS 1411, GTR, Dabholi, Dist. 110003 Ph: 91 9816072514 Email: s4i@rediffmail.com	CONTRACTOR MANTENA CONSTRUCTION PVT LTD Mantena House, 37543374 Khanapur, Madhav Hydrabad	PROJECT CHECK CONSULTANT DSD DISTRIBUTION MANAGEMENT PVT LTD DSD, JALSAHABAD DSD, JALSAHABAD Ph: 91 9816072514 Email: s4i@rediffmail.com	SAFETY CONSULTANT NAGARAJ CONSULTANTS PVT LTD 1411, GTR, Dabholi, Dist. 110003 Ph: 91 9816072514 Email: s4i@rediffmail.com	AUTHORITY ENGINEER YOUSANG ENGINEERING CO. LTD ASSOCIATION WITH TECHNICAL CONSULTANCY SERVICES PVT. LTD.	CLIENT - 3rd Floor PTI Building 45, Parliament Street, New Delhi, Delhi-110001 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED	PROJECT CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK (BETWEEN KM 106.590 TO KM 107.762) OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.	DESIGNED BY P.Negi	DRAWN BY Ankit	CHECKED BY R. Agrahari	TITLE DIMENSIONAL & REINF. DETAIL OF PIER PC2 FOR CREEK BRIDGE	DRAWING NO CREEK-BR - 214	SHEET 03 OF 03	DATE: JAN 2022
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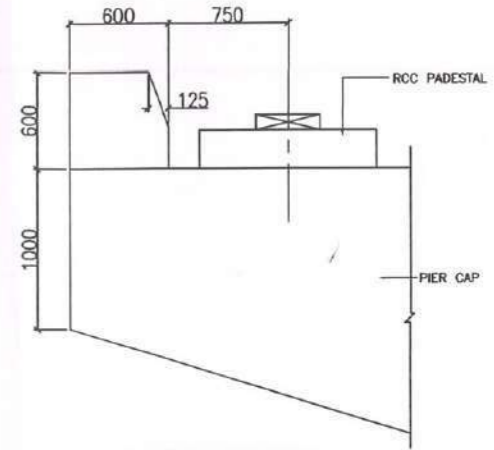


PLAN AT PILE CAP TOP
(SCALE 100)

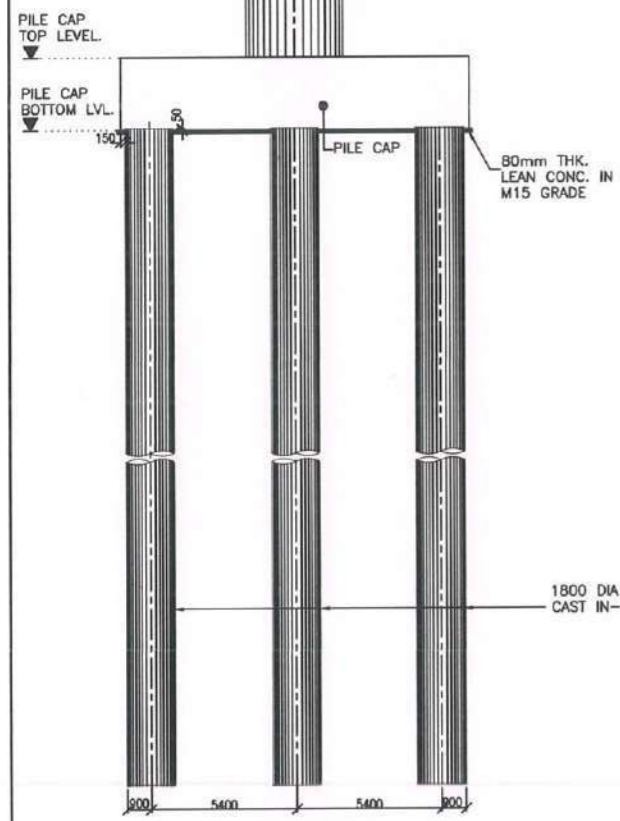
- NOTES:-**
1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
 2. NO DIMENSION SHALL BE MEASURED FROM THE DRAWINGS. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. THE REINFORCEMENT SHALL BE HYSD. BARS OF (GRADE DESIGNATION F_a 500D CRS) CONFORMING TO IS 1786-2008.
 4. CONCRETE SHALL DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC CUBE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOW:

a. RCC PIER SHAFT	M50
b. PIER CAP & STOPPER	M40
c. PEDESTAL	M50
d. PILE & PILE CAP	M40
e. PCC LEVELLING COURSE	M15
 5. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IRC:112.

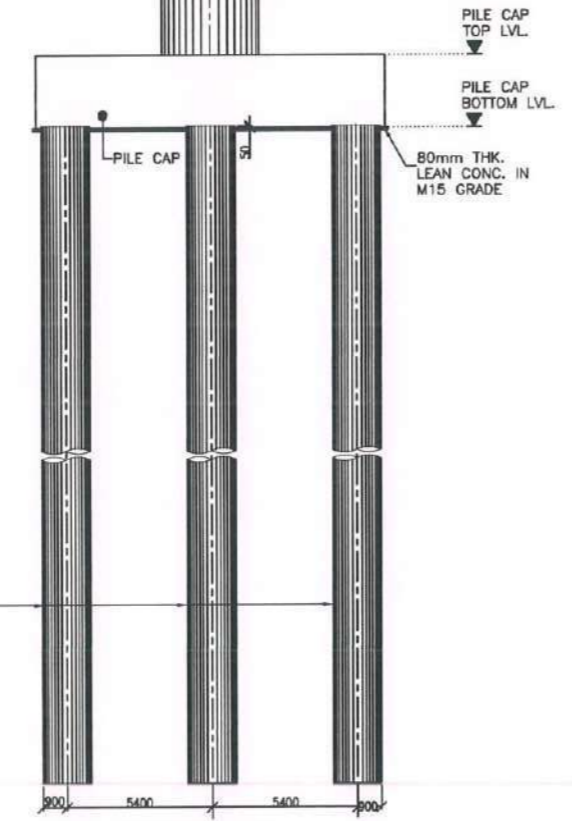
a. PILE	75mm
b. PILE CAP	75mm
c. PIER / PIER CAP	40mm
d. OTHERS	50mm
 6. CONDITION OF EXPOSURE IS MODERATE.
 7. THE LOCATION OF JACK FOR LIFTING THE SUPERSTRUCTURE TO REPLACE BEARINGS ETC. IS SHOWN. THIS SHALL BE DISTINCTLY ETCHED FOR EASY IDENTIFICATION ON THE END CROSS GIRDER AND ABUTMENT/PIER CAPS
 8. GROUND IMPROVEMENT TO BE DONE BY LIME SLURRY INJECTION FOR A DEPTH OF AT LEAST 10m BELOW THE E.G.L.
 9. CORROSION RESISTANCE STEEL & SULPHUR RESISTANT CEMENT TO BE USED.
 10. THE VERTICAL PILE LOAD CAPACITY CONSIDERED IS 900T FOR 1.8M DIA. THE SAME SHALL BE VERIFIED AT SITE BEFORE ACTUAL EXECUTION OF WORK.



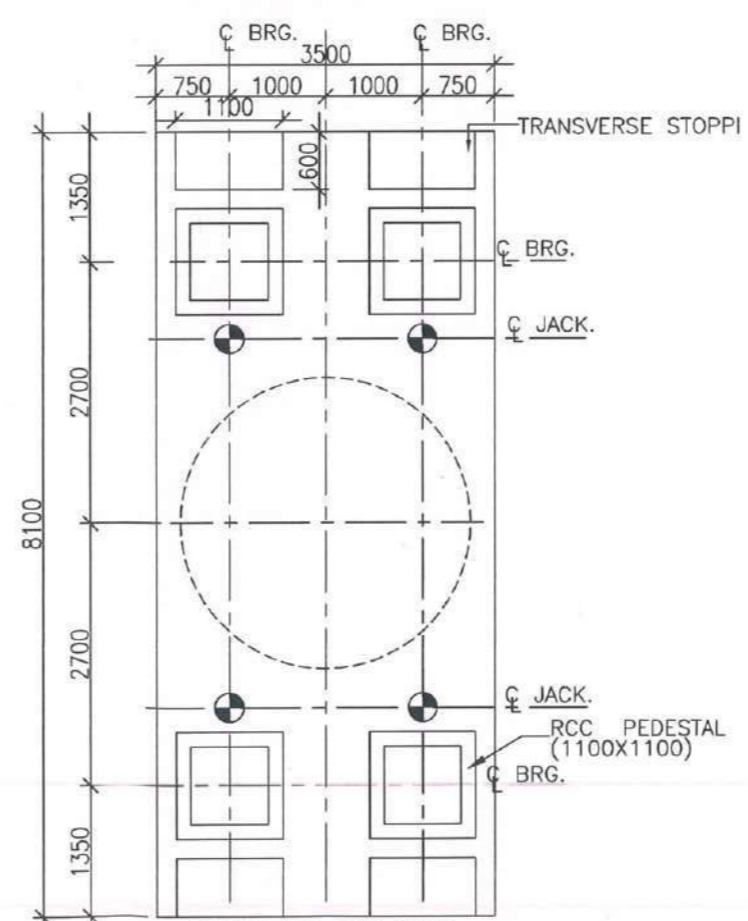
DETAILS OF TRANSVERSE SEISMIC STOPPER
(SCALE 1:30)



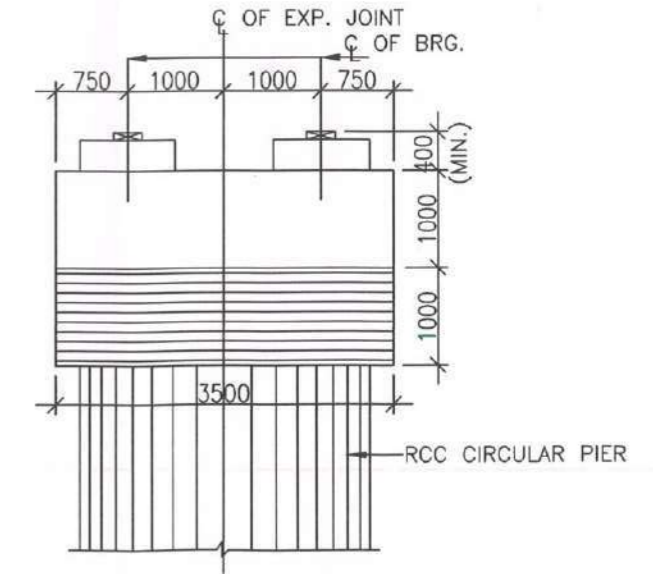
SECTION A-A
(SCALE 150)



SECTION B-B
(SCALE 150)



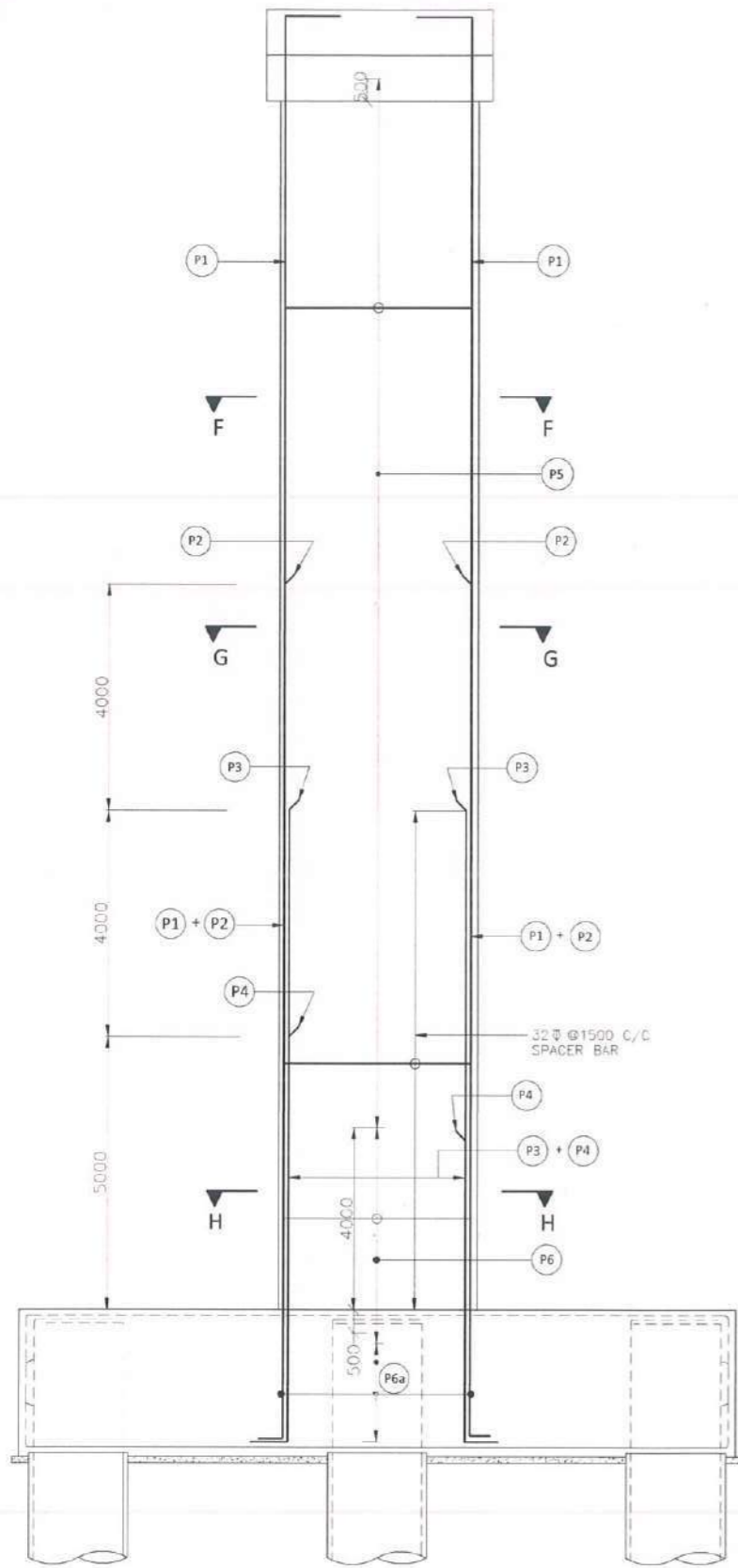
PLAN AT CAP TOP
(SCALE 1:50)



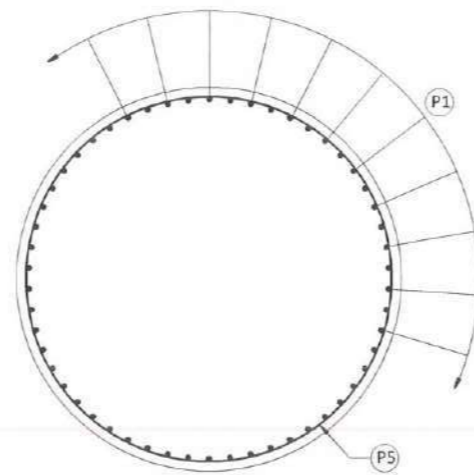
DETAIL OF PIER CAP
(SCALE 1:50)

SN	PIER	FRL	PIER CAP TOP LVL	PILE CAP TOP LVL	PILE CAP BOTTOM LVL
PC4	27.850	23.985	3.850	1.600	

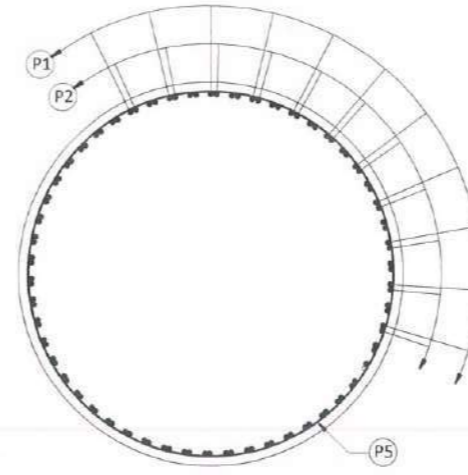
DESIGN CONSULTANT SAI INFRA ENGINEERS AND PLANNERS	CONTRACTOR MANTENA CONSTRUCTION PVT LTD	PROJECT CHECK CONSULTANT PSD TECHNOMANAGEMENT PVT. LTD.	SAFETY CONSULTANT KORANGA CONSULTANTS PVT LTD	AUTHORITY ENGINEER YOUSAMA ENGINEERING CO. LTD ASSOCIATION WITH TECHNICO CONSULTANCY SERVICES PVT. LTD.	CLIENT - NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED	PROJECT CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK (BETWEEN KM 106.500 TO KM 107.762) OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.	DESIGNED BY: P.Negi	TITLE: DIMENSIONAL & REINF. DETAIL OF PIER PC3 FOR CREEK BRIDGE
							DRAWN BY: Ankit	DRAWING NO: CREEK-BR - 213
							CHECKED BY: R.Agrahar	SHEET: 01 OF 03
								DATE: JAN 2022



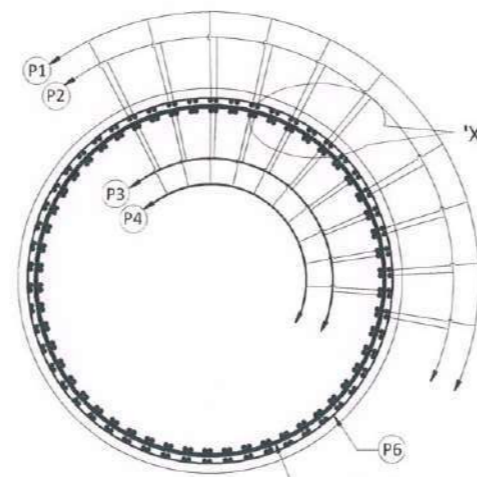
REINF. DETAILS OF PIER COLUMN
(SCALE 1:100)



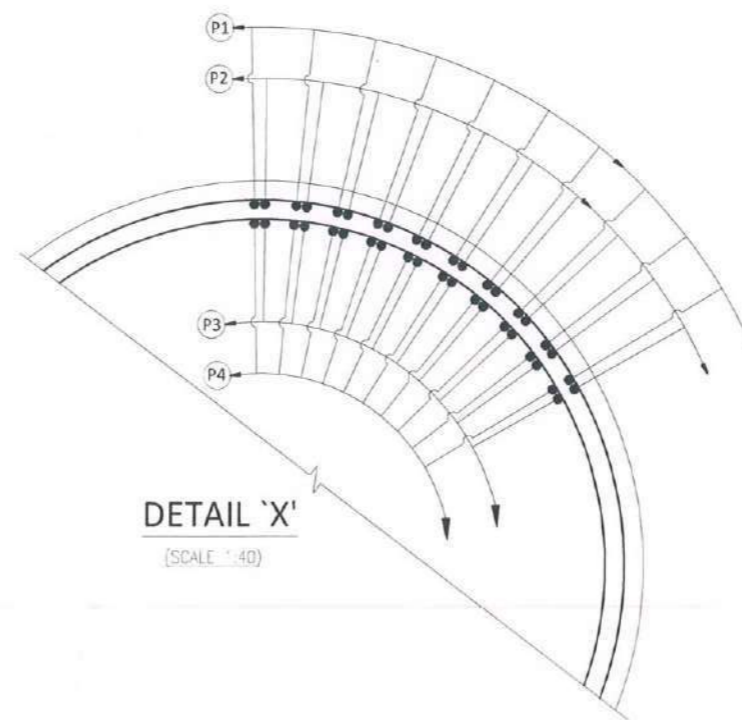
SECTION F-F
(SCALE 1:40)



SECTION G-G
(SCALE 1:40)



SECTION H-H
(SCALE 1:40)



DETAIL 'X'
(SCALE 1:40)

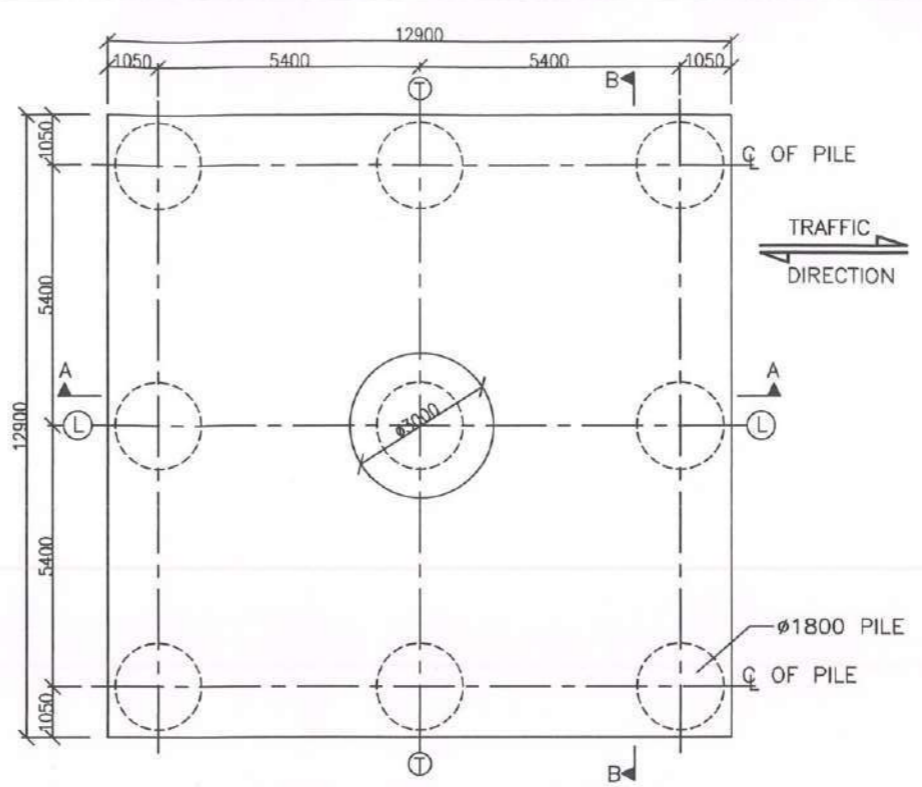
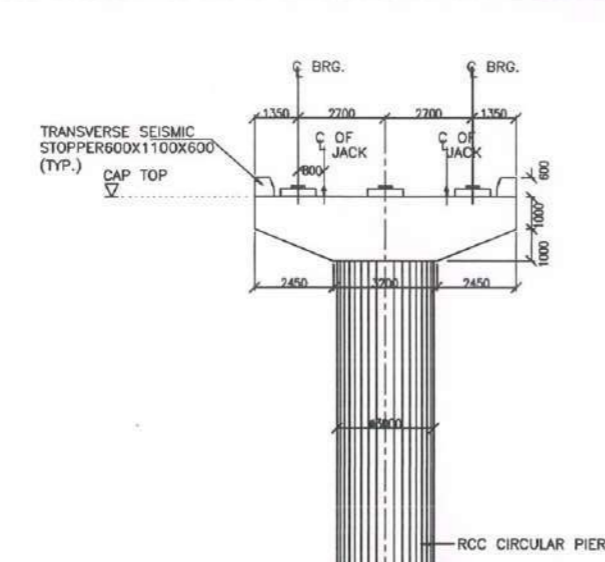
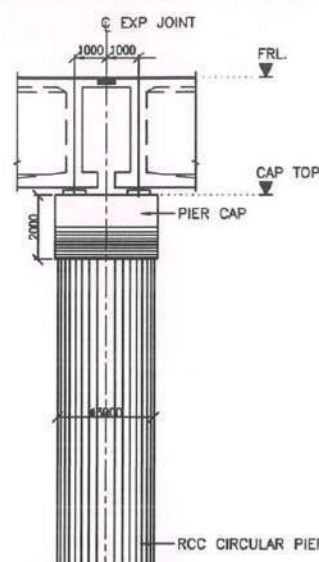
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. L-L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
T-T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
4. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION Fe-500 CRS CONFORMING TO IS: 1786 SHALL ONLY BE USED.
5. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETING.
6. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE CALCULATED AS FOLLOWS (AS PER IRC 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (e) OF 50% ONLY.
LAP LENGTH $l_s = a_1 \cdot b_{net}$
 $a_1 = 1.0$ for $p\% < 25\%$
 $a_1 = 1.15$ for $25\% < p\% < 33\%$
 $a_1 = 1.4$ for $33\% < p\% < 50\%$
DEVELOPMENT LENGTH (l_{db})
 $l_{db} = a_2 \cdot l_b$ ($a_2 = 1.0$)
 $l_b = k \cdot \phi$
 $k = 40$ FOR M30 (Fe5000)
 $k = 36$ FOR M35 (Fe5000)
FOR UNFAVORABLE BOND CONDITION THE l_b SHOULD BE MULTIPLY BY FACTOR OF 1.43 FOR $\phi > 32mm$ l_b SHOULD BE INCREASED BY MULTIPLYING FACTOR (100/132- ϕ).
7. THE LAP ANCHORAGE LENGTH TO BE INCREASED BY 25% AS PER 18.2.3.2 OF IRC 112 FOR EPOXY COATED REINFORCEMENT.
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10. CORROSION RESISTANCE STEEL & SULPHUR RESISTANT CEMENT TO BE USED.

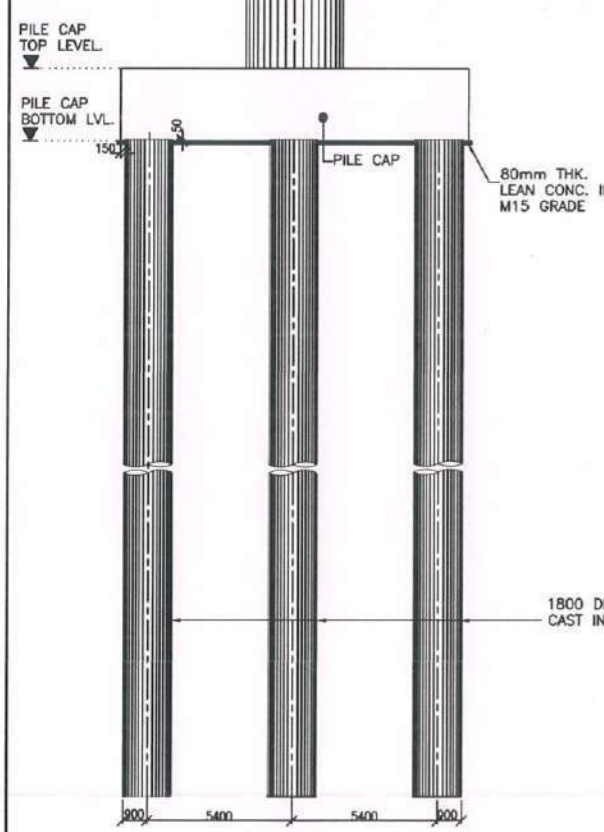
SCHEDULE OF PIER REINFORCEMENT

BAR MKD.	DIA (MM)	SPACING/Nos	SHAPE
P1	32	54 Nos	L
P2	32	54 Nos	L
P3	32	54 Nos	L
P4	32	54 Nos	L
P5	16	125 C/C	○
P6	32	100 C/C	○
P6c	12	200 C/C	○

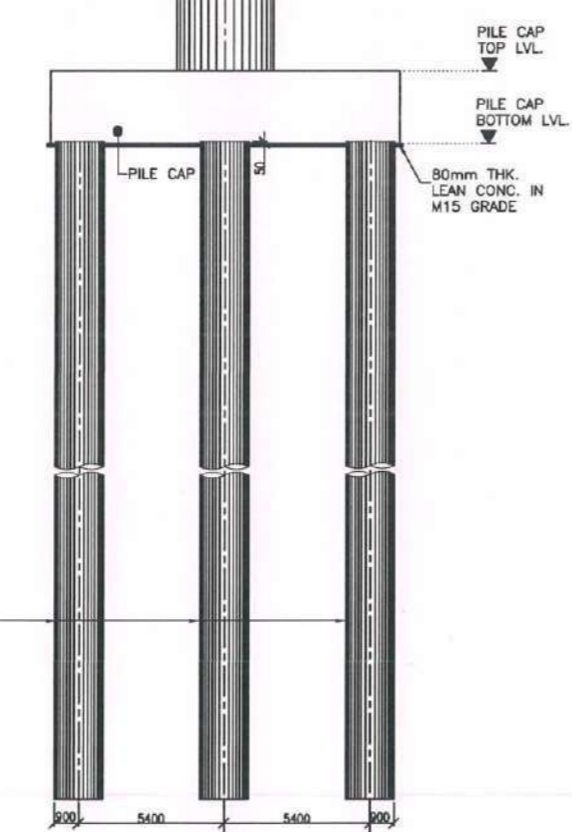
DESIGN CONSULTANT SAI INFRA ENGINEERS AND PLANNERS 211, GTR Building, Delhi-110002 Ph: +91-8860051162 Email: info@saiconsultants.com	CONTRACTOR MAINTENA CONSTRUCTION PVT. LTD. Mansarovar Road, 220-821214 Kirti Nagar, Mahabub Hyderabad	PROJECT CHECK CONSULTANT CDHAZIMBAD 221, 2nd Floor, Metro Building, P/No. C-19, R-10, Sec-10, Wazirpur, New Delhi-110002	SAFETY CONSULTANT SAI INFRA ENGINEERS AND PLANNERS 211, GTR Building, Delhi-110002 Ph: +91-8860051162 Email: info@saiconsultants.com	AUTHORITY ENGINEER YOUGMA ENGINEERING CO. LTD. ASSOCIATION WITH TECHNICO CONSULTANCY SERVICES PVT. LTD. 221, 2nd Floor, Metro Building, P/No. C-19, R-10, Sec-10, Wazirpur, New Delhi-110002	CLIENT NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED 3rd Floor, PTI Building 4-Parliament Street, New Delhi-110001	PROJECT CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK (BETWEEN KM 106.590 TO KM 107.762) OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.	DESIGNED BY P Negi	DRAWN BY Ankit	CHECKED BY R Agrahari	TITLE DIMENSIONAL & REINF.DETAIL OF PIER PC3 FOR CREEK BRIDGE	DRAWING NO CREEK-BR - 213	SHEET 03 OF 03	DATE: JAN 2022
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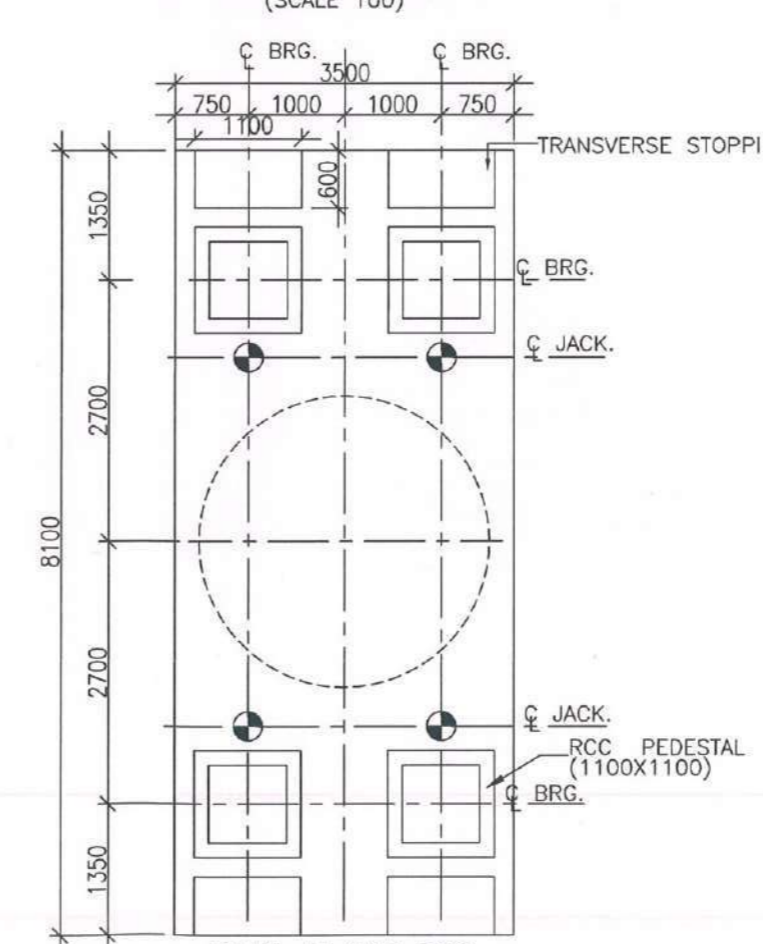
PLAN AT PILE CAP TOP
(SCALE 100)



SECTION A-A
(SCALE 150)



SECTION B-B
(SCALE 150)

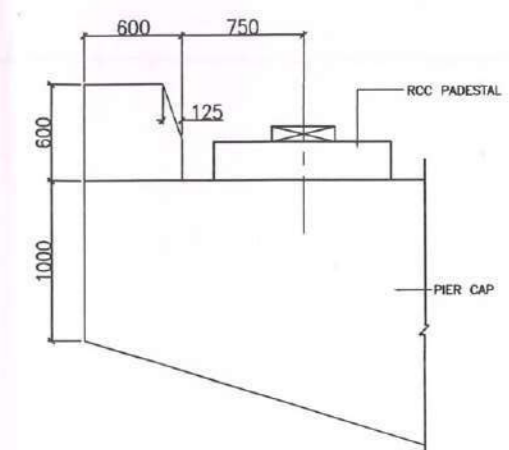


PLAN AT CAP TOP
(SCALE 1:50)

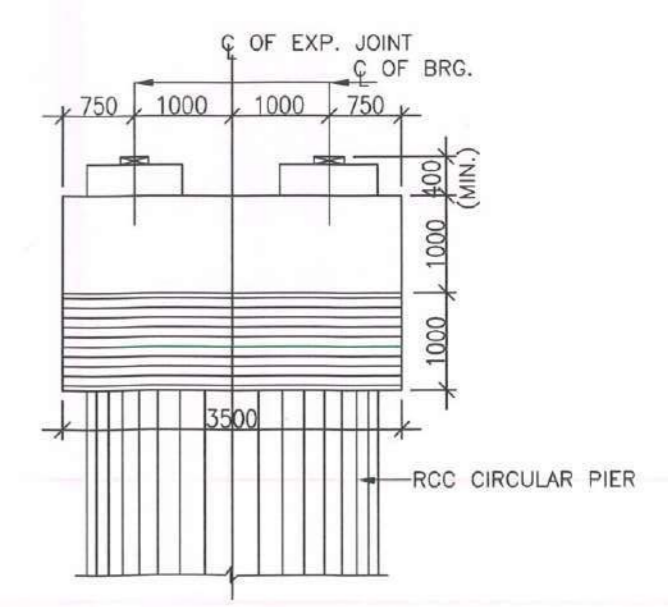
- NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
 2. NO DIMENSION SHALL BE MEASURED FROM THE DRAWINGS. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. THE REINFORCEMENT SHALL BE HYSD. BARS OF (GRADE DESIGNATION Fe 500D CRS) CONFORMING TO IS 1786-2008.
 4. CONCRETE SHALL DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC CUBE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOW:

a. RCC PIER SHAFT	M50
b. PIER CAP & STOPPER	M40
c. PEDESTAL	M50
d. PILE & PILE CAP	M40
e. PCC LEVELLING COURSE	M15
 5. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IRC:112.

a. PILE 75mm
b. PILE CAP 75mm
c. PIER /PIER CAP 40mm
d. OTHERS 50mm
 6. CONDITION OF EXPOSURE IS MODERATE.
 7. THE LOCATION OF JACK FOR LIFTING THE SUPERSTRUCTURE TO REPLACE BEARINGS ETC. IS SHOWN. THIS SHALL BE DISTINCTLY ETCHED FOR EASY IDENTIFICATION ON THE END CROSS GIRDER AND ABUTMENT/PIER CAPS
 8. GROUND IMPROVEMENT TO BE DONE BY LIME SLURRY INJECTION FOR A DEPTH OF AT LEAST 10m BELOW THE E.G.L.
 9. CORROSION RESISTANCE STEEL & SULPHUR RESISTANT CEMENT TO BE USED.
 10. THE VERTICAL PILE LOAD CAPACITY CONSIDERED IS 900T FOR 1.8M DIA. THE SAME SHALL BE VERIFIED AT SITE BEFORE ACTUAL EXECUTION OF WORK.



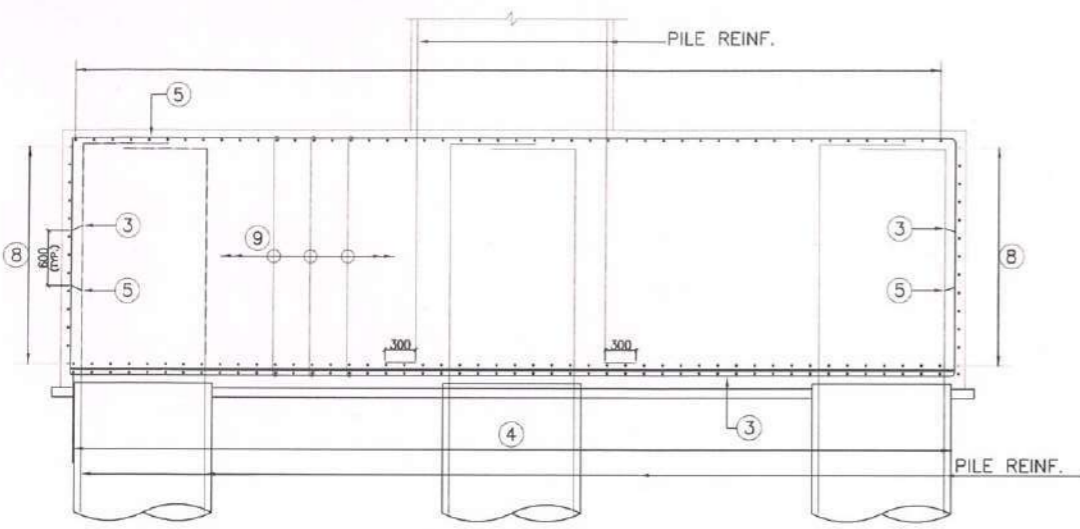
DETAILS OF TRANSVERSE SEISMIC STOPPER
(SCALE 1:30)



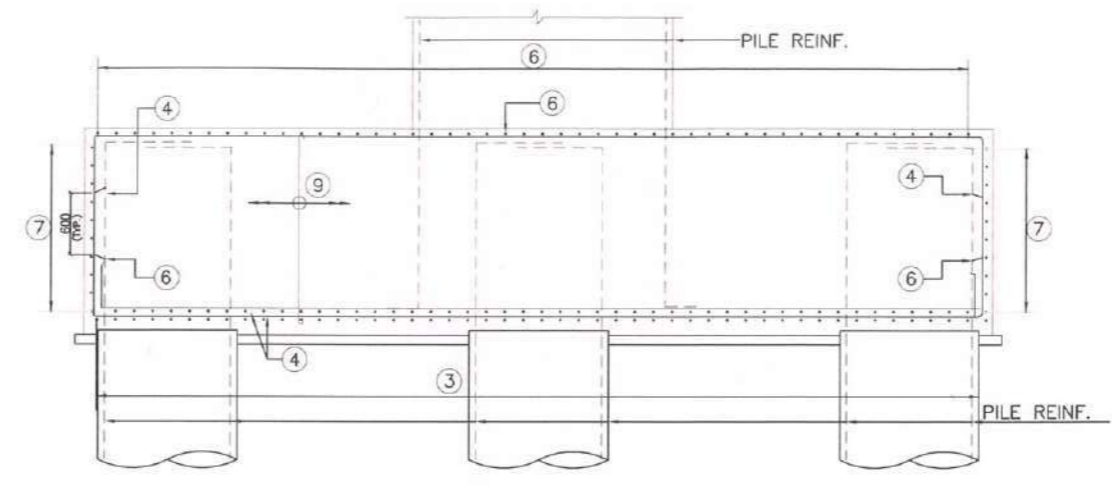
DETAIL OF PIER CAP
(SCALE 1:50)

SN	PIER	FRL	PIER CAP TOP LVL.	PILE CAP TOP LVL.	PILE CAP BOTTOM LVL.
1	PC4	27.850	23.985	3.850	1.600

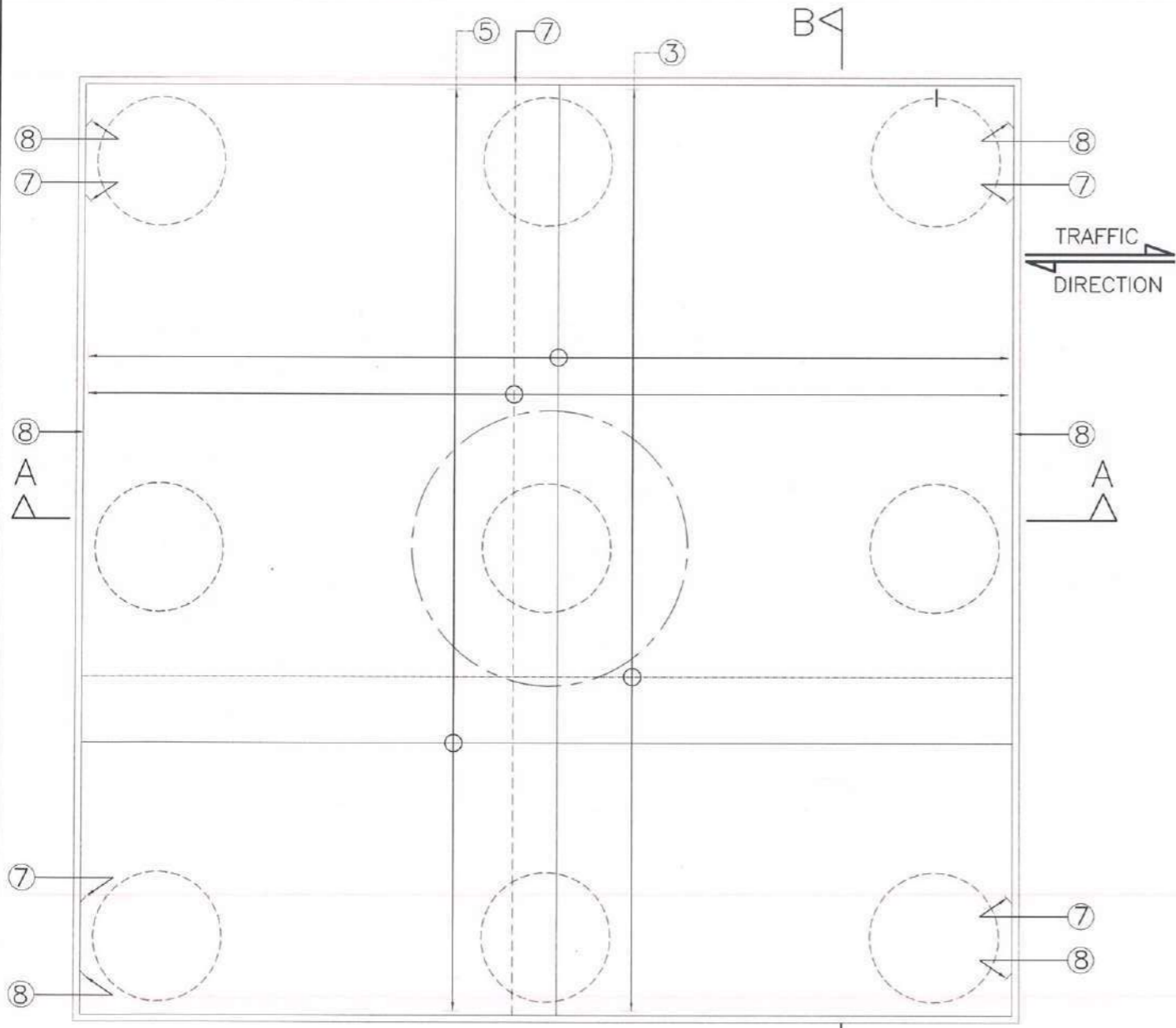
DESIGN CONSULTANT SAI INFRA ENGINEERING AND PLANNERS 1413, Usha Estate, Delhi-110029 Ph: 9144978007 Email: saai@sipl.com	CONTRACTOR MANTENA CONSTRUCTION PVT LTD Western House 259-261/27 Anand Market Hyderabad	PROJECT/CLIENT CONSULTANT RAVI GHOSH & PARTNERS 22C, Sector 14, Phase II, Gurgaon Delhi-122002	SAFETY CONSULTANT NAGPUR CONSULTANTS PVT LTD 108, Sector 14, Phase II, Gurgaon Delhi-122002	AUTHORITY ENGINEER YOUNGMA ENGINEERING CO. LTD ASSOCIATION WITH TECHNICO CONSULTANCY SERVICES PVT LTD 108, Sector 14, Phase II, Gurgaon Delhi-122002	CLIENT - NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED 3rd Floor PTI Building 4-Paladium Street New Delhi Delhi-110001	PROJECT CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK (BETWEEN KM 106.590 TO KM 107.762) OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.	DESIGNED BY: P Negi	TITLE DIMENSIONAL & REINF.DETAIL OF PIER PC4 FOR CREEK BRIDGE	
							DRAWN BY: Ankit		DRAWING NO: CREEK-BR - 212
							CHECKED BY: R Agrhan		SHEET: 01 OF 03
									DATE: JAN 2022



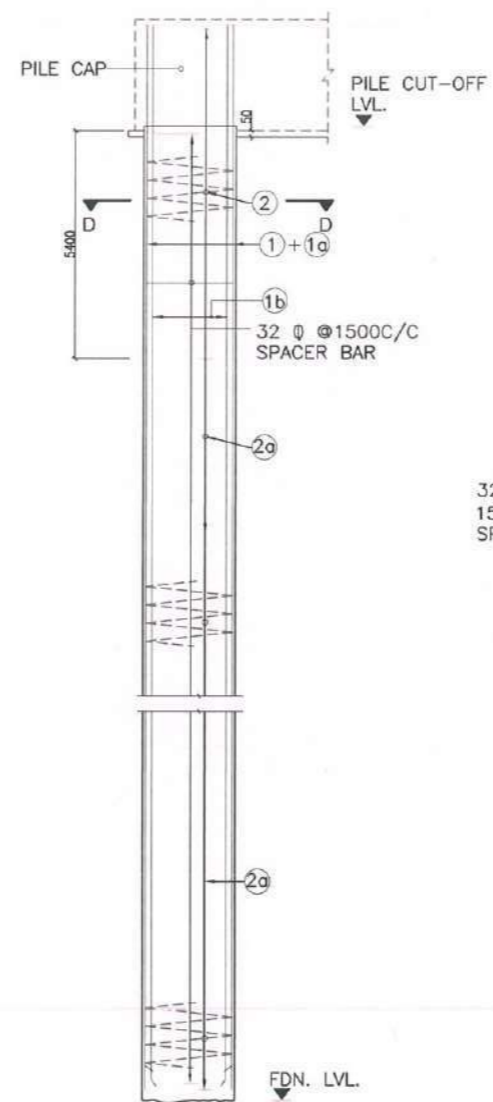
SECTION A-A
(SCALE 1:50)



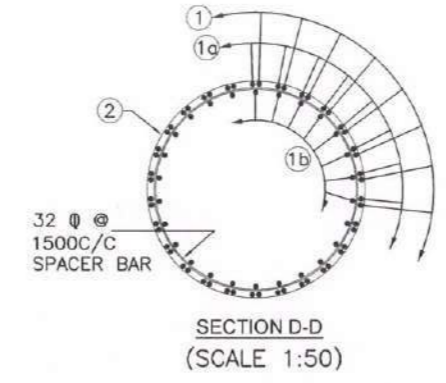
SECTION B-B
(SCALE 1:50)



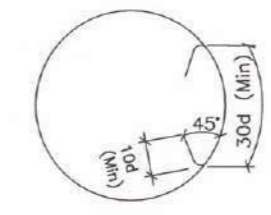
REINFORCING DETAILS OF PIPE CAP
(SCALE 1:50)



R.C. DETAILS OF PILE
(SCALE 1:50)



SECTION D-D
(SCALE 1:50)



TYPICAL DETAIL OF STIRRUPS
(SCALE 1:50)

SCHEDULE OF PILE & PILE CAP REINFORCEMENT

BAR MARK	DIA (mm)	SPACING /Nos.	SHAPE
1	32	26 Nos.	
1a	32	26 Nos.	
1b	32	26 Nos.	
2	16	125 C/C	○ 1500
2a	10	125 C/C	○ 1500
3	32	125 C/C (2LAYERS)	┌───┐
4	32	125 C/C (2LAYERS)	┌───┐
5	20	125 C/C	┌───┐
6	20	125 C/C	┌───┐
7	10	150 C/C	┌───┐
8	10	150 C/C	┌───┐
9	12	SPACING*	┌───┐

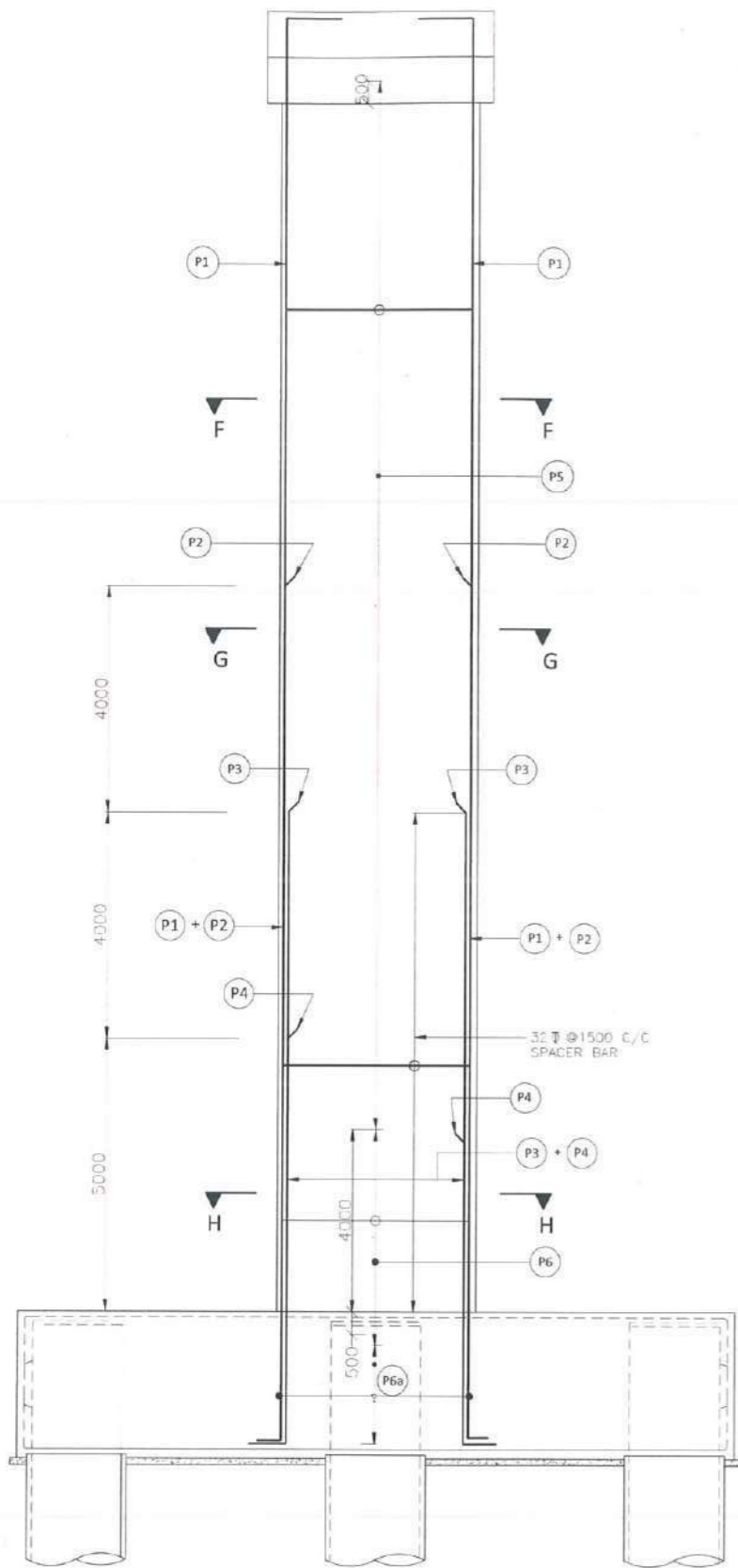
SPACING* = @250MM IN LONGITUDINAL DIRECTION AND 250MM C/C TRANSVERSELY

NOTES:

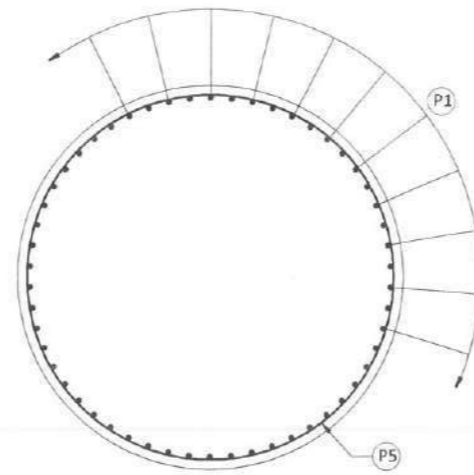
- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
- DIMENSIONS ARE NOT TO BE SCALED AND ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
- L-L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE T-T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
- HIGH YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION Fe-500D CRS CONFORMING TO IS:1786 SHALL ONLY BE USED.
- REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE IT'S CONCRETING.
- LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT BARS SHALL BE CALCULATED AS FOLLOWS (AS PER IRC:112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50% ONLY
 $LAP LENGTH l_s = a_1 \cdot l_{bnet}$
 $a_1 = 1.0 \text{ FOR } p\% < 25\%$
 $a_1 = 1.15 \text{ FOR } 25\% < p\% < 33\%$
 $a_1 = 1.14 \text{ FOR } 33\% < p\% < 50\%$
 (IRC:112-2011, CLAUSE:15.2.3.3)
 $DEVELOPMENT LENGTH (l_{bnet})$
 $l_{bnet} = a \cdot l_b \text{ (a=1.0)}$
 $l_b = k \cdot d$
 $k = 40 \text{ FOR M30 (Fe500D)}$
 $k = 36 \text{ FOR M35 (Fe500D)}$
 $k = 34 \text{ FOR M40 (Fe500D)}$
 FOR UNFAVORABLE BOND CONDITION THE l_b SHOULD BE MULTIPLIED BY FACTOR OF 1.43. FOR $d > 32mm$ l_b SHOULD BE INCREASED BY MULTIPLYING FACTOR (100/132-f).
 $f = \frac{100}{132 - f}$
- THE LAP ANCHORAGE LENGTH TO BE INCREASED BY 25% AS PER 18.2.3.2 OF IRC 112 FOR EPOXY COATED REINFORCEMENT.
- NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.
- GROUND IMPROVEMENT TO BE DONE BY LIME SLURRY INJECTION FOR A DEPTH OF AT LEAST 10m BELOW THE E.G.L.
- CORROSION RESISTANCE STEEL & SULPHUR RESISTANT CEMENT TO BE USED.

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

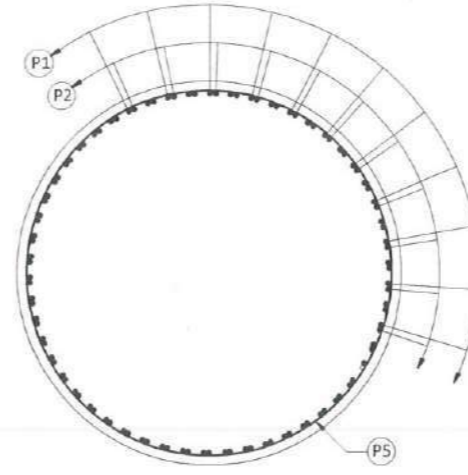
DESIGN CONSULTANT SAI INFRA ENGINEERS AND PLANNERS 1873, GTB Enclave, Delhi 110003 Ph: +91 9610003163 Email: sra@saiconsultants.com	CONTRACTOR MANTENA CONSTRUCTION PVT LTD Mantena House 2-96-33/12A Khanamot, Madhapur Hyderabad.	PROJECT CHECK CONSULTANT CHAZABAD 307, 3rd Floor, Nitya Buz Park Plot No. 11, Rd. NH/04 Wazirpur, New Delhi-110005 Tel: 011-26101208 Email: chazabad@gmail.com	CLIENT NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED 3rd Floor PTE Building 4-Parliament Street New Delhi, Delhi-110001	PROJECT CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK [BETWEEN KM 106.590 TO KM 107.752] OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.	DESIGNED BY P.Negi	TITLE DIMENSIONAL & REINF.DETAIL OF PIER PC4 FOR CREEK BRIDGE
SAI INFRA ENGINEERS AND PLANNERS	MANTENA CONSTRUCTION PVT LTD	KORANDE CONSULTANTS PVT LTD	YOUGMA ENGINEERING CO.LTD ASSOCIATION WITH TECHNICO CONSULTANCY SERVICES PVT.LTD	NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED	DRAWN BY Ankit	DRAWING NO CREEK-BR - 212
REV. DATE DESCRIPTION FOR REVISION					CHECKED BY R.Agrahari	SHEET 01 OF 03
						DATE: JAN 2022



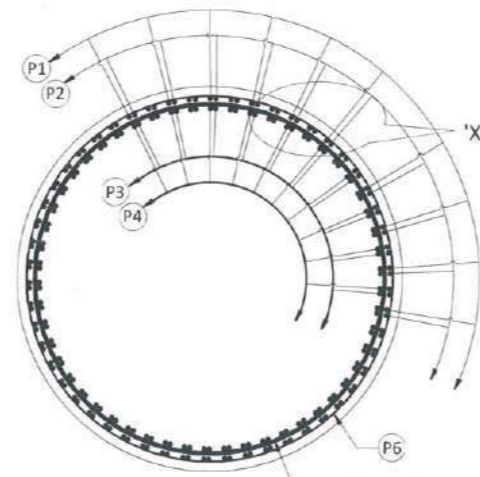
REINF. DETAILS OF PIER COLUMN
(SCALE 1:100)



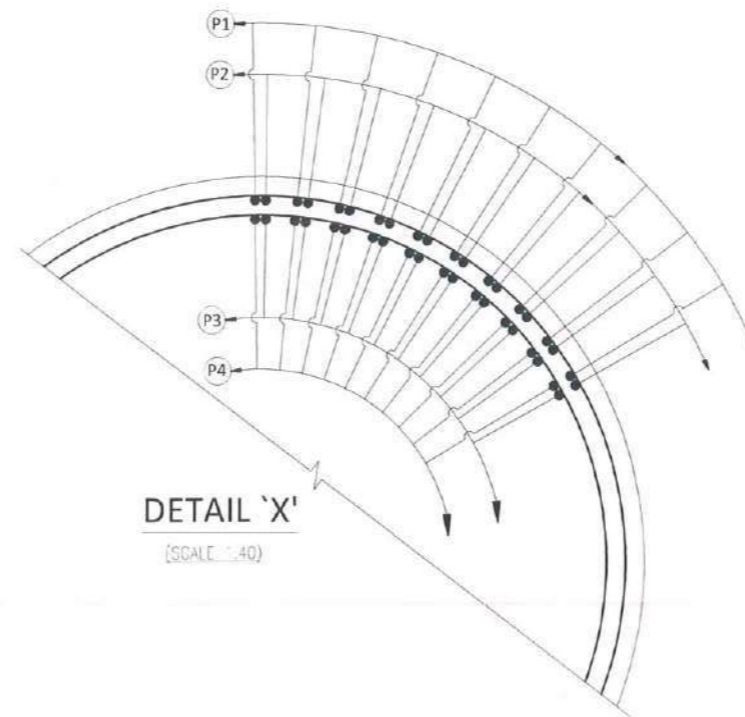
SECTION F-F
(SCALE 1:40)



SECTION G-G
(SCALE 1:40)



SECTION H-H
(SCALE 1:40)



DETAIL 'X'
(SCALE 1:40)

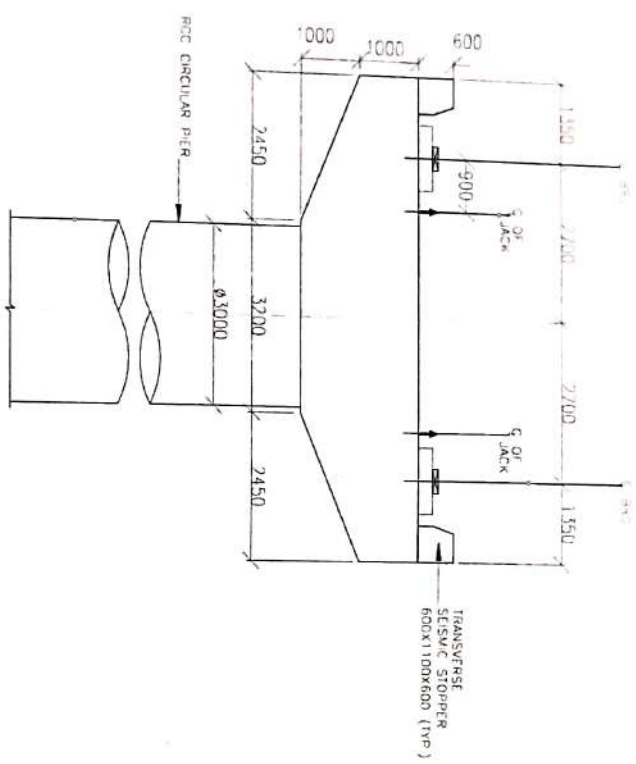
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. L-L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
T-T REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
4. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION Fe-500 CRS CONFORMING TO IS: 1786 SHALL ONLY BE USED.
5. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETING.
6. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE CALCULATED AS FOLLOWS (AS PER IRC: 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (p) OF 50% ONLY.
LAP LENGTH $l_s = a_1 \cdot b_{net}$
 $a_1 = 1.0$ for $p\% < 25\%$
 $a_1 = 1.15$ for $25\% < p\% < 33\%$
 $a_1 = 1.4$ for $33\% < p\% < 50\%$
DEVELOPMENT LENGTH (l_{bnet})
 $b_{net} = a \cdot l_b$ ($a=1.0$)
 $l_b = k \cdot \sigma_s$
 $k = 40$ FOR M30 (Fe500D)
 $k = 36$ FOR M35 (Fe500D)
FOR UNFAVORABLE BOND CONDITION THE l_b SHOULD BE MULTIPLY BY FACTOR OF 1.43 FOR $\phi > 32mm$ l_b SHOULD BE INCREASED BY MULTIPLYING FACTOR (100/132- ϕ)
7. THE LAP ANCHORAGE LENGTH TO BE INCREASED BY 25% AS PER 18.2.3.2 OF IRC 112 FOR EPOXY COATED REINFORCEMENT.
8. NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.
9. GROUND IMPROVEMENT TO BE DONE BY LIME SLURRY INJECTION FOR A DEPTH OF AT LEAST 10m BELOW THE E.G.L.
10. CORROSION RESISTANCE STEEL & SULPHUR RESISTANT CEMENT TO BE USED.

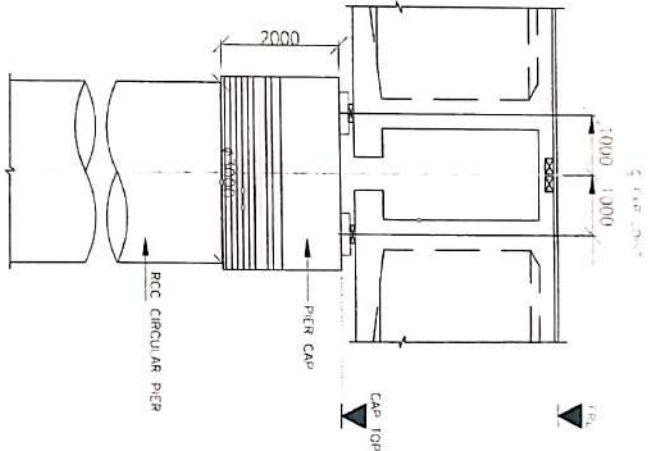
SCHEDULE OF PIER REINFORCEMENT

BAR MKD.	DIA (MM)	SPACING/Nos	SHAPE
P1	32	54 Nos	L
P2	32	54 Nos	L
P3	32	54 Nos	L
P4	32	54 Nos	L
P5	16	125 C/C	○
P6	32	100 C/C	○
P6c	12	200 C/C	○

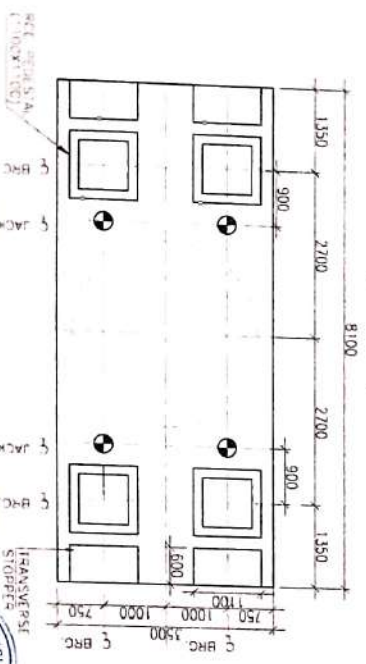
DESIGN CONSULTANT S SAI INFRA ENGINEERING AND PLANNERS 1113, 43/20/20th, Delhi-110005 Ph: 91114190014 Fax: 011-261190014	CONTRACTOR MANTENA MANTENA CONSTRUCTION PVT LTD Mainline House, 55-57/15A, Kirti Nagar, Mayapuri, Hyderabad	PROFESSIONAL MANAGEMENT DSM DSD MANAGEMENT PVT. LTD. B-10, Panchsheel Park, New Delhi-110017 Ph: 011-261190014	SAFETY CONSULTANT CONSULTANT KORAIME CONSULTANTS PVT. LTD. Koraima, New Delhi-110017 Ph: 011-261190014	AUTHORITY ENGINEER YOUGMA YOUGMA ENGINEERING CO. LTD. ASSOCIATION WITH TECHNICO CONSULTANCY SERVICES PVT. LTD. 4, Parliament Street, New Delhi-110001	CLIENT NHAI NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED 3rd Floor, PTI Building, 4-Parliament Street, New Delhi-110001	PROJECT CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK (BETWEEN KM 106.590 TO KM 107.762) OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.	DESIGNED BY: P Negi	DRAWN BY: Ankit	CHECKED BY: R Agrahari	TITLE DIMENSIONAL & REINF. DETAIL OF PIER PC4 FOR CREEK BRIDGE	DRAWING NO CREEK-BR-212	SHEET 03 OF 03	DATE: JAN 2022
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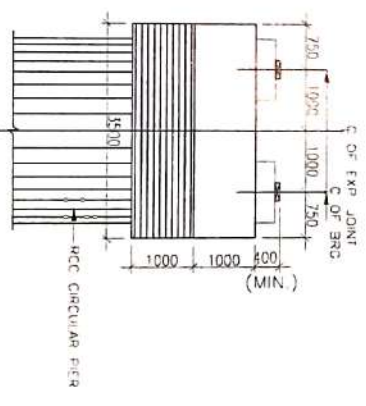
SECTION B-B
(SCALE 1:50)



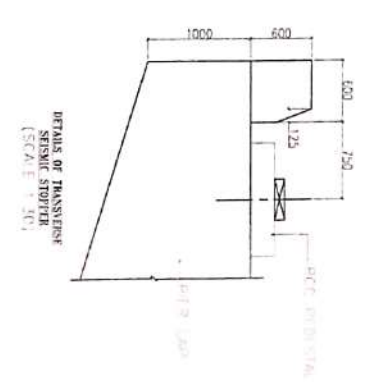
SECTION A-A
(SCALE 1:50)



PLAN AT CAP TOP
(SCALE 1:50)



DETAIL OF PIER CAP
(SCALE 1:50)



DETAILS OF TRANSVERSE SEISMIC STOPPER
(SCALE 1:20)

- NOTES-**
1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE SPECIFIED.
 2. NO DIMENSION SHALL BE MEASURED FROM THE DRAWING.
 3. THE FINISHES SHALL BE AS SHOWN.
 4. THE REINFORCEMENT SHALL BE M20 BARS OF GRADE DISPOSITION AS PER IS 456-2000.
 5. CHARACTERISTIC COMpressive STRENGTH OF CONCRETE SHALL BE AS FOLLOWS:
 - a) PIER CAP & STOPPER: M40
 - b) TRANSVERSE SEISMIC STOPPER: M40
 - c) PIER CAP: M40
 - d) PIER CAP: M40
 - e) PIER CAP: M40
 6. CHARACTERISTIC TENSILE STRENGTH OF STEEL SHALL BE AS PER IS 178.
 7. THE LOCATION OF JACK FOR UPLIFTING THE SUPERSTRUCTURE TO REPLACE THE PIER SHALL BE AS SHOWN IN THE DRAWING.
 8. THE LOCATION OF JACK TO BE PROVIDED AS PER SUPERSTRUCTURE DRAWING.
 9. THE LOCATION OF JACK TO BE PROVIDED AS PER SUPERSTRUCTURE DRAWING.
 10. THE LOCATION OF JACK TO BE PROVIDED AS PER SUPERSTRUCTURE DRAWING.
 11. THE LOCATION OF JACK TO BE PROVIDED AS PER SUPERSTRUCTURE DRAWING.
 12. THE LOCATION OF JACK TO BE PROVIDED AS PER SUPERSTRUCTURE DRAWING.

PROJECT INFORMATION

PROJECT NAME: GA OF PIER CAP FOR CHECK BRIDGE

CLIENT: TRANSPORT DEPARTMENT

LOCATION: [REDACTED]

DATE: JAN 2022

SCALE: 1:50

DESIGNER: [REDACTED]

CHECKER: [REDACTED]

APPROVED: [REDACTED]

PROJECT NO.: [REDACTED]

SHEET NO.: [REDACTED]

CONTRACT NO.: [REDACTED]

REVISIONS:

NO.	DESCRIPTION	DATE
1	ISSUED FOR TENDERS	10/01/2022
2	FOR CORRECTION	15/01/2022
3	FOR APPROVAL	20/01/2022

APPROVALS:

DESIGNER: [Signature]

CHECKER: [Signature]

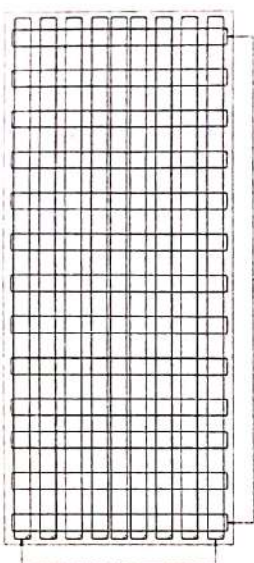
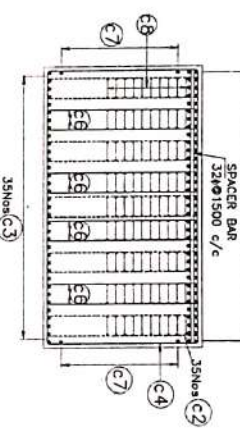
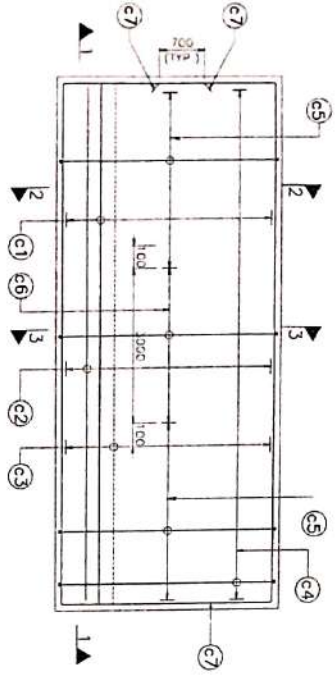
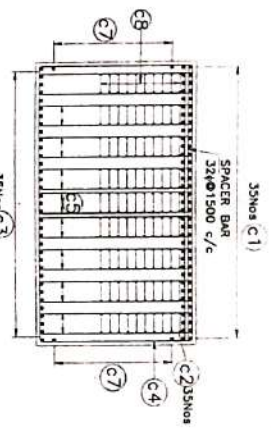
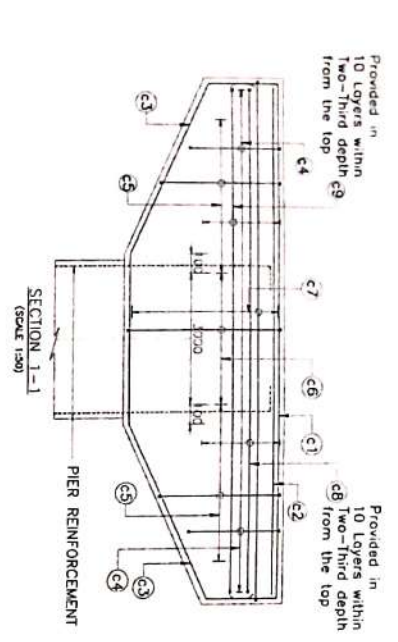
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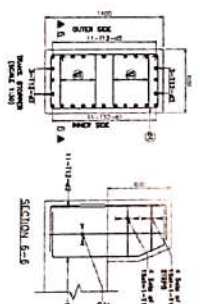
DATE: JAN 2022

PROJECT NO.: [REDACTED]

SHEET NO.: [REDACTED]



9nos. 2-Legged Stirrups to provided in 10 Layers



- NOTES-**
- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED
 - DIMENSIONS ARE NOT TO BE SCALE ONLY VERTICAL DIMENSIONS SHALL BE
 - 1-1, REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
 - 2-2, REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
 - 3-3, REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
 - REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PIER CAP BEFORE ITS CONCRETION
 - LAPPING OF LONG REINFORCEMENT SHALL BE MADE AS FAR AS POSSIBLE IN CASE OF TRANSVERSE SECTION. MINIMUM LAP LENGTH OF LONG REINFORCEMENT SHALL BE 15 TIMES BAR DIAMETER OR 112 SECTION LAP LENGTH, WHICHEVER IS GREATER.
 - FOR LAP JOINTS, MINIMUM LAP LENGTH SHALL BE 15 TIMES BAR DIAMETER OR 112 SECTION LAP LENGTH, WHICHEVER IS GREATER.
 - FOR LAP JOINTS, MINIMUM LAP LENGTH SHALL BE 15 TIMES BAR DIAMETER OR 112 SECTION LAP LENGTH, WHICHEVER IS GREATER.
 - FOR LAP JOINTS, MINIMUM LAP LENGTH SHALL BE 15 TIMES BAR DIAMETER OR 112 SECTION LAP LENGTH, WHICHEVER IS GREATER.

REINFORCEMENT DETAIL PIER CAP

BAR MARK	DIA (mm)	SPACING/ NOS	SHAPE	BOND CONDITION
c1	32	35 Nos	Rect	UP/FW
c2	32	35 Nos	Rect	UP/FW
c3	30	35 Nos	Rect	UP/FW
c4	25-18	100	Rect	UP/FW
c5	18L-10	125	Rect	UP/FW
c6	18L-10	250	Rect	UP/FW
c7	12	100	Rect	UP/FW
c8	16	9 Nos with 10 Legged	Rect	UP/FW
c9	10	13 Nos with 10 Legged	Rect	UP/FW
c1	22	18 Nos	Rect	UP/FW
c2	12	11 Nos	Rect	UP/FW
c3	12	8 Nos	Rect	UP/FW
c4	18	125	Rect	UP/FW
c5	18	100	Rect	UP/FW
c6	18	100	Rect	UP/FW
c7	18	100	Rect	UP/FW

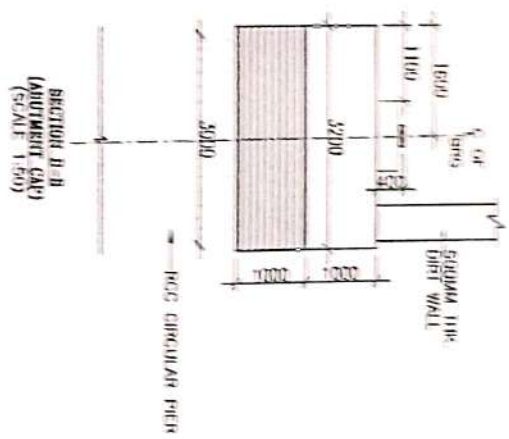
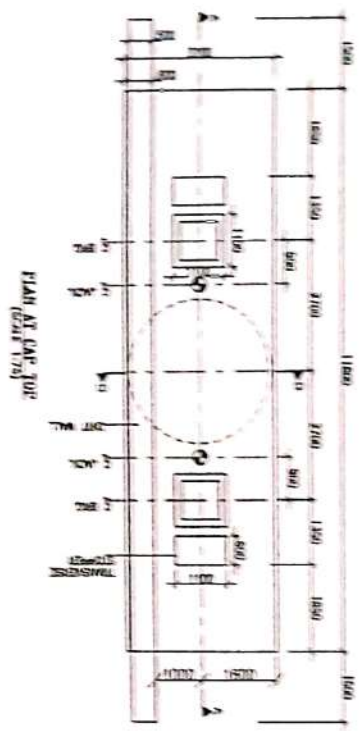
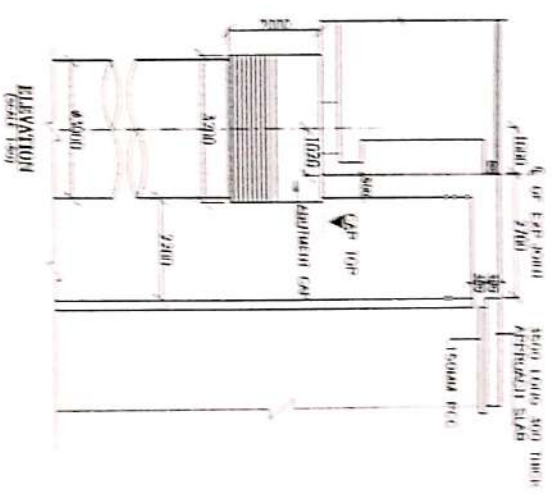
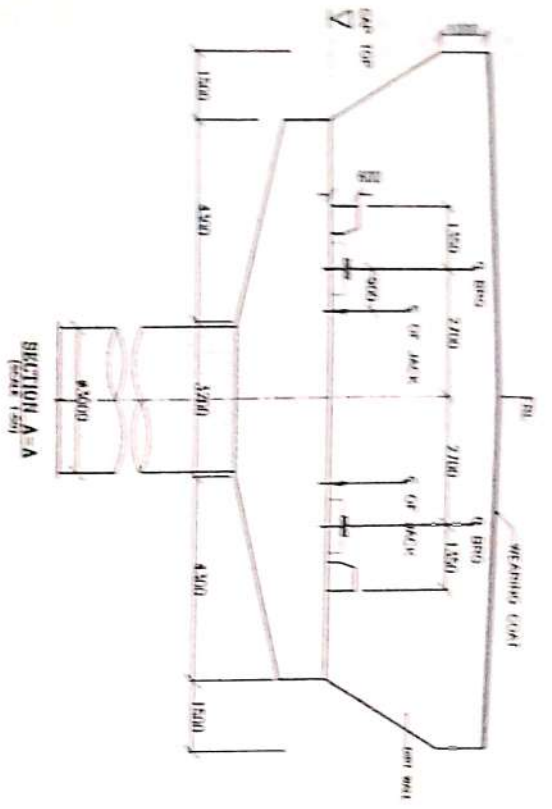
LEGEND

- TOP/FACED FACE
- BOTH/FACED FACE
- W/L
- W/L
- W/L
- W/L



PROJECT
CONSTRUCTION OF MAJUM BRIDGE OVER MEDULL STRAIT CROSS JUNCTION MAJUMS TO RAJAPATI (201) ON THE NORTH SIDE OF THE MAJUM STRAIT, SRI LANKA.

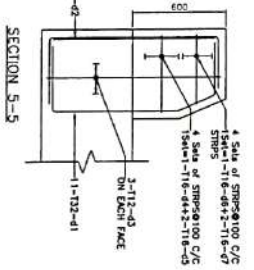
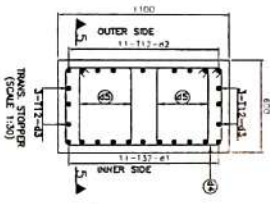
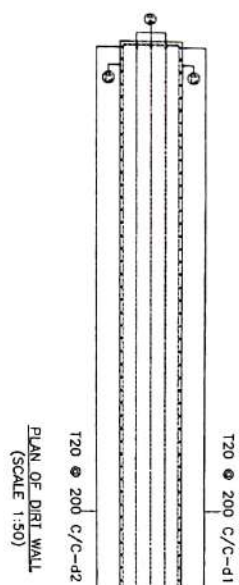
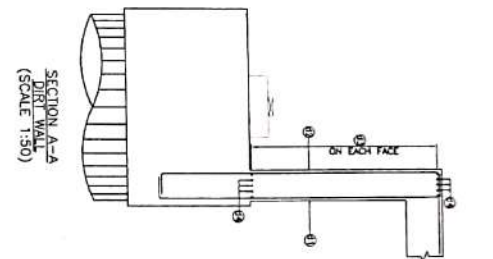
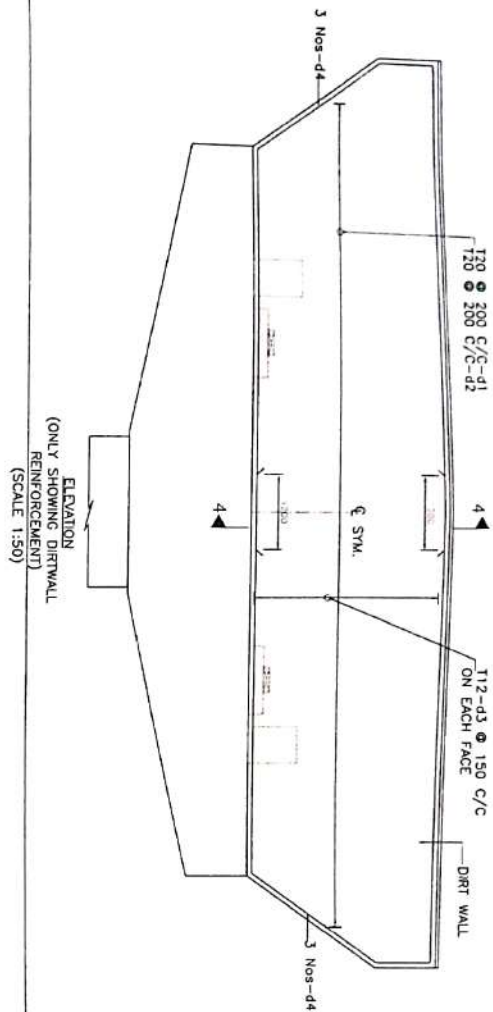
DESIGNER: CHANAKA RATHNAPARKI
CHECKED BY: CHANAKA RATHNAPARKI
DATE: 04/11/2022



NOTES:

1. All dimensions are in millimeters, unless are in other units.
2. For concrete work, use M20 concrete.
3. For reinforcement, use 12mm diameter bars.
4. For masonry work, use 1:4:8 concrete.
5. For plaster, use 1:3:6 concrete.
6. For floor, use 1:2:4 concrete.
7. For roof, use 1:2:4 concrete.
8. For walls, use 1:3:6 concrete.
9. For columns, use 1:2:4 concrete.
10. For foundations, use 1:2:4 concrete.
11. For foundations, use 1:2:4 concrete.
12. For foundations, use 1:2:4 concrete.
13. For foundations, use 1:2:4 concrete.
14. For foundations, use 1:2:4 concrete.
15. For foundations, use 1:2:4 concrete.
16. For foundations, use 1:2:4 concrete.
17. For foundations, use 1:2:4 concrete.
18. For foundations, use 1:2:4 concrete.
19. For foundations, use 1:2:4 concrete.
20. For foundations, use 1:2:4 concrete.

PROJECT:
SCALE:
DATE:
BY:
CHECKED BY:
APPROVED BY:
DESIGNED BY:
DATE OF PREPARATION:
SCALE OF PREPARATION:
FORM NUMBER:
DATE:



- NOTES:-**
1. ALL DIMENSIONS ARE IN MILLIMETERS AND UNLESS NOTED OTHERWISE SHALL BE FOLLOWED.
 2. DIMENSIONS ARE TO BE SCALD ONLY. EXCEPT DIMENSIONS SHALL BE FOLLOWED.
 3. 1-1 REINFORCING LONGITUDINAL BAR OF THE BRIDGE.
 4. UNLESS OTHERWISE SPECIFIED ALL REINFORCING SHALL BE USED CONFORMED TO S. 1288 SHALL BE USED.
 5. LAPING OF BARS REINFORCING SHALL BE ACCORD AS PER AS PERMITTED IN CODE OF PRACTICE FOR REINFORCING STEEL (IS: 456-2000) WITH MAXIMUM LAPING LENGTH OF 25% OF THE BAR LENGTH.
 6. LAP LENGTH SHALL BE 48d FOR TOP BARS AND 48d FOR BOTTOM BARS.
 7. DEVELOPMENT LENGTH SHALL BE 48d FOR TOP BARS AND 48d FOR BOTTOM BARS.
 8. LAP LENGTH SHALL BE 48d FOR TOP BARS AND 48d FOR BOTTOM BARS.
 9. LAP LENGTH SHALL BE 48d FOR TOP BARS AND 48d FOR BOTTOM BARS.
 10. LAP LENGTH SHALL BE 48d FOR TOP BARS AND 48d FOR BOTTOM BARS.
 11. LAP LENGTH SHALL BE 48d FOR TOP BARS AND 48d FOR BOTTOM BARS.
 12. LAP LENGTH SHALL BE 48d FOR TOP BARS AND 48d FOR BOTTOM BARS.
 13. LAP LENGTH SHALL BE 48d FOR TOP BARS AND 48d FOR BOTTOM BARS.

REINFORCEMENT DETAIL PIER CAP

BAR MARK	DIA (mm)	SPACING/ NOS	SHAPE	BAR CONDITION
d1	20	200	[Diagram]	PLAIN
d2	20	200	[Diagram]	PLAIN
d3	12	150	[Diagram]	PLAIN
d4	12	8 Nos	[Diagram]	PLAIN
d1	20	11 Nos	[Diagram]	PLAIN
d2	12	11 Nos	[Diagram]	PLAIN
d3	12	6 Nos	[Diagram]	PLAIN
d4	16	100	[Diagram]	PLAIN
d5	16	100	[Diagram]	PLAIN
d6	16	100	[Diagram]	PLAIN
d7	16	100	[Diagram]	PLAIN

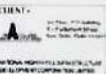
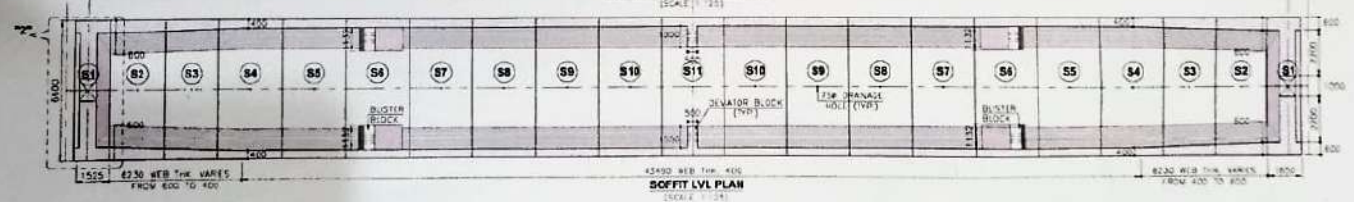
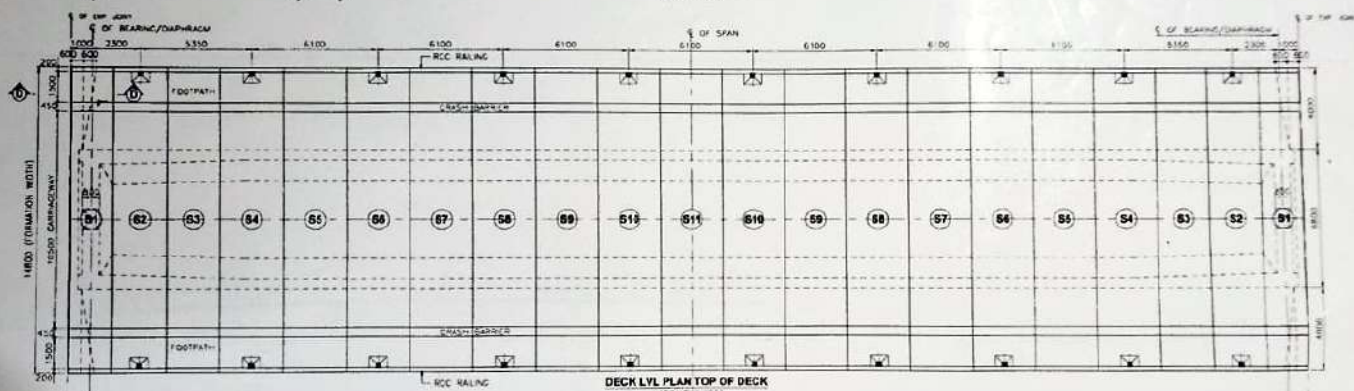
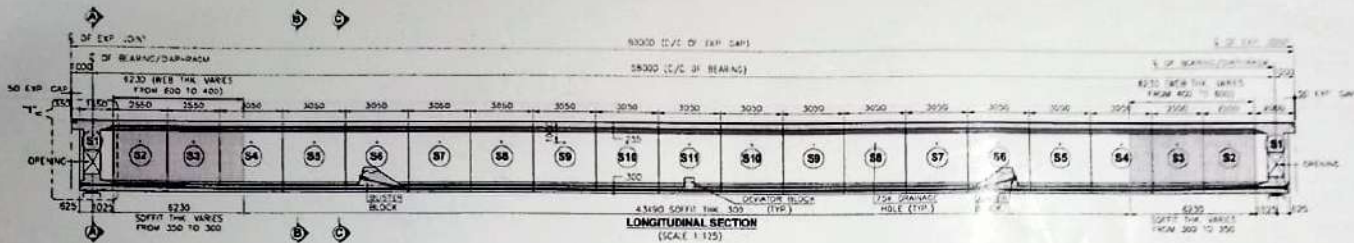
LEGEND

[Symbol]	TOP/DIRTY FACE
[Symbol]	DIRTY/DIRTY FACE
[Symbol]	DIRTY/DIRTY FACE
[Symbol]	WARNING LENGTH



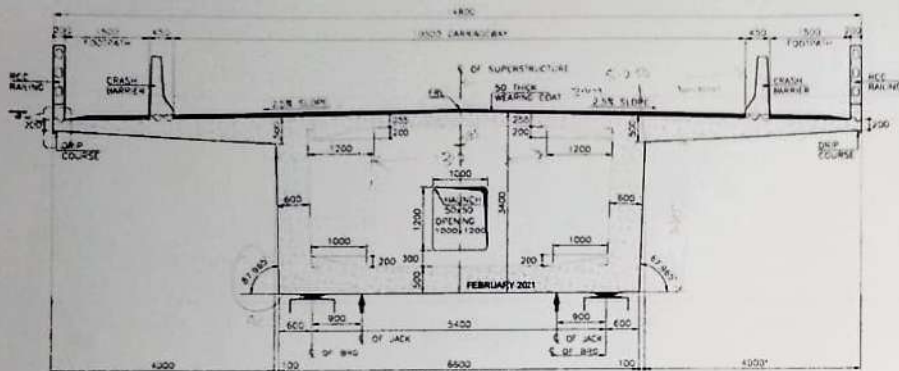
PROJECT: CONSTRUCTION OF MAINS BRIDGE OVER MAIN CANAL AT PIER BETWEEN APPROXIMATELY 1500 TO 1550 M AND APPROXIMATELY 1550 TO 1600 M.

DESIGNED BY: [Signature] DATE: [Date]
 DRAWN BY: [Signature] DATE: [Date]
 CHECKED BY: [Signature] DATE: [Date]
 SHEET NO. 1 OF 1

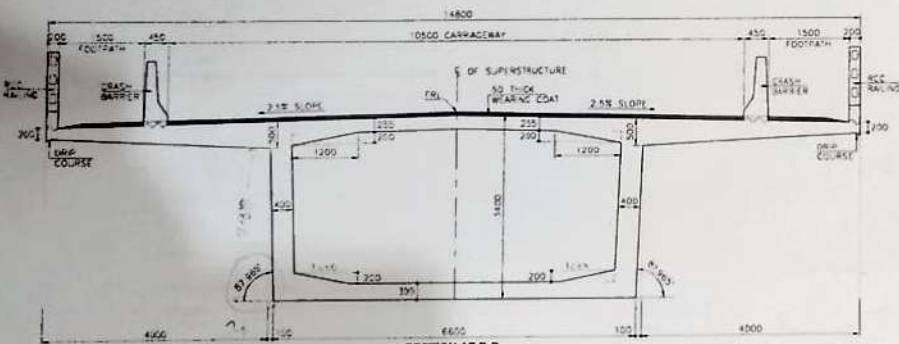


PROJECT
CONSTRUCTION OF MAJOR BRIDGE OVER MIDHILL STRAITS/CREEK BETWEEN
RDS 106 100 TO 400 (SPT) OF NH 222 IN THE UNION TERRITORY OF
ANDAMAN & NICOBAR ISLANDS.

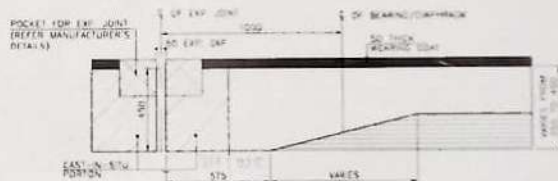
DESIGNED BY	P No.	25	TITLE
DR (N.S.B.)	1.704		CONSTRUCTION OF MAJOR BRIDGE OVER MIDHILL STRAITS/CREEK BETWEEN MAJOR BRIDGE (SPAN 6) ON CC OF EXP. GRAY
CHECKED BY	N. Sankar	22	DRAWING NO.
			PM/UB/001
			DATE: 01.02.2021



SECTION AT A-A
(SCALE 1:30)



SECTION AT B-B
(SCALE 1:30)



SECTION AT D-D
(SCALE 1:10)

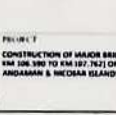
DETAIL AT "3"

NOTES:

1. THE DRAWING AND THE DIMENSIONS ARE TO BE CONSIDERED AS THE BASIS FOR THE CONSTRUCTION OF THE BRIDGE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE DIMENSIONS.
2. THE DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE BRIDGE.
3. THE DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE BRIDGE.
4. THE DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE BRIDGE.
5. THE DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE BRIDGE.
6. THE DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE BRIDGE.
7. THE DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE BRIDGE.
8. THE DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE BRIDGE.
9. THE DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE BRIDGE.
10. THE DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE BRIDGE.

CONSTRUCTION SPECIFICATIONS:-

1. ALL THE WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST SINGAPORE STANDARDS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE QUALITY OF THE WORK.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE EXISTING UTILITIES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE ENVIRONMENT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PUBLIC.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORKERS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE EQUIPMENT.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE MATERIALS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE FINISHES.



CONSTRUCTION OF MAJOR BRIDGE OVER MADOLE STRAIT CREEK BETWEEN KM 106.980 TO KM 107.762 OF M1 223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.

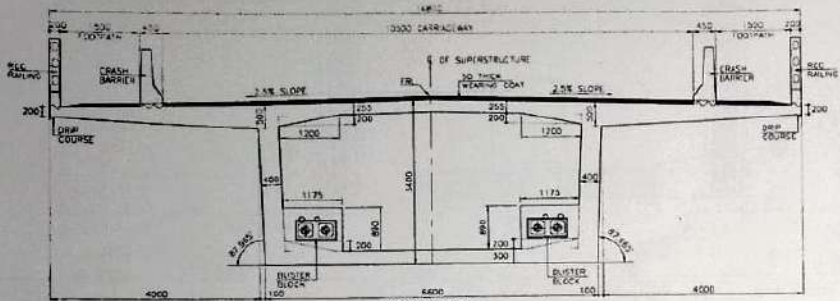
DESIGNED BY: P. S. S. S.
DRAWN BY: A. P. S. S.
CHECKED BY: S. S. S. S.

TITLE	DATE	BY	NO.
2-DIMENSIONAL DETAILS OF SUPERSTRUCTURE FOR MAJOR BRIDGE (SPAN 10500) ON C.C. OF EXP. CUM. (IN 1/200) (S1)	21/02/2021	SA SIV	001
SHEET 02 OF 08	DATE FEBRUARY 2021		

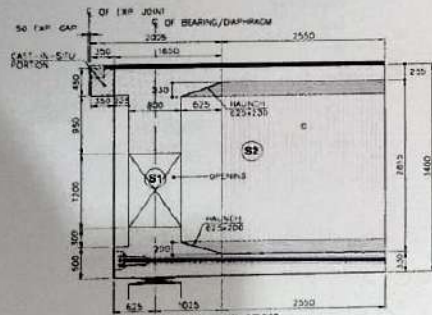
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SHEET 01 OF SET 8 TO 02 OF 03 OF THIS DRAWING.

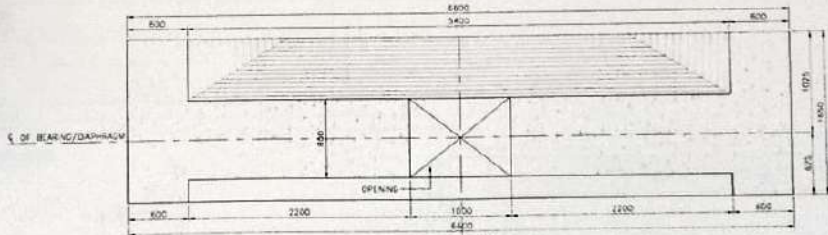
FOR DIMENSIONAL DETAILS OF EACH
SECTION REFER SEPARATE DRAWING



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



DETAIL AT 1-1
(SCALE: 1:40)



DETAIL AT 2-2
(SCALE: 1:20)

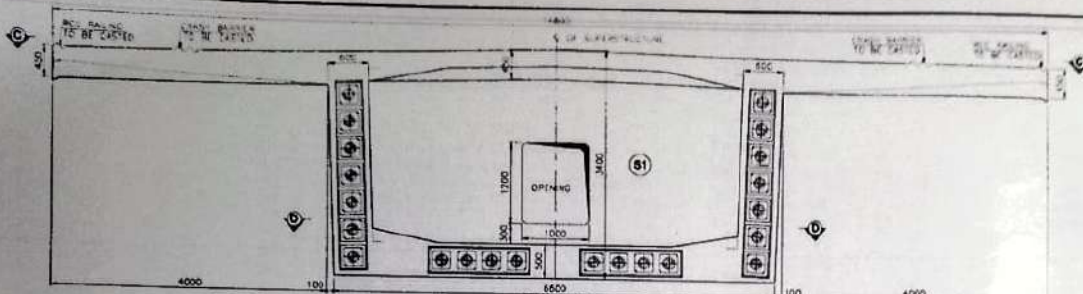


PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CANAL (BETWEEN KM 54.28 TO KM 57.75) OF NH 163 IN THE UNION TERRITORY OF ANDHRA PRADESH, INDIA.

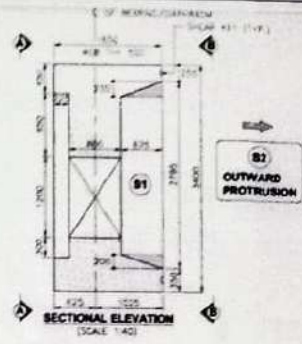
DESIGNED BY: P. N. S. P.
DRAWN BY: A. P. H.
CHECKED BY: R. ANAND

TITLE: DIMENSIONAL DETAILS OF SUPERSTRUCTURE FOR MAJOR BRIDGE (SPM B) OF NH 163
DRAWING NO: ST/AMB-301

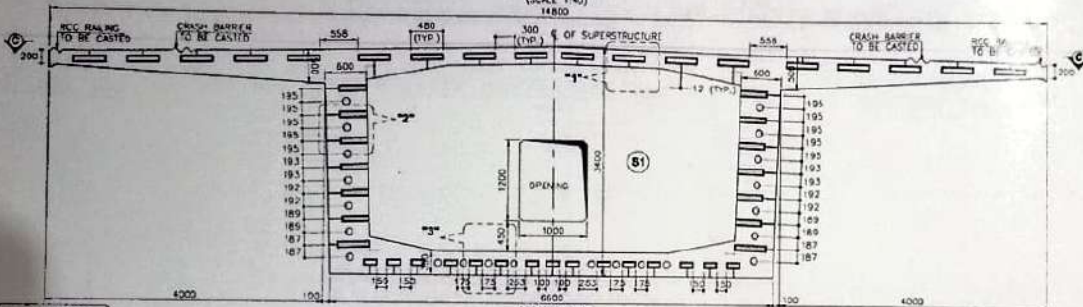
SHEET: 03 OF 05 | DATE: FEBRUARY 2017



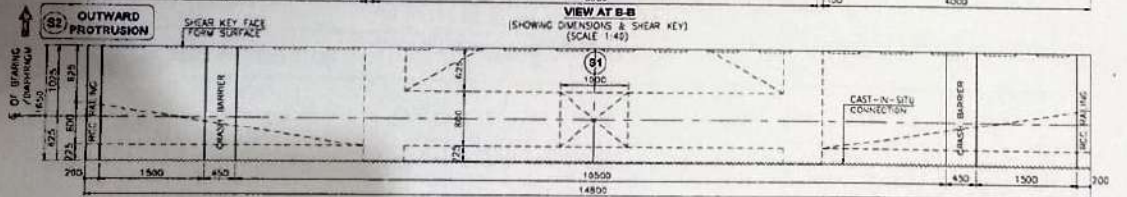
VIEW AT A-A
(SHOWING DIMENSIONS)
(SCALE 1:40)
14800



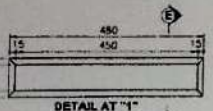
- NOTES:**
- ALL DIMENSIONS ARE IN mm. LEVELS ARE IN +ve AND CHANGES ARE IN +ve UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NO DIMENSION IS TO BE SCALED.
 - SHEAR KEYS SHALL HAVE EXPOSED REINFORCING BARS APPROXIMATE CONCRETE SURFACE RC 50-80-20-B.
- REFERENCE DRAWINGS:-**
- DIMENSIONAL DETAILS OF SUPERSTRUCTURE FOR MAJOR BRIDGE (SPAN 80-200 C/C OF EXP. GAP) 02/20-02/STR/MBJ-301 (23 SHEETS)



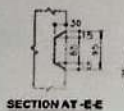
VIEW AT B-B
(SHOWING DIMENSIONS & SHEAR KEY)
(SCALE 1:40)
6000



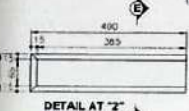
SECTION AT C-C
(SCALE 1:40)



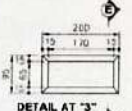
DETAIL AT 1"
(SCALE 1:7)



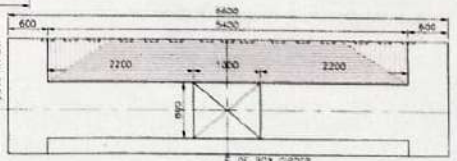
SECTION AT B-B
(FORM SURFACE)
(SCALE 1:7)



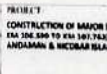
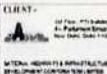
DETAIL AT 2"
(SCALE 1:7)



DETAIL AT 3"
(SCALE 1:7)



SECTION AT D-D
(SCALE 1:40)

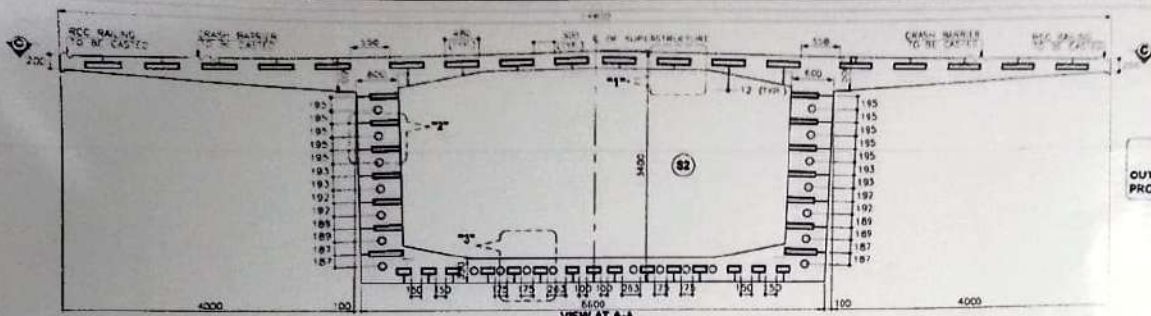


PROJECT:
CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK (BETWEEN
EAS 546.58 TO EAS 581.78) OF NH-228 IN THE UNION TERRITORY OF
ANDAMAN & NICOBAR ISLANDS.

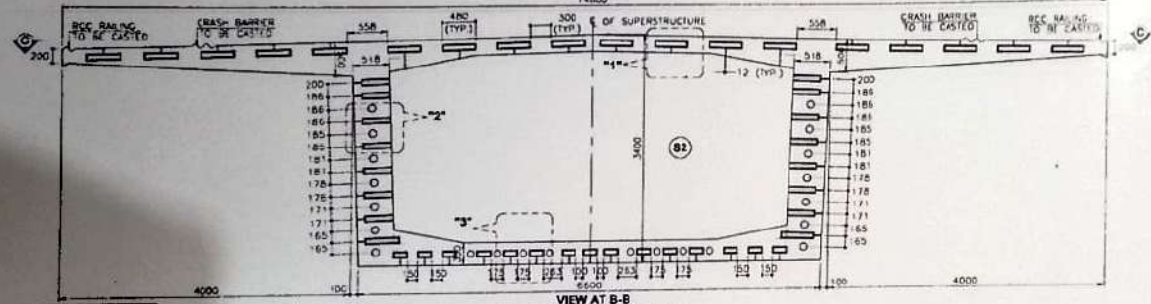
DESIGNED BY: P. Nigam
DRAWN BY: A. Pooja
CHECKED BY: R. Rajan

TITLE:
DIMENSIONAL DETAILS OF PRECAST SEGMENT FOR
SEGMENT 51 FOR MAJOR BRIDGE - SPAN 80-200 C/C OF
EXP. GAP

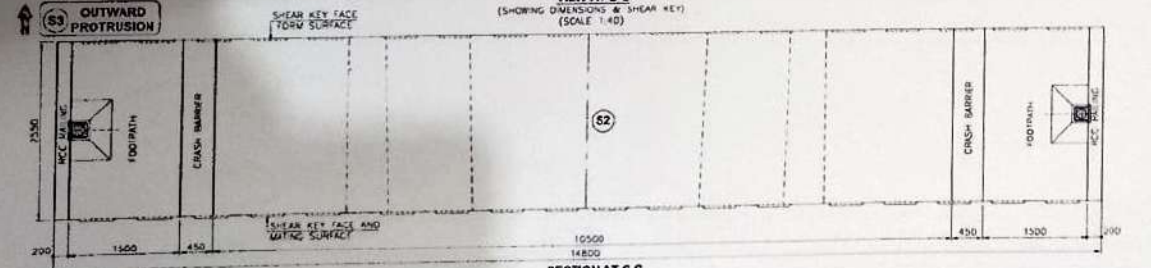
DRAWING NO: STR/MBJ-301
SHEET: 01 OF 01
DATE: FEBRUARY 2021



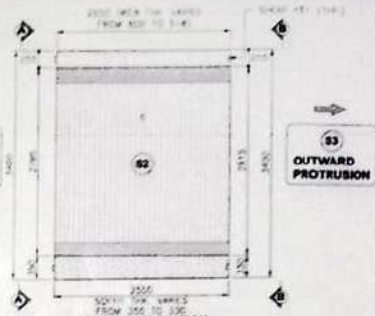
VIEW AT A-A
(SHOWING DIMENSIONS & SHEAR KEY)
(SCALE 1:40)
1:800



VIEW AT B-B
(SHOWING DIMENSIONS & SHEAR KEY)
(SCALE 1:40)



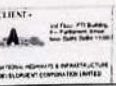
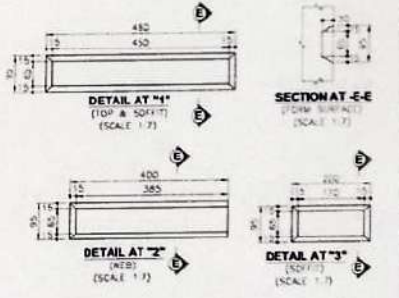
SECTION AT C-C
(SCALE 1:40)



SECTIONAL ELEVATION
(SCALE 1:40)

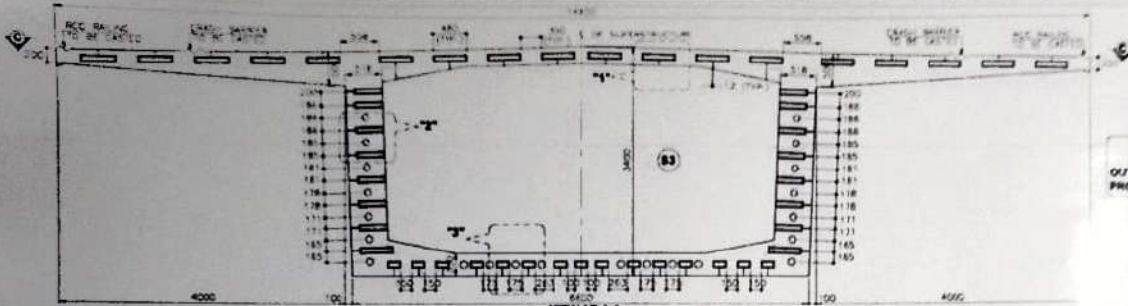
NOTES:-
1. ALL DIMENSIONS ARE IN MM. LEVELS ARE IN M AND CHANGES ARE IN MM UNLESS OTHERWISE MENTIONED. ONLY BRITISH DIMENSIONS ARE TO BE FOLLOWED. NO DIMENSIONS IS TO BE SCALED.
2. SHEAR KEYS SHALL HAVE EXPOSED REINFORCING BARS APPROACHABLE CONCRETE SURFACE TO SP. 10-200.

REFERENCE DRAWINGS:-
1. DIMENSIONAL DETAILS OF SUPERSTRUCTURE FOR MAJOR BRIDGE (SPAN 80.00- C/C OF EXP. GAPS) 00/00-00/ST/MAUR/301/003 SHEETS

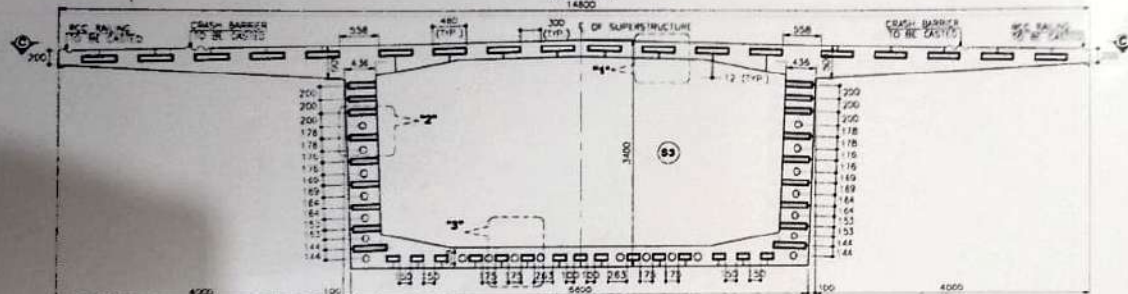


PROJECT
CONSTRUCTION OF MAJOR BRIDGE OVER SHOOLE STRAIT CREEK BETWEEN
SRM 586.500 TO 638.000 (C/C OF HR. 223) IN THE UNION TERRITORY OF
ANDAMAN & NICOBAR ISLANDS.

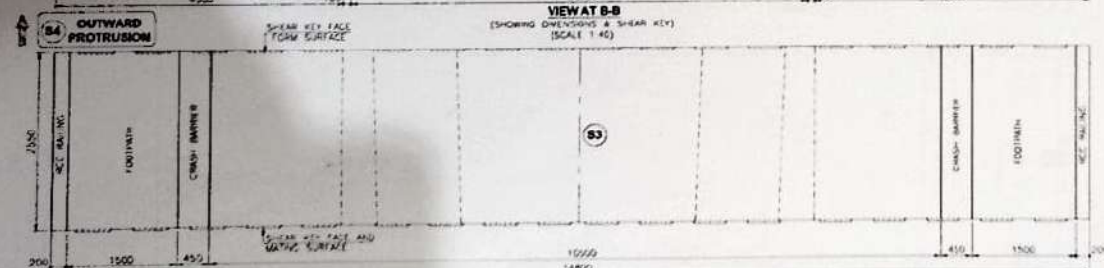
DESIGNED BY	P. N. S.	DR	TITLE	DIMENSIONAL DETAILS OF PRECAST SEGMENT FOR SEGMENT S2 FOR MAJOR BRIDGE (SPAN 80.00- C/C OF EXP. GAPS)
DRAWN BY	A. P. S.	DR	DRAWING NO.	STR/MB-303
CHECKED BY	N. S. S.	DR	SHEET	SET OF 011 DATE FEBRUARY 2021



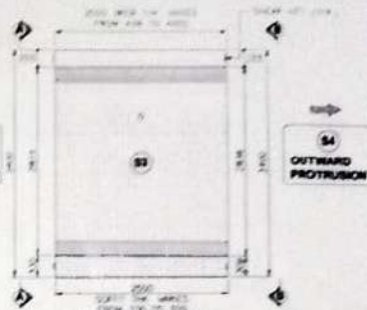
VIEW AT A-A
(SHOWING DIMENSIONS & SHEAR KEYS)
SCALE 1:40
1:4800



VIEW AT B-B
(SHOWING DIMENSIONS & SHEAR KEYS)
SCALE 1:40
1:850



SECTION AT C-C
SCALE 1:40



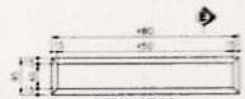
SECTIONAL ELEVATION
SCALE 1:40

NOTES:-

- 1. ALL DIMENSIONS ARE IN MM. LEVELS ARE IN M AND CHANGES ARE IN MM UNLESS OTHERWISE SPECIFIED. ONLY METRIC DIMENSIONS ARE TO BE FOLLOWED. NO DIMENSIONS TO BE IN FEET.
- 2. SHEAR KEYS SHALL HAVE TYPICAL METRIC DIMENSIONS UNLESS APPROXIMATELY CONCRETE SURFACE ARE SHOWN.

REFERENCE DRAWINGS:-

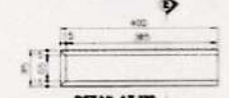
- 1. DIMENSIONAL DETAILS OF SUPERSTRUCTURE FOR ALKON BRIDGE (SPAN 40.00 M, C.C. ON ROAD) (S/AN 10/01/2016-01/2016)



DETAIL AT T''
(TOP & BOTTOM)
SCALE 1:1



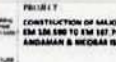
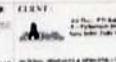
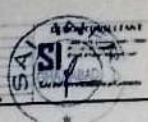
SECTION AT 4-4
(TOP SURFACE)
SCALE 1:1



DETAIL AT T''
(SIDE)
SCALE 1:1



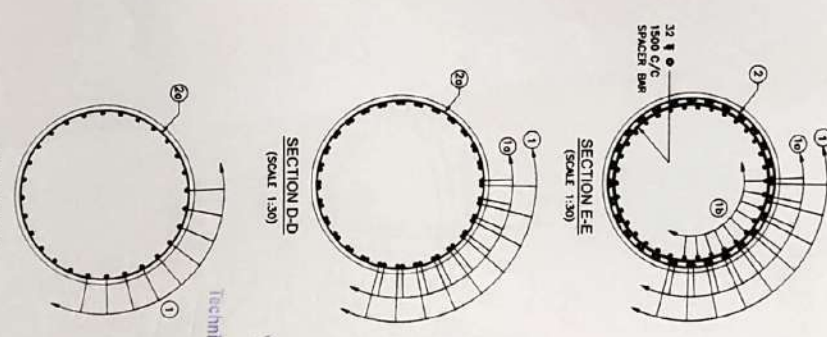
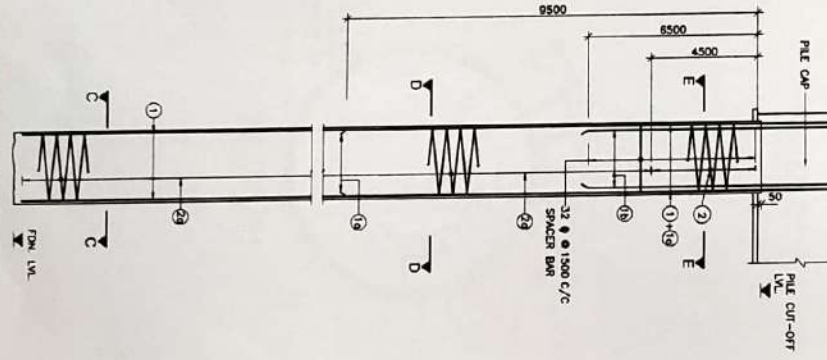
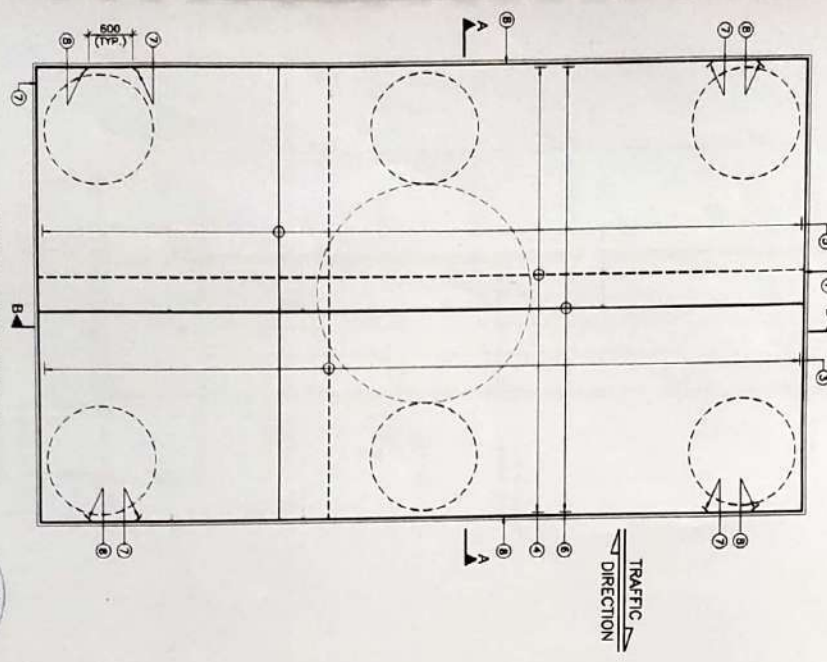
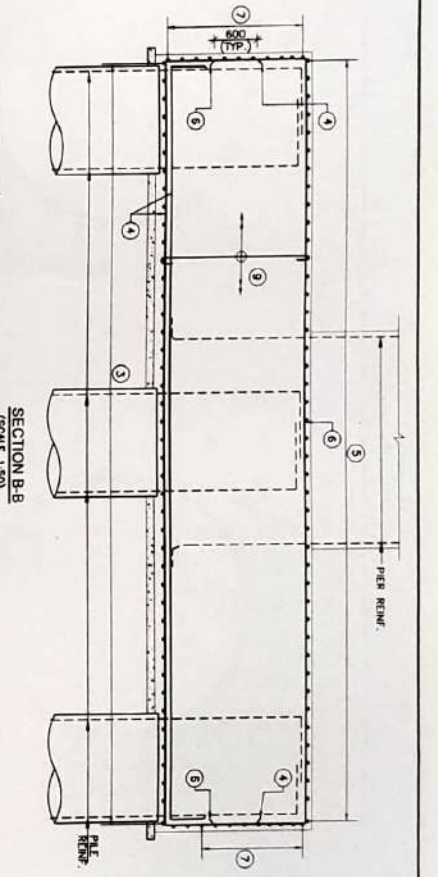
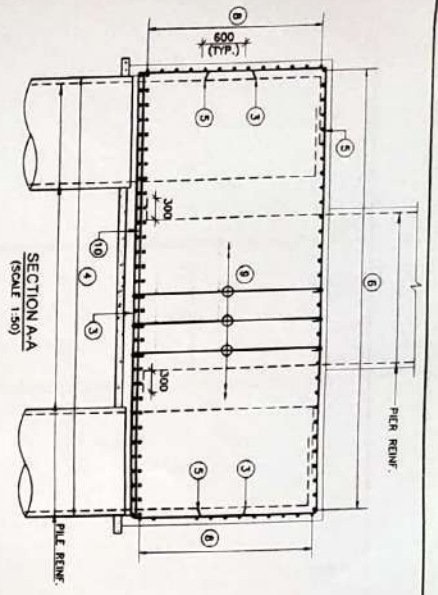
DETAIL AT T''
SCALE 1:1



PROJECT
CONSTRUCTION OF ALKON BRIDGE OVER NABHA STRAIGHT (BANK BETWEEN
EM 128.580 TO EM 127.762) OF NH-133 IN THE UNION TERRITORY OF
ANDHRA PRADESH.

DESIGNED BY	P. No.	DATE	SCALE
DRAWN BY	A. No.	DATE	SCALE
CHECKED BY	K. No.	DATE	SCALE
REVISED BY	DATE	SCALE	

**CONSTRUCTION OF MAJOR BRIDGE
OVER STRAIT CREEK
(BETWEEN KM 106.590 TO KM 107.762) OF NH 223 IN THE
UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS**



SCHEDULE OF PILE & PILE CAP REINFORCEMENT

BAR NO.	DIA. (mm)	SPACING/NO.	SHAPE
1	25	28 Min.	
10	25	28 Min.	
1b	25	34 Min.	
2	16	125 C/C	○ ϕ 100
2a	10	125 C/C	○ ϕ 100
3	25	90 C/C	
4	32	80 C/C (2WAYS)	
5	20	90 C/C	
6	20	80 C/C	
7	10	150 C/C	
8	10	150 C/C	
9	10	SPACING ^a	
10	32	1500 C/C SPACER BAR	

SPACING^a - 1500mm IN LONGITUDINAL DIRECTION AND 1000mm C/C TRANSVERSELY

- NOTES
1. ALL DIMENSIONS ARE IN MILLIMETERS AND UNLESS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALED ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
 4. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION FE-500D ORS CONFORMING TO IS: 1786 SHALL ONLY BE USED.
 5. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETE.
 6. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENTS SHALL BE CALCULATED AS FOLLOWS (AS PER SEC. 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (L) OR 50% ONLY.
 7. NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.

GOOD FOR CONSTRUCTION
USE CRS / FBECR
Techniko Consultancy Services Pvt. Ltd.
Yongma Engineering & Consulting
In Association with
Techniko Consultancy Services Pvt. Ltd.

LEGEND:

TOP/INNER FACE
BOTTOM/OUTER FACE
VARIABLE LENGTH

FOR UNFAVORABLE ROAD CONDITION THE 'b' SHOULD BE MULTIPLIED BY FACTOR OF 1.43 FOR 632mm DEVELOPMENT LENGTH (l_{db})

l_{db} = a_s (1 + 1.6)

a_s = 40 FOR 420 (F-5000)
a_s = 35 FOR 425 (F-5000)
a_s = 34 FOR 450 (F-5000)
a_s = 34 FOR 450 (F-5000)

REINFORCEMENT PLAN

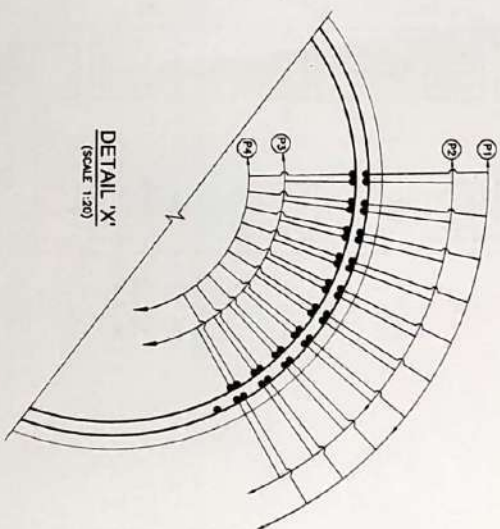
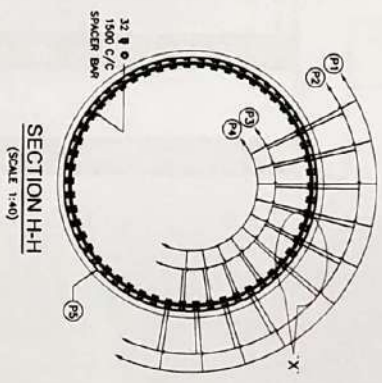
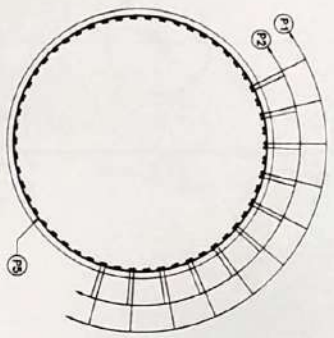
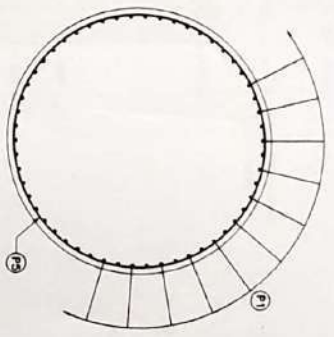
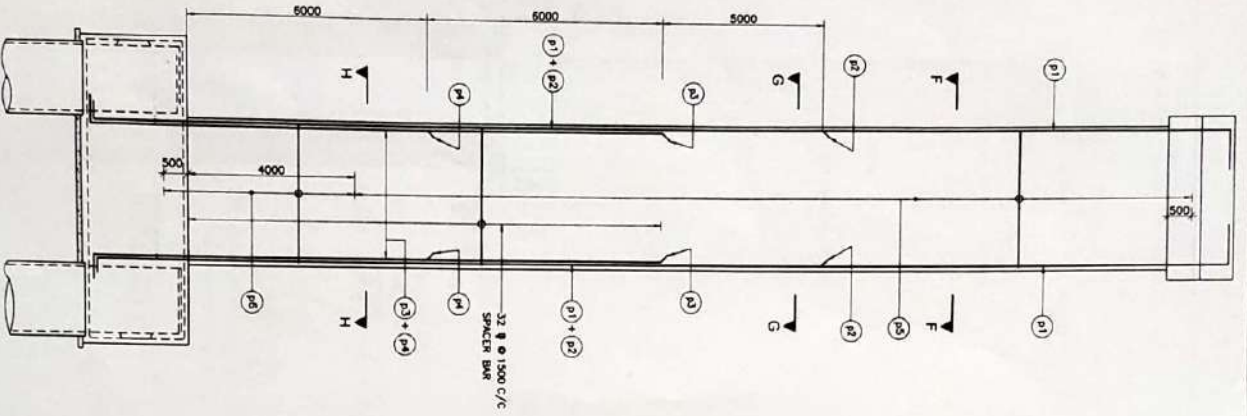
CLIENT: **Techniko Consultancy Services Pvt. Ltd.**

PROJECT: **CONSTRUCTION OF MAJOR BRIDGE OVER ANDOLU STRAIT CREEK BETWEEN KM 109.595 TO KM 107.720 OF NH 233 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.**

DATE: 28/11/2020

SCALE: 1:50

DATE: 28/11/2020



SCHEDULE OF PIER REINFORCEMENT

BAR NO.	DIA (mm)	SPACING/No.	SHAPE
P1	32	58 Max.	1
P2	32	58 Max.	1
P3	32	58 Max.	1
P4	32	58 Max.	1
P5	16	125 C/C	1
P6	25	75 C/C	1

- NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LENGTHS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALE, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
 4. NEW TILD STRENGTH REDUCED PARTS OF BRIDGE.
 5. REINFORCEMENT (R-5000) HAS COMPLEMENT TO IS 1786 SHALL ONLY BE USED.
 6. REINFORCEMENT OF PIER SHALL BE TO BE ANCHORED IN THE PILE CAP AFTER ITS CONSTRUCTION.
 7. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, LAP LENGTH OF REINFORCEMENTS SHALL BE CALCULATED AS FOLLOWS (AS PER IRC 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (L) OF 50% ONLY.
 8. LAP LENGTH $l = ad$, but
 - a) $l = 1.9$ FOR 554-528
 - b) $l = 1.15$ FOR 238-428-238
 - c) $l = 1.8$ FOR 338-428-238
 9. DEVELOPMENT LENGTH (l_{bd})
 - l_{bd} = a.b. (a = 1.0)
 - b = 1.8
 - c = 40 FOR M30 (F_{ck} 3000)
 - d = 36 FOR M25 (F_{ck} 2500)
 - e = 34 FOR M40 (F_{ck} 4000)
 10. FOR UNIFORMABLE BOND CONDITION THE l SHOULD BE MULTIPLIED BY FACTOR OF 1.43 FOR $\phi \leq 25$ mm.
 11. l SHOULD BE INCREASED BY MULTIPLIER FACTOR (100 / (33-a))
 12. NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.

GOOD FOR CONSTRUCTION
USE CRS/FBERD

Techniko Consultancy Services Pvt. Ltd.
Yongma Engineering Co. Ltd.
In Association with

PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER AIRPORT STREET CANAL BETWEEN KM 106.596 TO KM 107.7621 OF NH-22 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.

CONTRACTOR: SINGH'S CONSULTANTS

ENGINEER: ATHERIVITY ENGINEER

DESIGNED BY: P. Naga

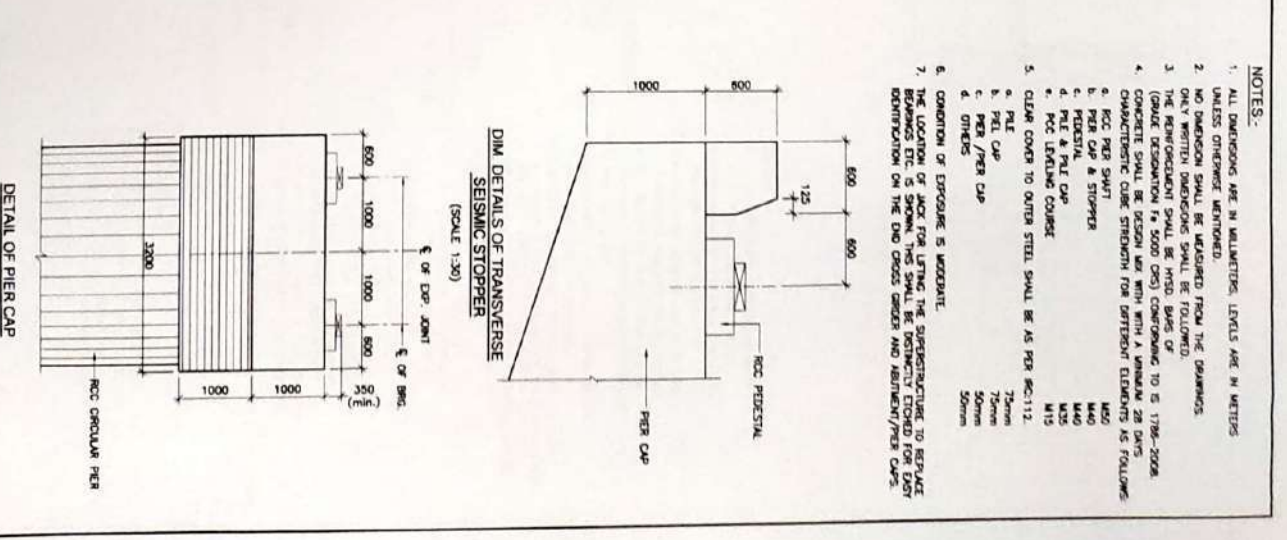
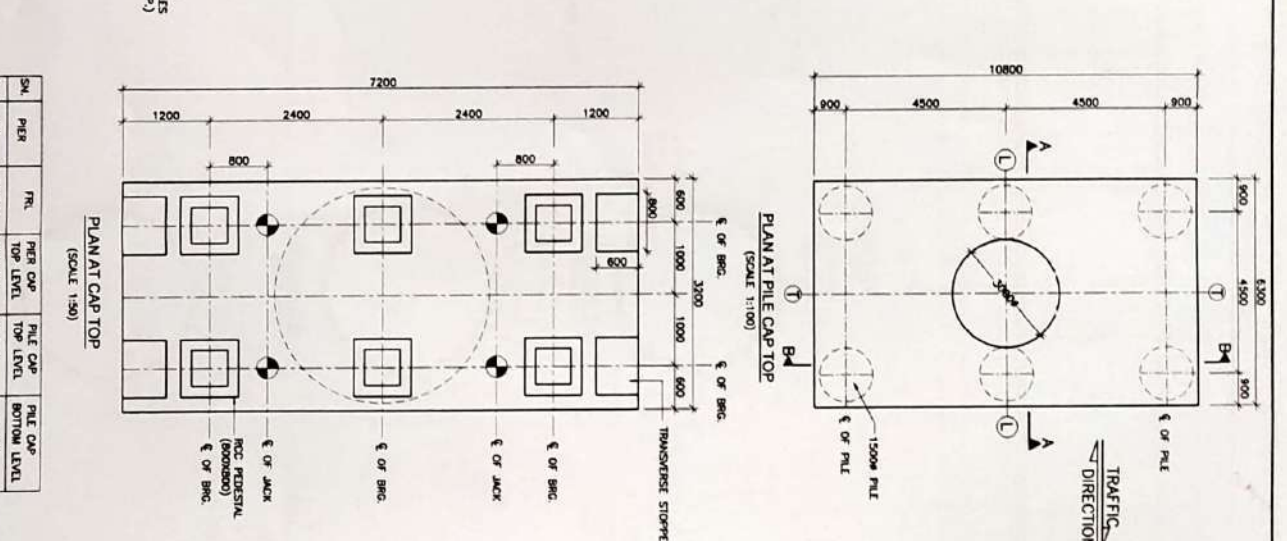
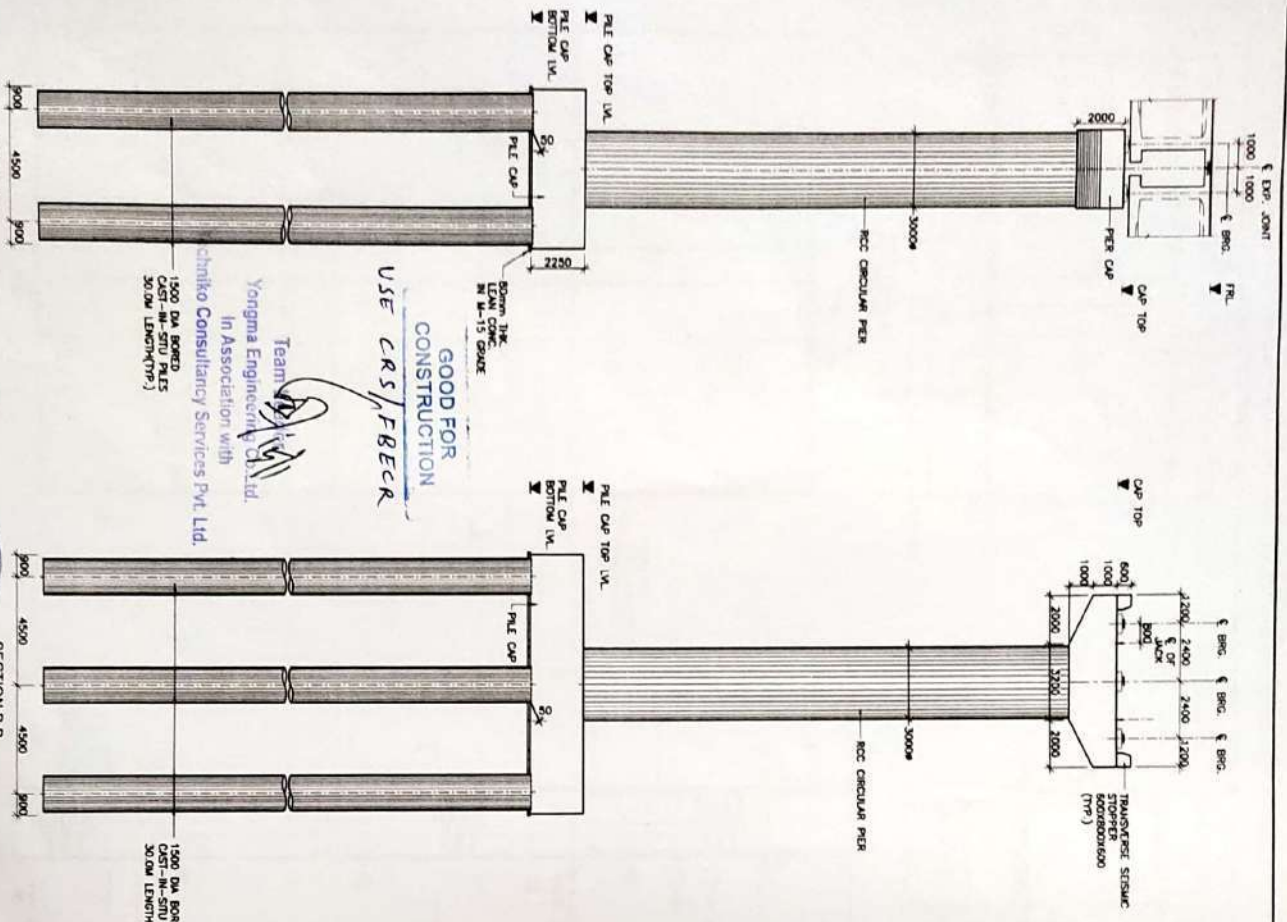
DRAWN BY: A. Paul

CHECKED BY: K. Anandhi

TITLE: DIMENSIONAL & REIN. DETAIL OF PIER FOR CREEK BRIDGE

DRAWING NO.: CREEK-BR-201 (03 OF 03)

DATE: 28.11.2020



SL	PIER	RFL	PIER CAP TOP LEVEL	PIER CAP TOP LEVEL	PIER CAP BOTTOM LEVEL
1.	P7	30.348	26.553	3.850	1.800

- NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
 2. NO DIMENSION SHALL BE MEASURED FROM THE DRAWINGS.
 3. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 4. THE REINFORCEMENT SHALL BE M20 BARS OF GRADE DEFORMATION (4 5000 CRS) CONFORMING TO IS 1786-2008. CONCRETE SHALL BE DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC CUBE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
 - M45
 - M40
 - M35
 - M30
 - M25
 5. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IS:1172.
 - a. PILE CAP 75mm
 - b. PILE CAP 75mm
 - c. PIER/PIER CAP 50mm
 - d. OTHERS 50mm
 6. CONDITION OF EXPOSURE IS MODERATE.
 7. THE LOCATION OF JOINT FOR LIFTING THE SUPERSTRUCTURE TO REPLACE BRIDGES ETC. IS SHOWN. THIS SHALL BE INDICATED BY A RED LINE INDICATION ON THE DIM CROSS CENTER AND RESTRICTION/PIER CAPS.

DESIGN CONSULTANT: **SI** (SCALE 1:150)

CONTRACTOR: **CD** (SCALE 1:150)

SAFETY CONSULTANT: **SI** (SCALE 1:150)

AUTHORITY INSPECTOR: **SI** (SCALE 1:150)

CLIENT: **SI** (SCALE 1:150)

PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER WOODOL SHANTI CREEK (BETWEEN ANANDHAN & WOODOL ISLAND).

DESIGNED BY: P. S. (SCALE 1:150)

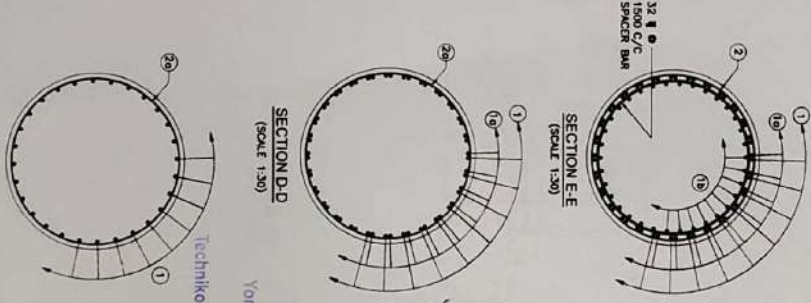
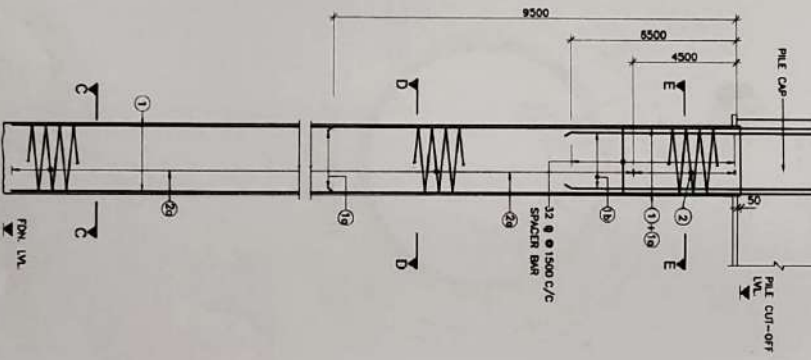
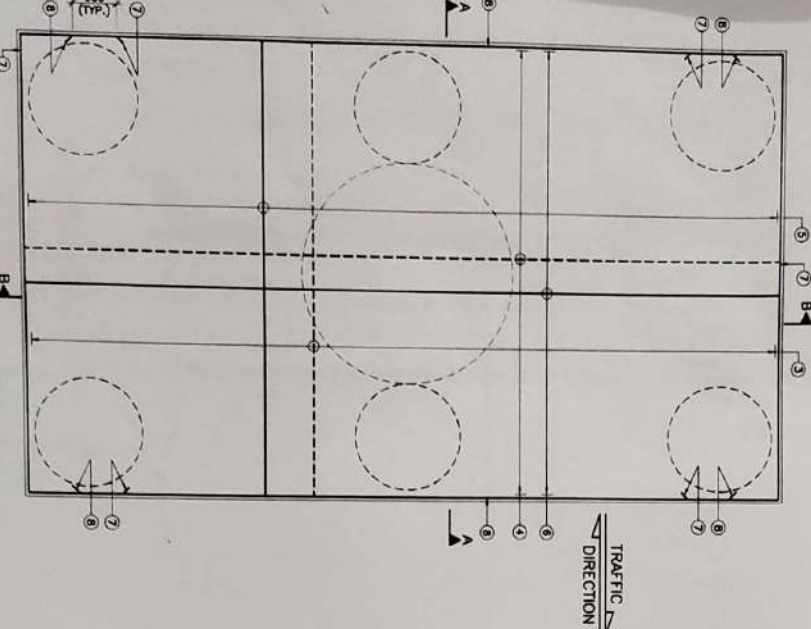
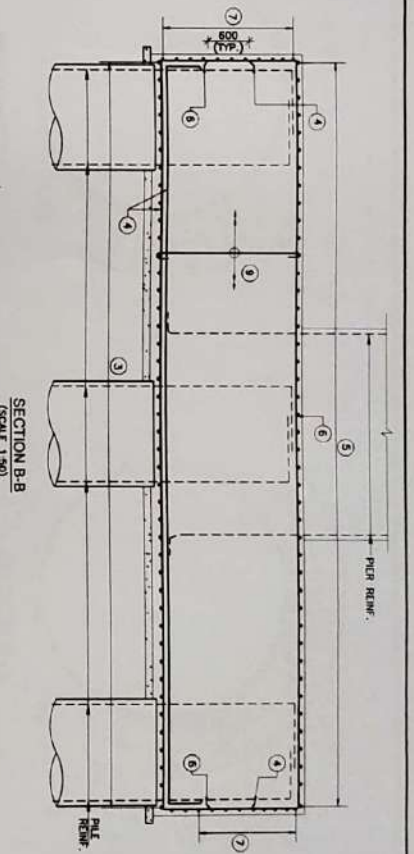
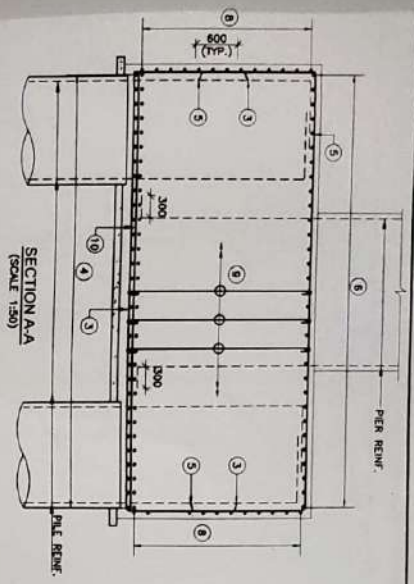
DRAWN BY: A. B. (SCALE 1:150)

CHECKED BY: R. S. (SCALE 1:150)

TITLE: DIMENSIONAL & REINFORCEMENT DETAIL OF PIER FOR CREEK BRIDGE

DRAWING NO: CREEK-BR-202 (01 OF 03)

DATE: 07.12.2020



GOOD FOR CONSTRUCTION
 use CSR / F8ECR

Techniko Consultancy Services Pvt. Ltd.
 Yongma Engineering & Build.

SCHEDULE OF PILE & PILE CAP REINFORCEMENT

BAR NO.	DIA (mm)	SPACING/No.	SHAPE
1	25	28 Nos.	—
10	25	28 Nos.	—
15	25	34 Nos.	—
2	16	125 c/c	○ 500
20	10	125 c/c	○ 500
3	25	90 c/c	—
4	32	90 c/c	—
5	20	90 c/c (2 LAYERS)	—
6	20	80 c/c	—
7	10	150 c/c	—
8	10	150 c/c	—
9	10	SPACER	—
10	32	1500 C/C	SPACER BAR

SPACER - Ø 10MM IN LONGITUDINAL DIRECTION AND 10MM C/C TRANSVERSELY

- NOTES**
- ALL DIMENSIONS ARE IN MILLIMETERS AND UNLESS ARE IN LETTERS UNLESS OTHERWISE SPECIFIED.
 - REINFORCEMENT ARE NOT TO BE SQUARED UNLESS SPECIFIED.
 - REINFORCEMENT SHALL BE FOLLOWED.
 - 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
 - 1-1 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE.
 - MIN YIELD STRENGTH DEVELOPED BARS OF GRADE F8ECR/5000 OR EQUIVALENT TO S. 1786 SHALL ONLY BE USED.
 - REINFORCEMENT OF PIER SHEET PILING TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONSTRUCTION.
 - LAPPING OF REINFORCEMENT SHALL BE ANCHORED AS FAR AS POSSIBLE IN CASE LAPPING OF BARS BECAUSE UNDESIRABLE. MINIMUM LAP LENGTH OF REINFORCEMENTS SHALL BE CALCULATED AS FOLLOWS (AS PER REC. 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (L) OF 50% ONLY.
 - LAP LENGTH $l = d \cdot \text{fact}$
 $d = 1.0$ FOR Ø 25
 $d = 1.15$ FOR Ø 28-32
 $d = 1.4$ FOR Ø 36-50
 - DEVELOPMENT LENGTH (L_{DEVL})
 $L_{DEVL} = \text{fact} \cdot d$
 $\text{fact} = 1.0$ FOR Ø 25
 $\text{fact} = 1.15$ FOR Ø 28-32
 $\text{fact} = 1.4$ FOR Ø 36-50
 - FOR UNDESIRABLE BOND CONDITION THE B SHOULD BE MULTIPLIED BY FACTOR OF 1.43 FOR Ø 25mm.
 - NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.

LEGEND:

- TOP/INNER FACE
- BOTTOM/OUTER FACE
- BOTH FACE
- VARIABLE LENGTH

REIN DETAILS OF PILE CAP (SCALE 1:50)

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

SECTION C-C (SCALE 1:50)

SECTION D-D (SCALE 1:50)

SECTION E-E (SCALE 1:50)

SECTION B-B (SCALE 1:50)

SECTION A-A (SCALE 1:50)

TRAFFIC DIRECTION

CONTRACTOR: MATHRA VISWAJITHA BRIDGE JV

DESIGN CONSULTANT: S.I. ENGINEERS

PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER MIDHAT STRAIT CROSS BETWEEN KM 106.580 TO KM 107.263 OF NH 213 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.

CLIENT: NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED

SAFETY CONSULTANT: SAFETY CONSULTANTS PVT. LTD.

PROJECT ENGINEER: PROJECT ENGINEERS PVT. LTD.

APPROVED ENGINEER: APPROVED ENGINEERS CO. LTD.

PROJECT MANAGER: PROJECT MANAGER

INSPECTOR: P. No. 1

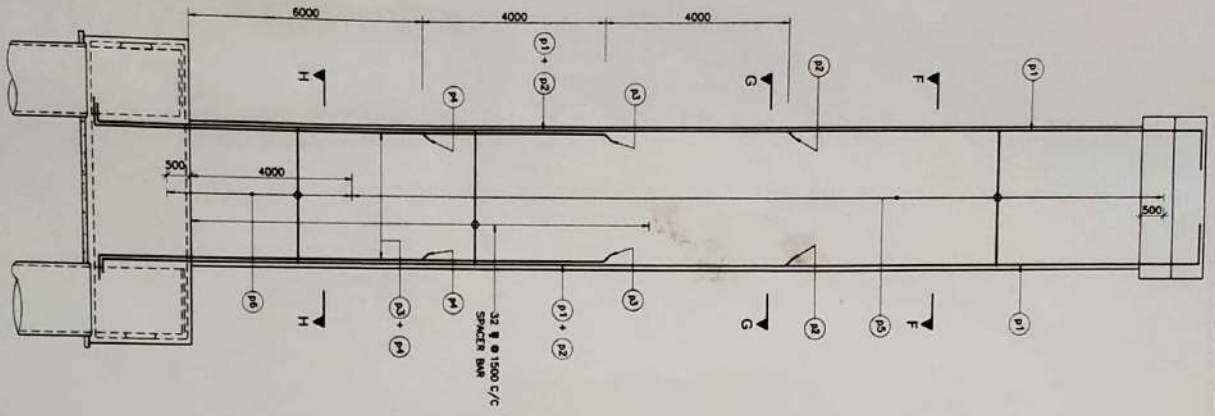
DRAWN BY: A. Paul

CHECKED BY: R. Arjunan

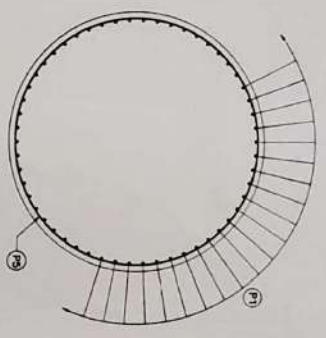
TITLE: DIMENSIONAL & REIN. DETAIL OF PIER FOR CREEK BRIDGE

DRAWING NO: CREEK-BR-202 (02 OF 03)

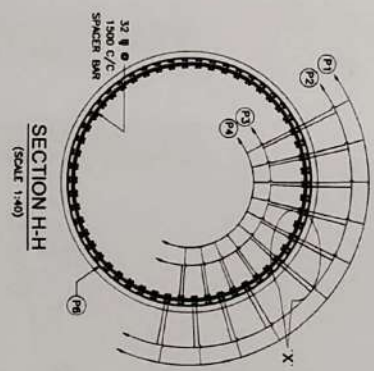
SHEET: DATE: 07.12.2020



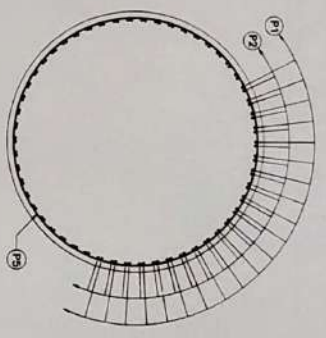
REIN. DETAILS OF PIER COLUMN
(SCALE 1/20)



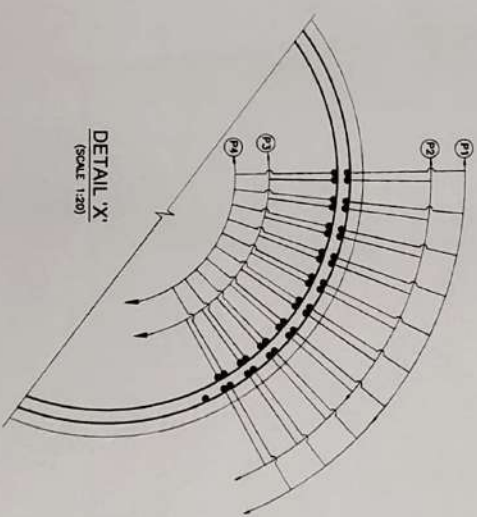
SECTION F-F
(SCALE 1:40)



SECTION H-H
(SCALE 1:40)



SECTION G-G
(SCALE 1:40)



DETAIL 'X'
(SCALE 1:20)

SCHEDULE OF PIER REINFORCEMENT

BARS	Ø (mm)	SPACING/Nos.	SHAPE
P1	32	58 Nos.	1
P2	32	58 Nos.	1
P3	25	58 Nos.	1
P4	25	58 Nos.	1
P5	16	125 C/C	○
P6	25	75 C/C	○

GOOD FOR CONSTRUCTION
USE CRS / FBCK

- NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
 4. HIGH YIELD STRENGTH REINFORCED BARS OF GRADE 500MPa (F_y=500) OR COMPARABLE TO B. 1788 SHALL ONLY BE USED.
 5. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE P.C. OF BOTTOM OF CONCRETE.
 6. LAPPING OF REINFORCEMENT SHALL BE ANCHORED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, THE LAPPING SHALL BE DONE IN SUCH A MANNER THAT IT SHALL BE CALCULATED AS FOLLOWS: L_{AP} PER IS: 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (L_{AP}) OF 20% ONLY.
 7. NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.

Yongma Engineering Co. Ltd.
In Association with
Techniko Consultancy Services Pvt. Ltd.

NO. 01	REVISION FOR CONCRETE MIX DESIGN	DATE	07.12.2020
NO. 02	REVISION FOR REINFORCEMENT DESIGN	DATE	07.12.2020
NO. 03	REVISION FOR PIER & ABUTMENT DESIGN	DATE	07.12.2020
NO. 04	REVISION FOR BRIDGE DESIGN	DATE	07.12.2020

DISIGN CONSULTANT
SI
Sri Lanka Institute of Engineers
No. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

CONTRACTOR
MAYURA WAHINI ENGINEERING

PIER CHECK CONSULTANT
D.D.
D.D. Engineering Services Pvt. Ltd.

SAFETY CONSULTANT
S.A.
S.A. Engineering Services Pvt. Ltd.

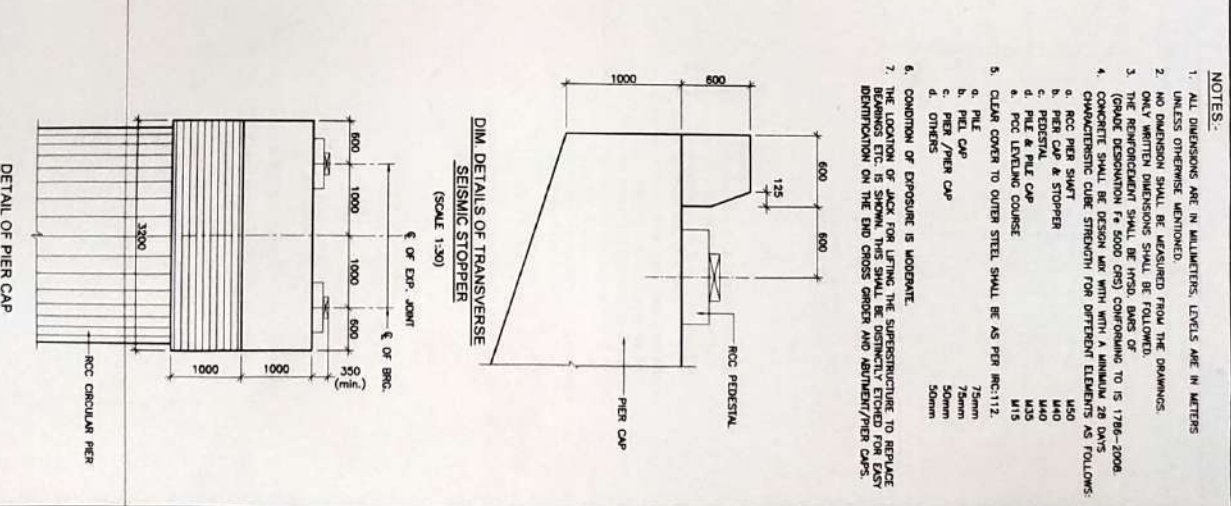
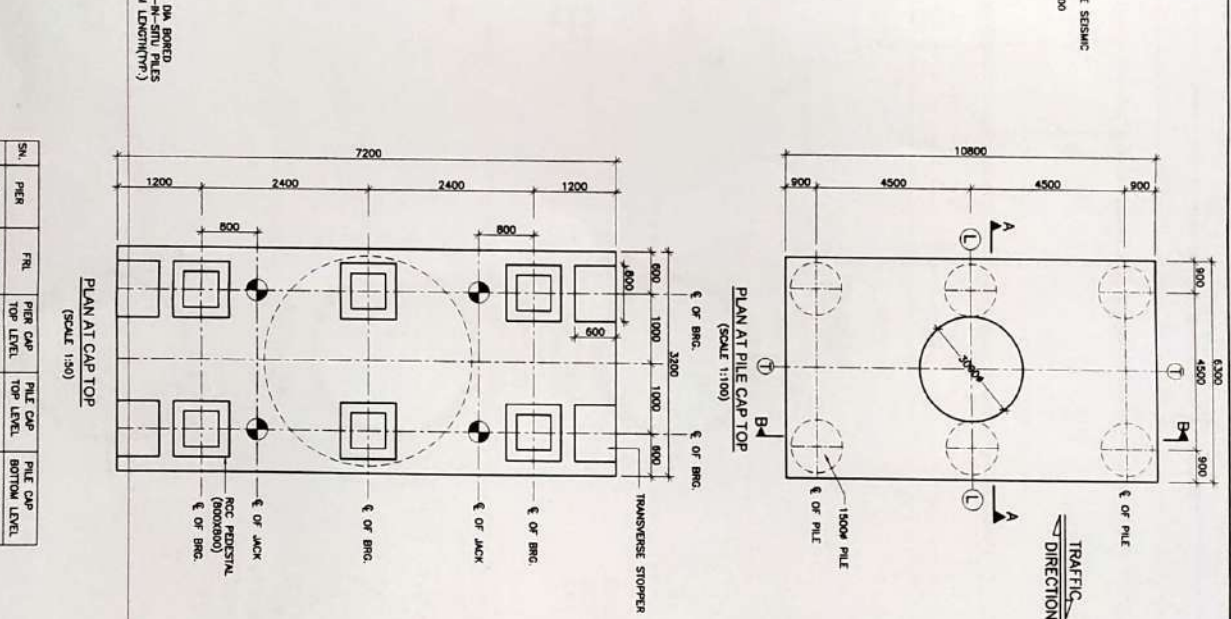
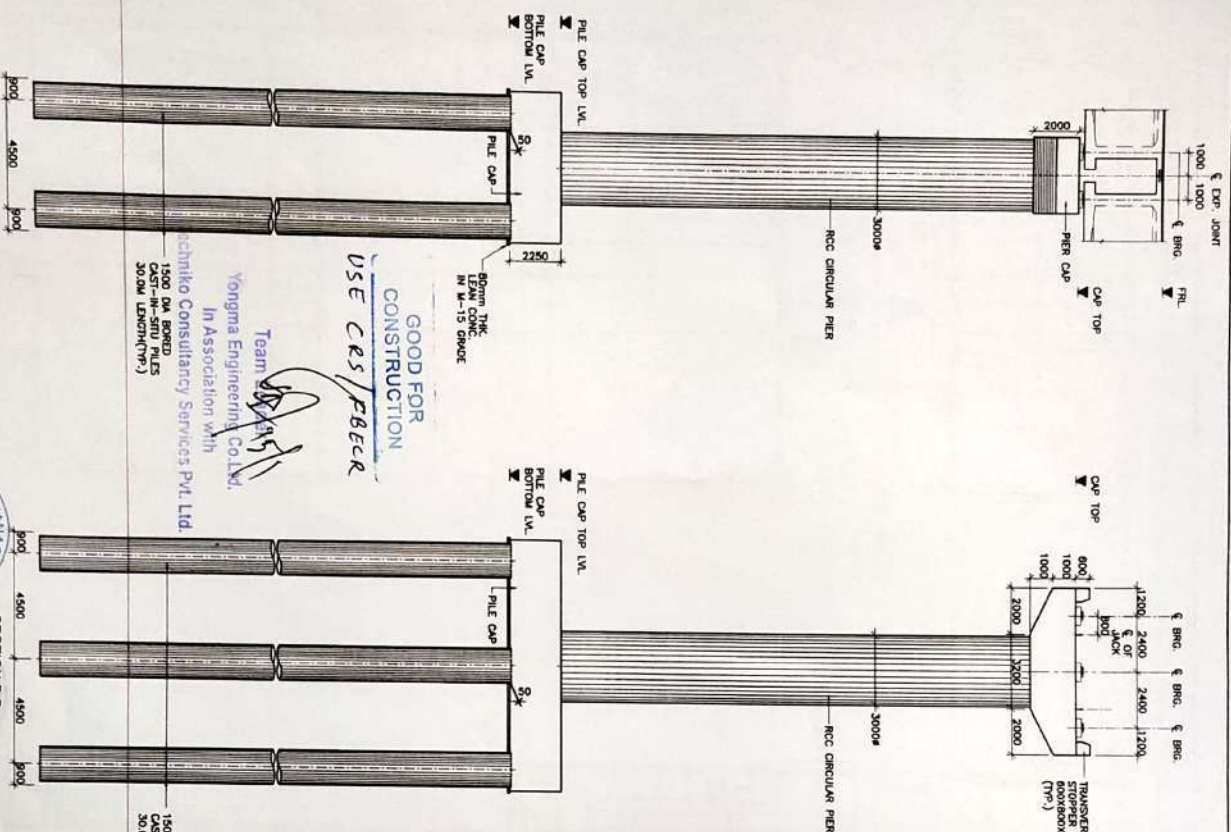
AUTHORITY ENGINEER
P.O.
P.O. Engineering Services Pvt. Ltd.

CLIENT
MAYURA WAHINI ENGINEERING

PROJECT
CONSTRUCTION OF MAJOR BRIDGE OVER MAROUL STRAIT GULF BETWEEN KM 106.590 TO KM 107.761 OF NH 223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.

DESIGNED BY: P. NEDU
DRAWN BY: A. PAUL
CHECKED BY: K. ANANDH

TITLE: DIMENSIONAL & REIN. DETAIL OF PIER FOR CREEK BRIDGE
DRAWING NO: CREEK-BR-202 (03 OF 03)
SHEET: 03 OF 03



- NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
 2. NO DIMENSION SHALL BE UNLESS FROM THE DIMENSIONS.
 3. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 4. THE REINFORCEMENT SHALL BE IRSD, BARS OF (GRADE DESIGNATION F4 5000 CHS) CONFORMING TO IS 1786-2008 CONCRETE SHALL BE DESIGN M40 WITH A MINIMUM 28 DAYS CHARACTERISTIC CUBE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
 - a. RCC PIER SHIRT M40
 - b. PIER CAP & STOPPER M40
 - c. PIER / PIER CAP M35
 - d. PILE & PILE CAP M15
 - e. RCC LENDING COURSE M15
 5. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IRC:112.
 - a. PILE 75mm
 - b. PIER CAP 75mm
 - c. PIER / PIER CAP 50mm
 - d. OTHERS 50mm
 6. CONDITION OF EXPOSURE IS MODERATE.
 7. THE LOCATION OF JACK FOR LIFTING THE SUPERSTRUCTURE TO REPLACE BEARINGS ETC. IS SHOWN, THIS SHALL BE DISTINCTLY ETCHED FOR EASY IDENTIFICATION ON THE END CROSS ORDER AND ABUTMENT/PIER CAPS.

GOOD FOR CONSTRUCTION
USE CRS / FEBER

Team *Yongma*
Yongma Engineering Co., Ltd.
In Association with
Techniko Consultancy Services Pvt. Ltd.
1500 DIA BORED CAST-IN-SITU PILES (30.0M LENGTH(TYP.))

1500 DIA BORED CAST-IN-SITU PILES (30.0M LENGTH(TYP.))

SN.	PIER	FR.	PIER CAP TOP LEVEL	PIER CAP BOTTOM LEVEL	PIER CAP TOP LEVEL	PIER CAP BOTTOM LEVEL
1.	P09	28.891	25.076	3.850	1.600	1.600

PLAN AT CAP TOP
(SCALE 1:10)

DETAIL OF PIER CAP
(SCALE 1:30)

SECTION A-A
(SCALE 1:150)

SECTION B-B
(SCALE 1:150)

PLAN AT PIER CAP TOP
(SCALE 1:100)

DIM. DETAILS OF TRANSVERSE SEISMIC STOPPER
(SCALE 1:30)

DETAIL OF PIER CAP
(SCALE 1:30)

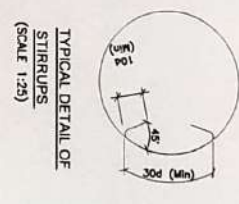
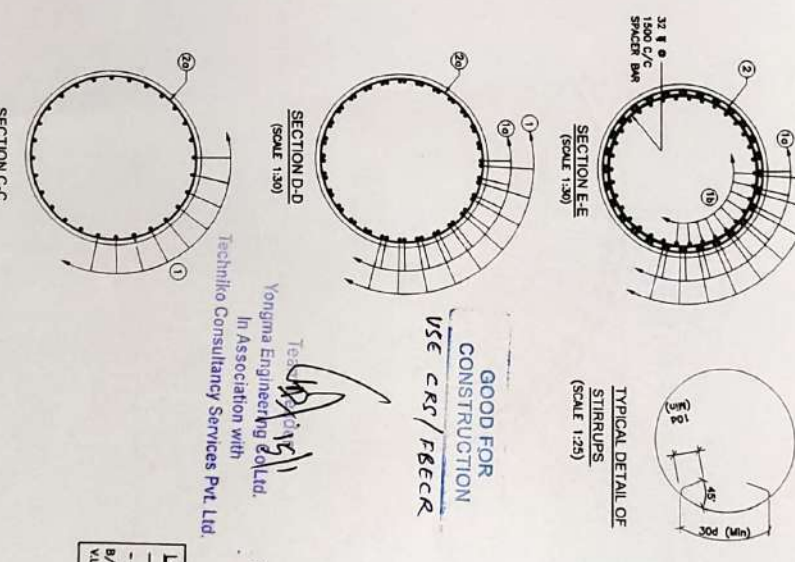
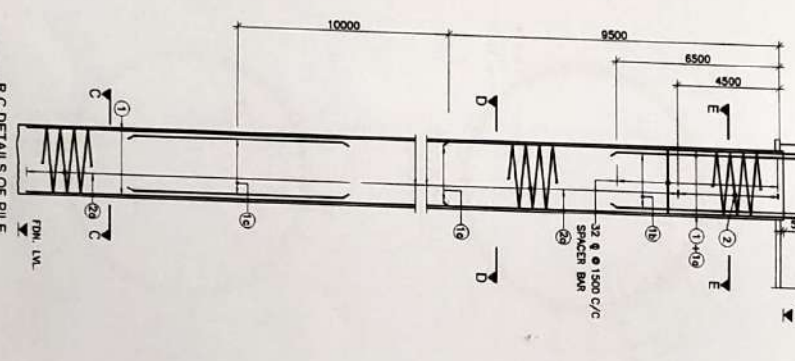
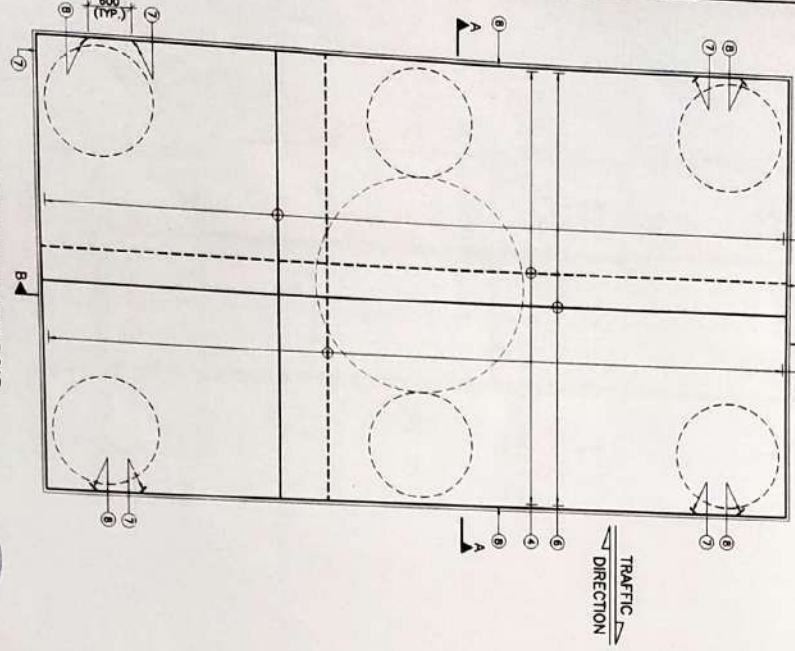
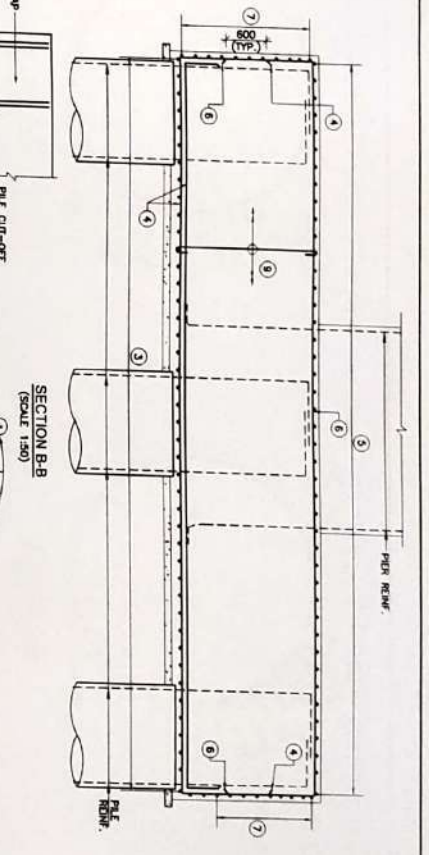
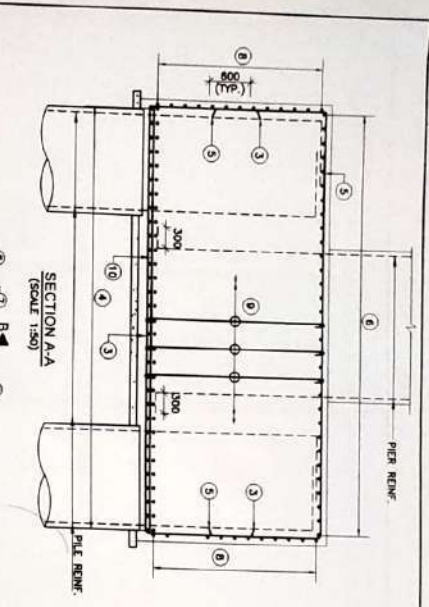
DESIGNER: *SI*
CONTRACTOR: *Yongma Engineering Co., Ltd.*
CLIENT: *Yongma Engineering Co., Ltd.*
PROJECT: *CONSTRUCTION OF MAJOR BRIDGE OVER ANDHRA STATE CANAL BETWEEN ANANDAPURAM & VEDANA ISLANDS.*

DESIGNED BY: *P. Naga*
DRAWN BY: *A. Hari*
CHECKED BY: *K. Anshu*
TITLE: *DIMENSIONAL & REIN. DETAIL OF PIER FOR CHENK BRIDGE*
DRAWING NO.: *CHENK-BR-200 (01 OF 03)*
SHEET: *1*
DATE: *08-12-2020*

SCHEDULE OF PILE & PILE CAP REINFORCEMENT

BAR NO.	DIA (mm)	SPACING/NO.	SHAPE
1	25	28 Nos.	
10	25	28 Nos.	
11	25	34 Nos.	
12	16	14 Nos.	1800mm
13	16	14 Nos.	1800mm
14	16	14 Nos.	1800mm
15	16	14 Nos.	1800mm
16	16	14 Nos.	1800mm
17	16	14 Nos.	1800mm
18	16	14 Nos.	1800mm
19	16	14 Nos.	1800mm
20	16	14 Nos.	1800mm
21	16	14 Nos.	1800mm
22	16	14 Nos.	1800mm
23	16	14 Nos.	1800mm
24	16	14 Nos.	1800mm
25	16	14 Nos.	1800mm
26	16	14 Nos.	1800mm
27	16	14 Nos.	1800mm
28	16	14 Nos.	1800mm
29	16	14 Nos.	1800mm
30	16	14 Nos.	1800mm
31	16	14 Nos.	1800mm
32	16	14 Nos.	1800mm

SPACING - @ 100MM IN LONGITUDINAL DIRECTION AND 100MM C/C TRANSVERSELY.



- NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETERS AND UNLESS SPECIFIED IN LETTERS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALE ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. L-L REINFORCEMENT LONGITUDINAL AXIS OF THE BRIDGE.
 4. T-T REINFORCEMENT TRANSVERSE AXIS OF THE BRIDGE.
 5. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE REINFORCEMENT F_y-5000 CDS CONFORMANCE TO IS 1786 SHALL ONLY BE USED.
 6. REINFORCEMENT OF PIER SHALL BE TO BE ANCHORED IN THE PILE CAP ABOVE ITS CONCRECTION.
 7. LAPPING OF REINFORCEMENT SHALL BE ANCHORED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENTS SHALL BE CALCULATED AS FOLLOWS (AS PER REC. 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (L) OF SIZE ONLY.
 8. LAP LENGTH L = a. 1.0 FOR 25% C/C b. 1.15 FOR 25% C/C-25% c. 1.15 FOR 25% C/C-50% d. 1.15 FOR 25% C/C-75% e. 1.15 FOR 25% C/C-100%
 9. DEVELOPMENT LENGTH (L_{dev})
- Bar = a, b, c, d, e (a = 1.0)
- b = 40 FOR 160 (F-4000)
- c = 40 FOR 160 (F-4000)
- d = 40 FOR 160 (F-4000)
- e = 40 FOR 160 (F-4000)
- f = 40 FOR 160 (F-4000)
- g = 40 FOR 160 (F-4000)
- h = 40 FOR 160 (F-4000)
- i = 40 FOR 160 (F-4000)
- j = 40 FOR 160 (F-4000)
- k = 40 FOR 160 (F-4000)
- l = 40 FOR 160 (F-4000)
- m = 40 FOR 160 (F-4000)
- n = 40 FOR 160 (F-4000)
- o = 40 FOR 160 (F-4000)
- p = 40 FOR 160 (F-4000)
- q = 40 FOR 160 (F-4000)
- r = 40 FOR 160 (F-4000)
- s = 40 FOR 160 (F-4000)
- t = 40 FOR 160 (F-4000)
- u = 40 FOR 160 (F-4000)
- v = 40 FOR 160 (F-4000)
- w = 40 FOR 160 (F-4000)
- x = 40 FOR 160 (F-4000)
- y = 40 FOR 160 (F-4000)
- z = 40 FOR 160 (F-4000)
- AA = 40 FOR 160 (F-4000)
- BB = 40 FOR 160 (F-4000)
- CC = 40 FOR 160 (F-4000)
- DD = 40 FOR 160 (F-4000)
- EE = 40 FOR 160 (F-4000)
- FF = 40 FOR 160 (F-4000)
- GG = 40 FOR 160 (F-4000)
- HH = 40 FOR 160 (F-4000)
- II = 40 FOR 160 (F-4000)
- JJ = 40 FOR 160 (F-4000)
- KK = 40 FOR 160 (F-4000)
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- MM = 40 FOR 160 (F-4000)
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- OO = 40 FOR 160 (F-4000)
- PP = 40 FOR 160 (F-4000)
- QQ = 40 FOR 160 (F-4000)
- RR = 40 FOR 160 (F-4000)
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- TT = 40 FOR 160 (F-4000)
- UU = 40 FOR 160 (F-4000)
- VV = 40 FOR 160 (F-4000)
- WW = 40 FOR 160 (F-4000)
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- ZZ = 40 FOR 160 (F-4000)
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- UUU = 40 FOR 160 (F-4000)
- VVV = 40 FOR 160 (F-4000)
- WWW = 40 FOR 160 (F-4000)
- XXX = 40 FOR 160 (F-4000)
- YYY = 40 FOR 160 (F-4000)
- ZZZ = 40 FOR 160 (F-4000)
- AAA = 40 FOR 160 (F-4000)
- BBB = 40 FOR 160 (F-4000)
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- VVV = 40 FOR 160 (F-4000)
- WWW = 40 FOR 160 (F-4000)
- XXX = 40 FOR 160 (F-4000)
- YYY = 40 FOR 160 (F-4000)
- ZZZ = 40 FOR 160 (F-4000)

Techniko Consultancy Services Pvt Ltd
 Yongma Engineering & Ltd.
 In Association with
 USE CRG/FBECC

LEGEND:

---	TOP/INNER FACE
---	BOTTOM/OUTER FACE
---	BOTH FACE
---	WARNING LENGTH

REIN. DETAILS OF PILE CAP (SCALE 1:50)

R.C DETAILS OF PILE (SCALE 1:25)

SECTION D-D (SCALE 1:30)

SECTION E-E (SCALE 1:30)

SECTION C-C (SCALE 1:30)

TYPICAL DETAIL OF STIRRUPS (SCALE 1:25)

GOOD FOR CONSTRUCTION

PROJECT:
 CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK BETWEEN KM 106.590 TO KM 107.761 OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.

CLIENT:
 MAJOR ROAD & BRIDGE CONSTRUCTION CORPORATION

DESIGNED BY: P. Naji

CHECKED BY: R. Arudhan

DRAWING NO.: CREER-BR-203 (02 OF 03)

DATE: 03.12.2020

REVISIONS:

NO.	DESCRIPTION	DATE
01	ISSUED FOR CHANGE IN C/D SCHEDULE	
02	REVISED DRAWING & DIMENSIONS	
03	REVISED DRAWING & DIMENSIONS	
04	REVISED DRAWING & DIMENSIONS	

APPROVALS:

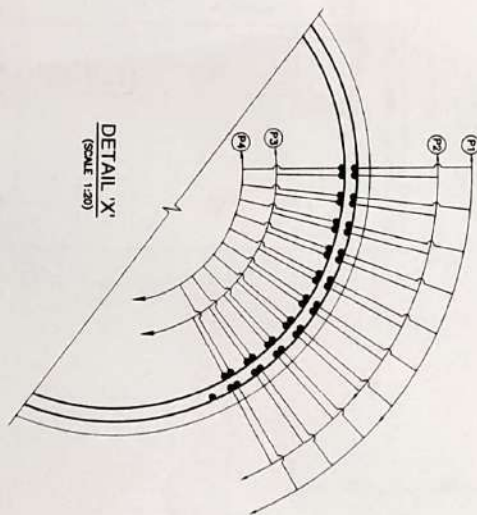
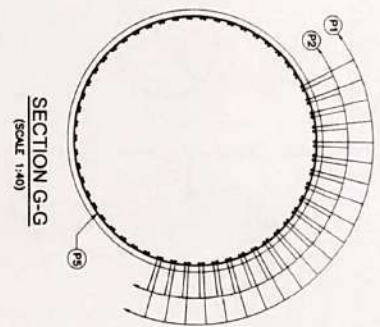
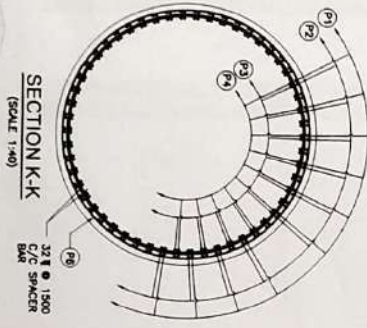
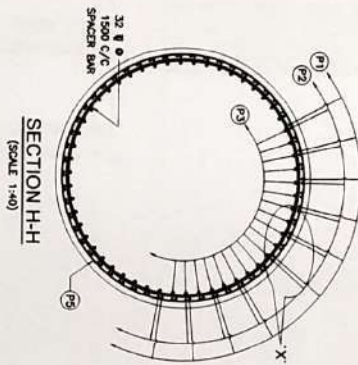
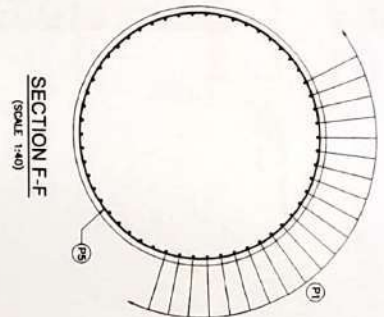
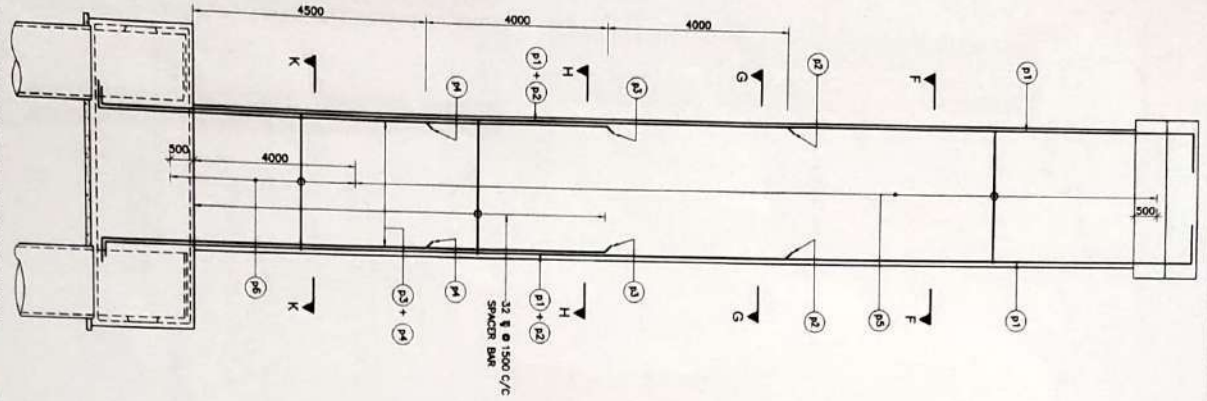
PROJECT MANAGER: [Signature]

SAFETY CONSULTANT: [Signature]

ALTERNATE ENGINEER: [Signature]

CLIENT: [Signature]

REIN. DETAILS OF PIER COLUMN
(SCALE 1/25)



SCHEDULE OF PIER REINFORCEMENT

BAR NO.	DIA (mm)	SPACING/NO.	SHAPE
P1	32	56 Nos.	1
P2	32	56 Nos.	1
P3	25	56 Nos.	1
P4	25	56 Nos.	1
P5	16	125 C/C	○
P6	25	75 C/C	○

- NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETERS AND UNLESS ARE IN METRIC UNITS OTHERWISE SPECIFIED DIMENSIONS ARE NOT TO BE SCALED ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED
 2. DIMENSIONS SHALL BE FOLLOWED
 3. 1-1 REPRESENTS OVERLAP AREA OF THE BRIDGE
 4. 1-1 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
 5. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
 6. 1-1 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
 7. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
 8. 1-1 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
 9. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
 10. 1-1 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
 11. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
 12. 1-1 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
 13. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
 14. 1-1 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
 15. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
 16. 1-1 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
 17. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
 18. 1-1 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
 19. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
 20. 1-1 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE

GOOD FOR CONSTRUCTION
USE CRS / FBCLA

Yongma Engineering Co. Ltd.
In Association with
Techniko Consultancy Services Pvt. Ltd.

REVISION	NO.	DATE	DESCRIPTION
1	1	03.03.2023	ISSUED FOR CONSTRUCTION
2	2	03.03.2023	ISSUED FOR CONSTRUCTION
3	3	03.03.2023	ISSUED FOR CONSTRUCTION
4	4	03.03.2023	ISSUED FOR CONSTRUCTION
5	5	03.03.2023	ISSUED FOR CONSTRUCTION
6	6	03.03.2023	ISSUED FOR CONSTRUCTION
7	7	03.03.2023	ISSUED FOR CONSTRUCTION
8	8	03.03.2023	ISSUED FOR CONSTRUCTION
9	9	03.03.2023	ISSUED FOR CONSTRUCTION
10	10	03.03.2023	ISSUED FOR CONSTRUCTION

REVISIONS

CONTRACTOR: SAHARA & PARTNERS ENGINEERS

CONTRACT NO.: SAHARA/2023/03/03

PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER MIDDEL STRAIT CREEK (BETWEEN ANDAMAN & NICOBAR ISLANDS)

CLIENT: TECHNICO CONSULTANCY SERVICES PVT. LTD.

DESIGNER: YONGMA ENGINEERING CO. LTD.

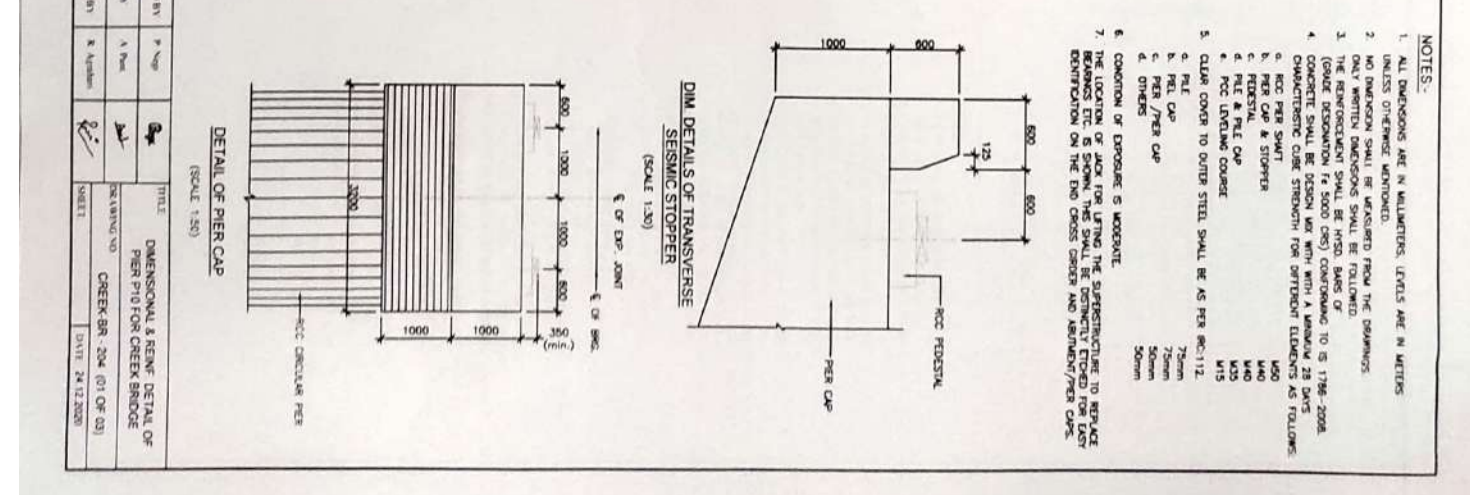
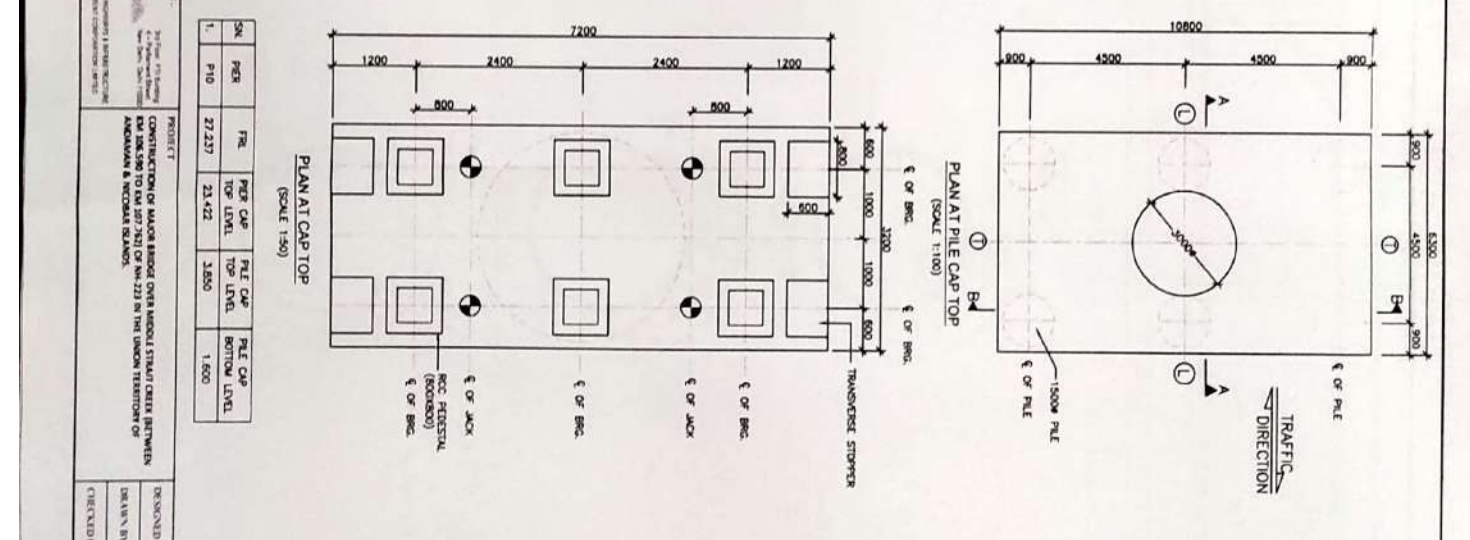
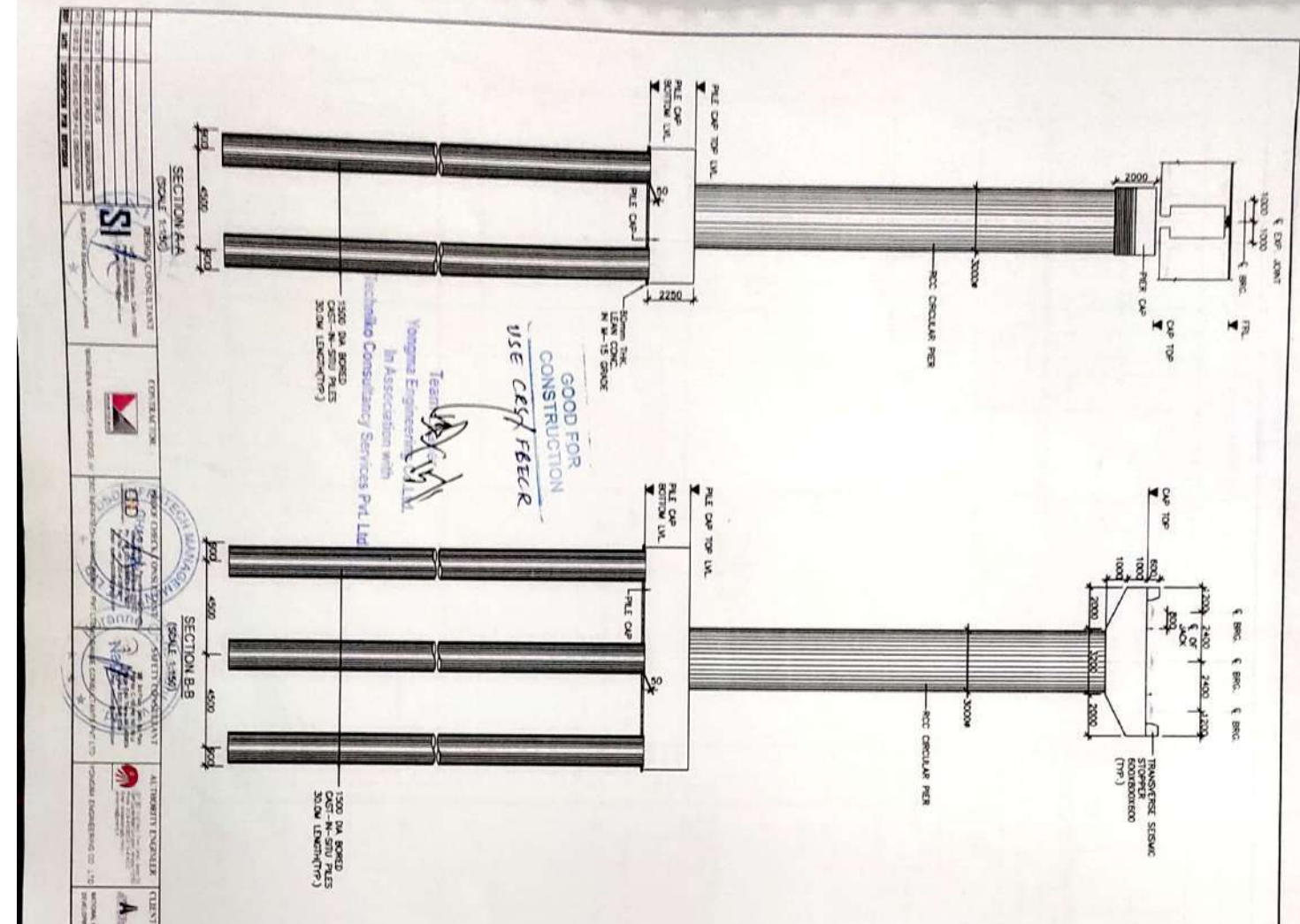
CHECKED BY: R. APDISHI

DATE: 03.12.2023

TITLE: DIMENSIONAL & REINFORCEMENT DETAIL OF PIER FOR CREEK BRIDGE

PROJECT NO.: CR-203 (03 OF 03)

SHEET: 03 OF 03

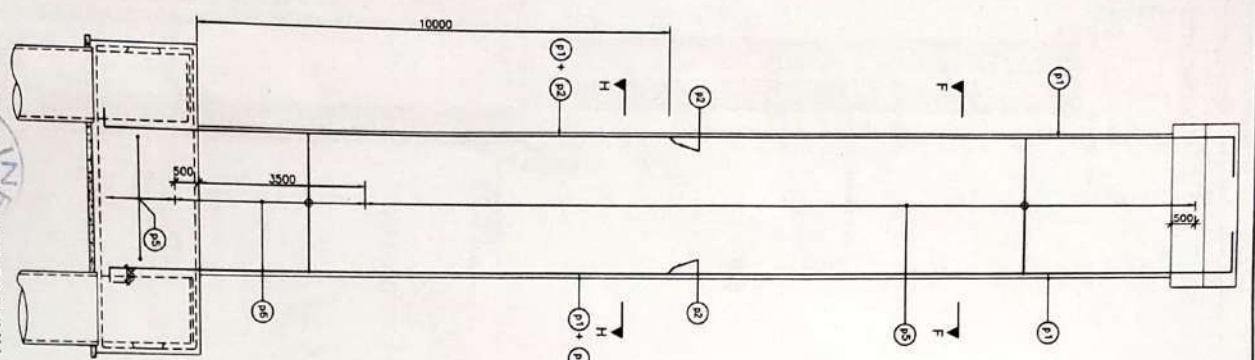


NO.	DESCRIPTION	DATE
1	ISSUED FOR TENDER	24.12.2020

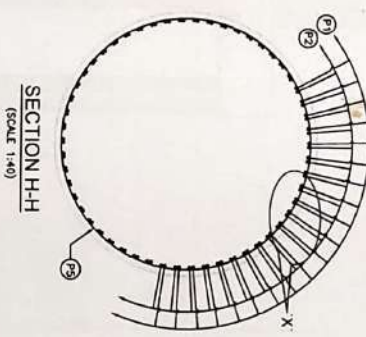
PROJECT	CONSTRUCTION OF MAJOR ROAD OVER BRIDGE STRUCTURE BETWEEN ANANDHAN & NEELAN RIVERS.
CLIENT	APJ Road Building Corporation, Chennai.
DESIGNED BY	P. Sripa
CHECKED BY	R. Anandhan
DATE	24.12.2020

SCALE	SCALE
SECTION A-A (SCALE 1:50)	SECTION B-B (SCALE 1:50)
PLAN AT PILE CAP TOP (SCALE 1:50)	DETAIL OF PIER CAP (SCALE 1:50)
PLAN AT PILE CAP TOP (SCALE 1:100)	DIM DETAILS OF TRANSVERSE SEISMIC STOPPER (SCALE 1:30)

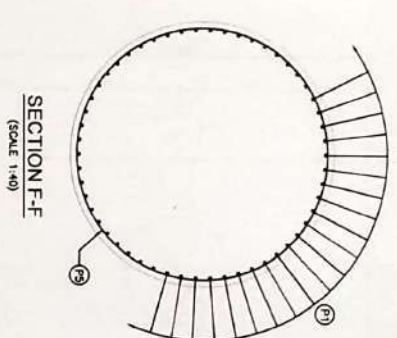
- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
 2. NO DIMENSION SHALL BE UNDERSIZED FROM THE DRAWINGS.
 3. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 4. THE REINFORCEMENT SHALL BE HYSD BARS OF GRADE DESIGNATION IS 500D (S2) CONFORMING TO IS 1786-2008.
 5. CHARACTERISTICS OF STEEL STRUCTURE FOR BRIDGE ELEMENTS AS FOLLOWS:
 a. RCC PIER SHAFT M40
 b. PIER CAP & STOPPER M40
 c. FOOTSTAL M40
 d. PCC LEVELING COURSE M15
 e. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IS:112
 6. CONDITION OF EXPOSURE IS MODERATE
 7. THE LOCATION OF JOINT FOR LIFTING THE SUPERSTRUCTURE TO REPLACE BRIDGE ETC. IS SHOWN, THIS SHALL BE DISTINCTLY ETCHED FOR LIFTING REVISION ON THE END CROSS ORDER AND APPROVAL/PIER CAPS.



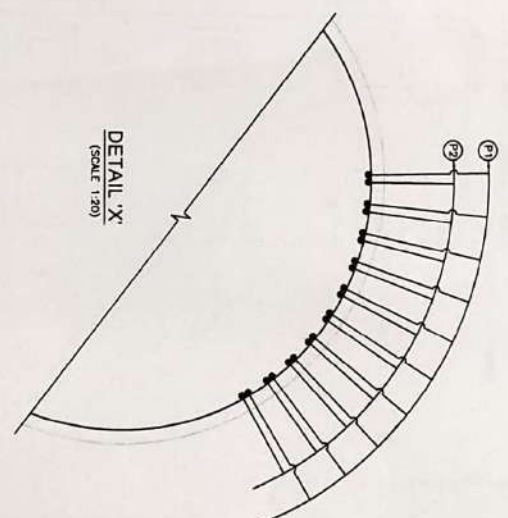
REINF. DETAILS OF PIER COLUMN
(SCALE 1:25)



SECTION H-H
(SCALE 1:40)



SECTION F-F
(SCALE 1:40)



DETAIL 'X'
(SCALE 1:20)

SCHEDULE OF PIER REINFORCEMENT

BAR NO.	DIA (mm)	SPACING/Nos.	SHAPE
P1	32	58 Nos.	I
P2	32	58 Nos.	I
P3	16	125 C/C	O
P4	25	70 C/C	O

GOOD FOR CONSTRUCTION
USE CRS / FBCCR

- NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LETTERS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. 1-1 REVISIONS LONGITUDINAL AND OF THE BRIDGE.
 4. 1-1 REVISIONS TRANSVERSE AND OF THE BRIDGE.
 5. HIGH YIELD STRENGTH REINFORCED BARS OF GRADE DESIGNATION F-5000 ARE COMPATIBLE TO S. 1788 SHALL ONLY BE USED.
 6. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETING.
 7. LAPPING OF REINFORCEMENT SHALL BE ANCHORED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECAUSE OF LIMITED LAP LENGTH OF REINFORCEMENT SHALL BE CALCULATED AS FOLLOWS (AS PER IRC: 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (L) OF 50% ONLY.
 8. LAP LENGTH:
 - $l_d = \frac{f_y}{\sigma_s} \times \frac{d}{4}$
 - $l_d = 1.0$ FOR 25% C/C
 - $l_d = 1.15$ FOR 25% C/C-C/C
 - $l_d = 1.4$ FOR 31% C/C-C/C
 9. DEVELOPMENT LENGTH (l_{bd})
 - For $\sigma_s = f_y$ ($\alpha = 1.0$)
 - $l_{bd} = 4d$
 - $l_{bd} = 40$ FOR 420 (F55000)
 - $l_{bd} = 35$ FOR 425 (F55000)
 - $l_{bd} = 34$ FOR 440 (F55000)
 10. FOR UNREINFORCED BOND CONDITION THE l_{bd} SHOULD BE MULTIPLIED BY FACTOR OF 1.43 FOR $\phi > 25mm$.
 11. l_{bd} SHOULD BE INCREASED BY MULTIPLIER FACTOR OF 1.00 (1.15) FOR $\phi > 25mm$.
 12. NO JOINTS SHALL BE FORMED IN THE BARS WHILE LAPPING.

Techniko Consultancy Services Pvt. Ltd.
Yongma Engineering Co. Ltd.
In Association with

NO.	REVISION	DATE	BY	CHKD.
1	ISSUED FOR CONSTRUCTION			
2	REVISION AS PER A. COMMENT			
3	REVISION AS PER A. COMMENT			
4	REVISION AS PER A. COMMENT			

SI DESIGN CONSULTANT
SANGHVI ENGINEERING & ARCHITECTURE PVT. LTD.
BANGALORE

CONTRACTOR
SANGHVI ENGINEERING & ARCHITECTURE PVT. LTD.
BANGALORE

PROJECT ENGINEER
SANGHVI ENGINEERING & ARCHITECTURE PVT. LTD.
BANGALORE

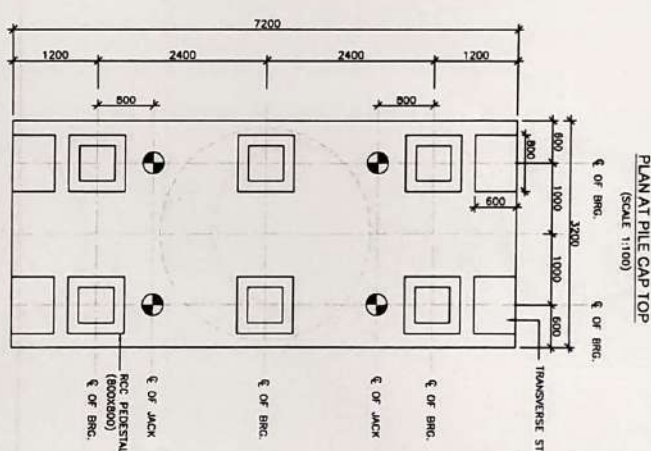
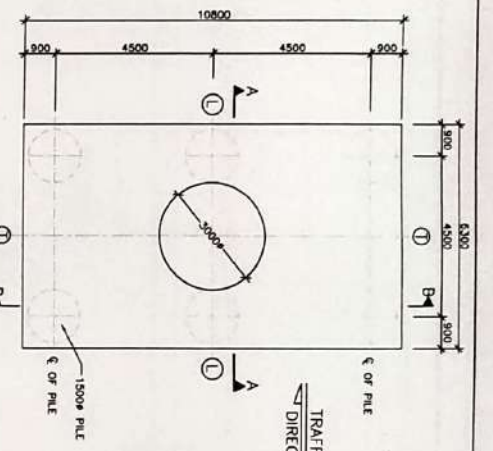
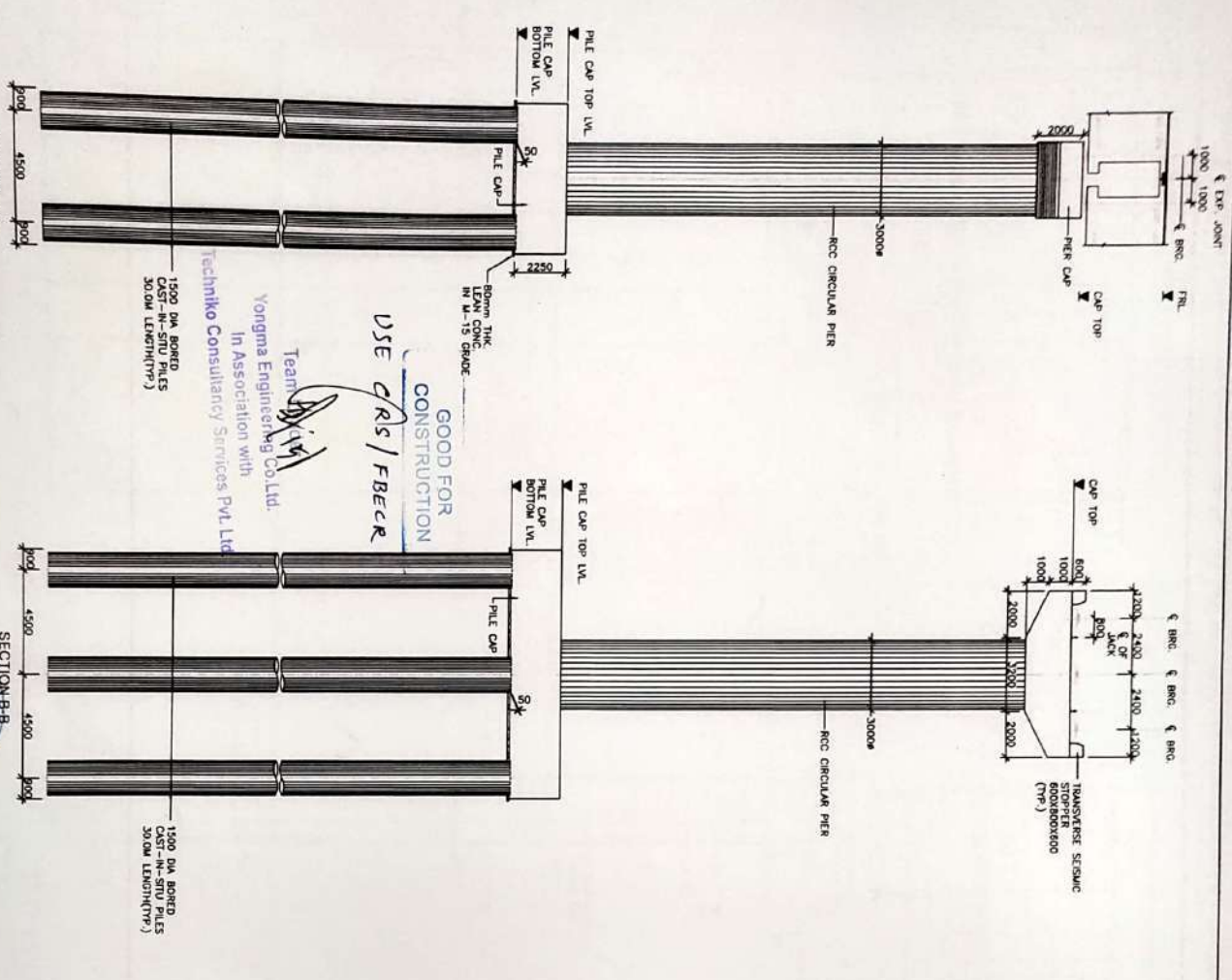
CLIENT
KARNATAKA STATE ROAD TRANSPORT CORPORATION
BANGALORE

PROJECT
CONSTRUCTION OF MAJOR BRIDGE OVER MADHULI STRAITS CREEK (BETWEEN ANDAMAN & NICOBAR ISLANDS)

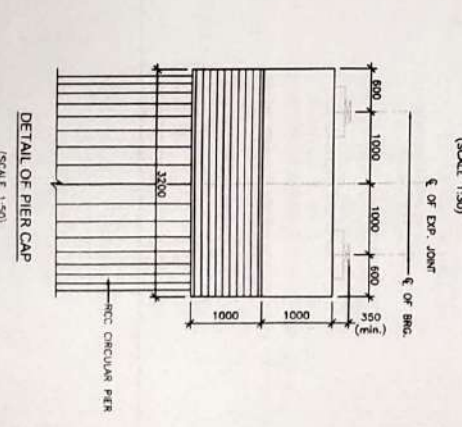
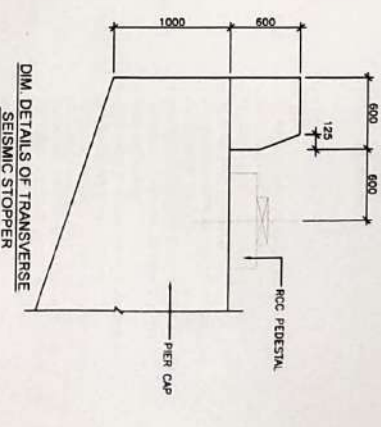
DESIGNED BY P. Nair
DRAWN BY A. Paul
CHECKED BY R. Anandhan

TITLE
DIMENSIONAL & REINF. DETAIL OF PIER PILE FOR CREEK BRIDGE
DRAWING NO. CHEEK-BR-204 (03 OF 03)
SHEET

DATE: 24.12.2020



SN.	PIER	R/L	PIER CAP TOP LEVEL	PILE CAP TOP LEVEL	PILE CAP BOTTOM LEVEL
1.	P11	20.543	21.768	3.860	1.600



- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
 - NO DIMENSION SHALL BE MEASURED FROM THE DRAWINGS.
 - ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 - THE REINFORCEMENT SHALL BE HEBB. BARS OF (GRADE DESIGNATION F4 5000 C80) CONFORMING TO IS 1786-2008 CONCRETE SHALL BE DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC CUBE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
 - a. RCC PIER SHAFT M40
 - b. PIER CAP & STOPPER M40
 - c. PILE & PILE CAP M25
 - d. PILE M15
 5. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IRC:112.
 - a. PILE 75mm
 - b. PILE CAP 75mm
 - c. PIER /PIER CAP 50mm
 - d. OTHERS 50mm
 6. CONDITION OF EXPOSURE IS MODERATE.
 7. THE LOCATION OF JACK FOR LIFTING THE SUPERSTRUCTURE TO REPLACE THE DAMAGED DIMENSION SHALL BE AS PER THE DIMENSION ENGRAVED ON THE END CROSS MEMBER AND ABUTMENT/PIER CAPS.

SECTION AA (SCALE: 1:150)

SECTION BB (SCALE: 1:150)

PLAN AT PILE CAP TOP (SCALE: 1:100)

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

DETAIL OF PIER CAP (SCALE: 1:50)

DETAIL OF TRANSVERSE SEISMIC STOPPER (SCALE: 1:30)

CLIENT: NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED

PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK, BETWEEN KM 106.590 TO KM 107.762 OF NH-232 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.

DESIGNED BY: P. Nair

DRAWN BY: A. Paul

CHECKED BY: K. Anandhi

TITLE: DIMENSIONAL & REINFORCING DETAIL OF PIER P11 FOR CREEK BRIDGE

DRAWING NO: CREEK-BR-205 (01 OF 03)

DATE: 24/12/2020

CONTRACTOR: YONGMA ENGINEERING CO. LTD.

CONSULTANT: TECHNICO CONSULTANCY SERVICES PVT. LTD.

DESIGN CONSULTANT: SI

TEAM: Yongma Engineering Co. Ltd. In Association with Technico Consultancy Services Pvt. Ltd.

USE CRS / FBECR

GOOD FOR CONSTRUCTION

1500 DIA BORED CAST-IN-SITU PILES (30.0M LENGTH/TYP)

1500 DIA BORED CAST-IN-SITU PILES (30.0M LENGTH/TYP)

SCHEDULE OF PILE & PILE CAP REINFORCEMENT

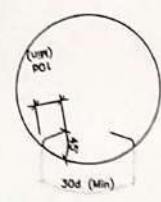
BAR NO.	BAR DIA (mm)	SPACING/NO.	SHAPE
1	25	28 nos	
1a	25	28 nos	
1b	25	28 nos	
1c	16	14 nos	
2	16	125 c/c	
2a	10	125 c/c	
3	25	90 c/c	
4	25	90 c/c	
5	20	90 c/c	
6	20	90 c/c	
7	10	150 c/c	
8	10	150 c/c	
9	10	SPACER	
10	32	1000 C/C	SPACER BAR

SPACER = 1650mm IN LONGITUDINAL DIRECTION AND 1000mm C/C TRANSVERSELY

NOTES

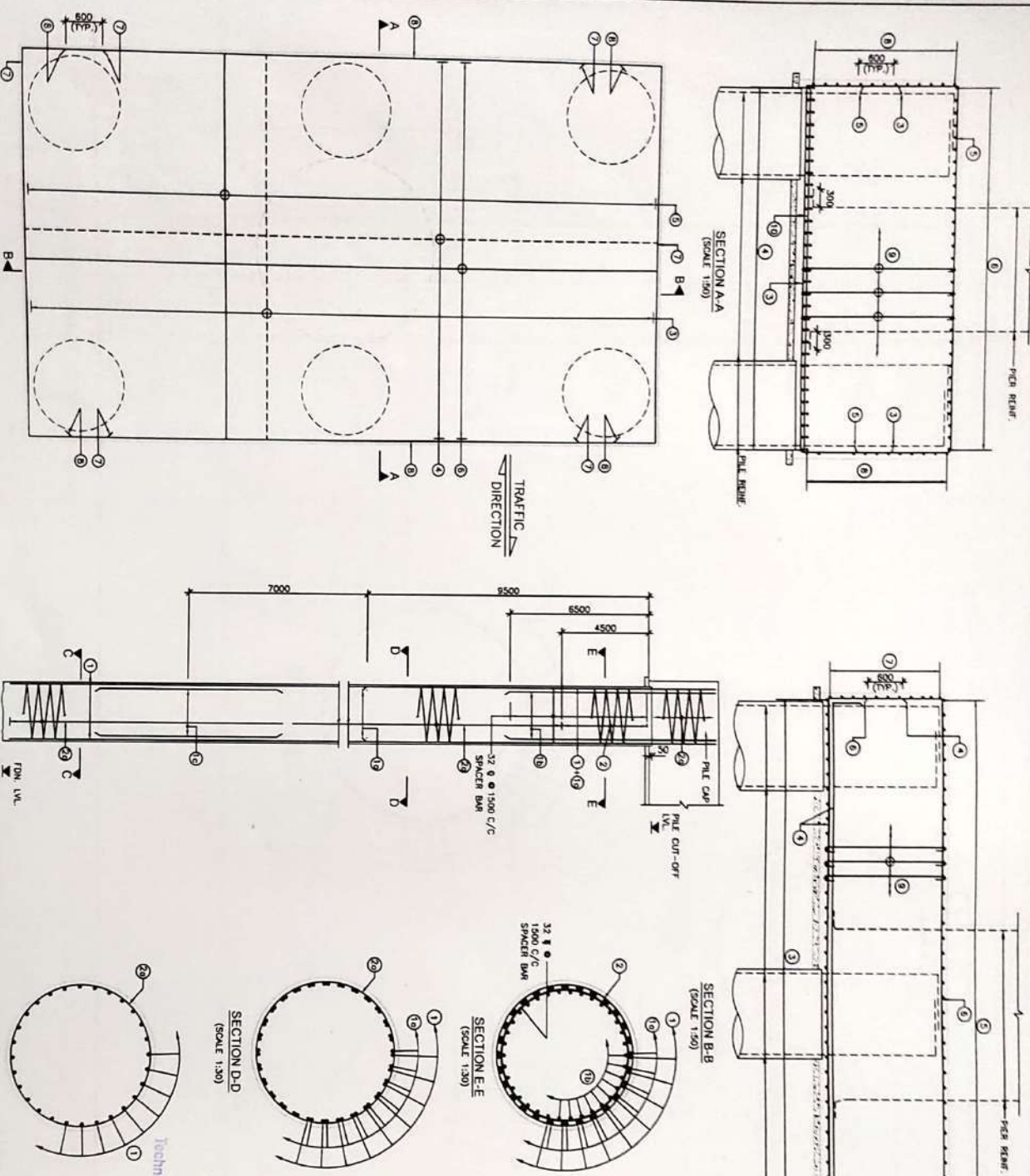
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALE, ONLY WIDTH DIMENSIONS SHALL BE FOLLOWED.
3. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
4. HIGH YIELD STRENGTH TENSILE BAR OF GRADE 500MPa SHALL BE USED.
5. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETING.
6. LAPPING OF REINFORCEMENT SHALL BE ANCHORED AS FAR AS POSSIBLE IN ONE LAPPING OF BARS BECOMES UNAVAILABLE, MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE CALCULATED AS FOLLOWS (AS PER REC. 112 SECTION 15) WITH MODULAR ALLOWABLE LAPPING (S) OF 50% ONLY.
7. LAP LENGTH $l_d = \frac{f_y}{4 \sigma_{bc}} \times \frac{\pi}{4} \times d^2$
 $l_d = 1.15$ FOR TENSILE CASE
 $l_d = 1.4$ FOR SHEAR CASE
 DEVELOPMENT LENGTH (bar)
 $l_{db} = a, b, c, e - 1.2d$
 $b = 4d$
 $c = 4d$ FOR MAX (160000)
 $e = 3d$ FOR MAX (160000)
 $a = 24$ FOR MAX (160000)
 $b = 24$ FOR MAX (160000)
8. FOR UNWARRANTABLE BOND CONDITION THE l_d SHOULD BE MULTIPLIED BY FACTOR OF 1.4. FOR $\phi \leq 25mm$ l_d SHOULD BE INCREASED BY MULTIPLICATION (1.25).
9. NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.

TYPICAL DETAIL OF STIRRUPS (SCALE 1:25)



GOOD FOR CONSTRUCTION
 USE CRS / FBRCR

Techno
 Yongma Engineering Pte. Ltd.
 In Association with
 Techno Consultancy Services Pte. Ltd.



REIN. DETAILS OF PILE CAP (SCALE 1:50)

R.C DETAILS OF PILE (SCALE 1:25)

SECTION C-C (SCALE 1:20)

SECTION D-D (SCALE 1:20)

SECTION E-E (SCALE 1:20)

SECTION B-B (SCALE 1:20)

LEGEND:

---	TOP/INNER FACE
---	BOTTOM/OUTER FACE
---	BOTH FACE
---	VARYING LENGTH

CONTRACTOR: **YONGMA ENGINEERING PTE. LTD.**

PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER MARINA STRAIT CANAL BETWEEN ANJUMAN & MICHAM ISLANDS.

CLIENT: **YONGMA ENGINEERING PTE. LTD.**

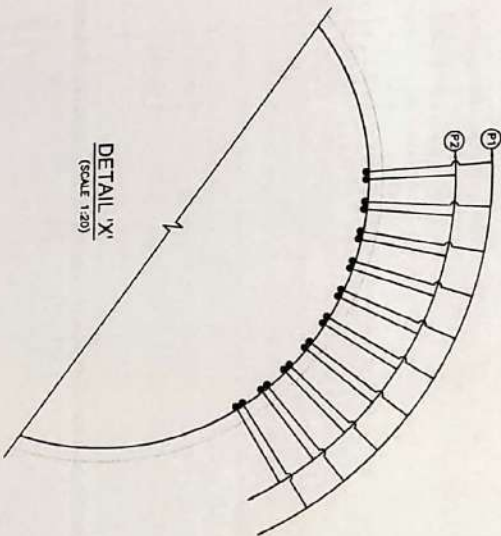
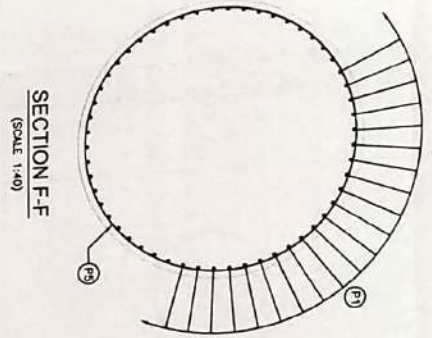
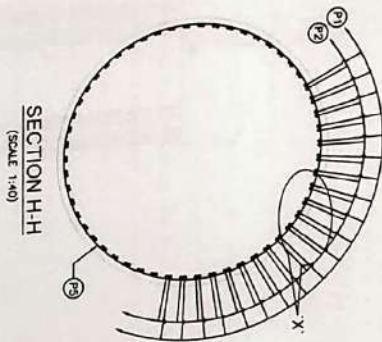
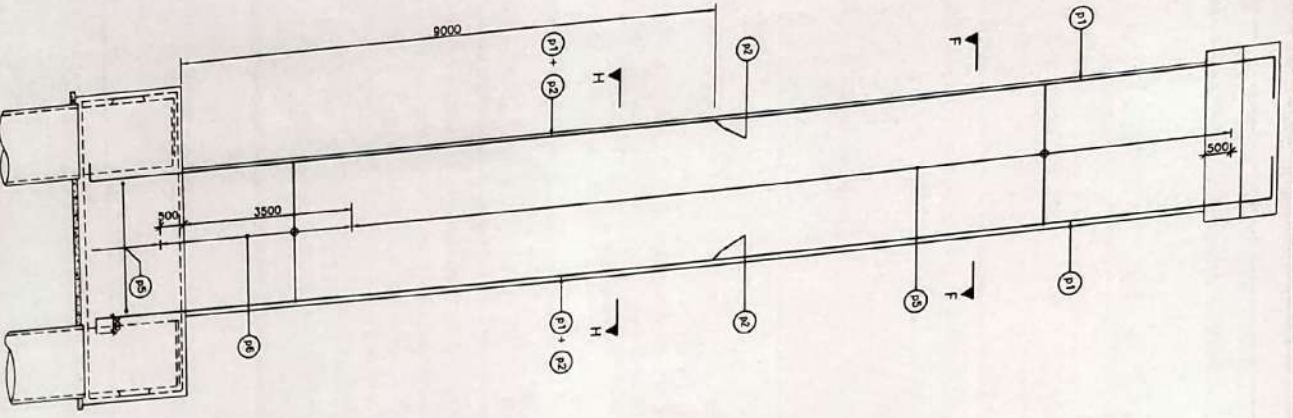
DESIGNED BY: **IRMAN, A.V.**

CHECKED BY: **R. ANANDH**

TITLE: DIMENSIONAL & REIN. DETAIL OF PIER P1 FOR CREEK BRIDGE

SHEET: **CREEK BR - 205 (02 OF 03)**

DATE: **24.12.2020**



- NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LENGTHS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALED ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE
 4. H-H REPRESENTS TRANSVERSE AXIS OF THE BRIDGE
 5. H-H VERTICAL STRENGTH DETAILED BARS OF GRADE DESIGNATION (F-5000) ARE CONTINUING TO E. 1786 SHALL ONLY BE USED.
 6. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETING.
 7. LAPPING OF REINFORCEMENT SHALL BE ANCHORED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENTS SHALL BE CALCULATED AS FOLLOWS (AS PER IRC: 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (L) OF 50% ONLY.

$$LAP LENGTH L = d \cdot \text{Bar} \cdot \text{Factor}$$

$$d = 1.0 \text{ FOR } \sigma_{sk} \leq 235$$

$$d = 1.15 \text{ FOR } 235 < \sigma_{sk} \leq 275$$

$$d = 1.4 \text{ FOR } 275 < \sigma_{sk} \leq 420$$
 8. DEVELOPMENT LENGTH (Bar)

$$\text{Bar} = a \cdot b \cdot (a = 1.0)$$

$$a = L_d$$

$$b = 40 \text{ FOR MS} (\sigma_{sk} = 460)$$

$$b = 35 \text{ FOR MS} (\sigma_{sk} = 420)$$

$$b = 30 \text{ FOR MS} (\sigma_{sk} = 355)$$
 9. FOR UNAVOIDABLE BOND CONDITION THE 'b' SHOULD BE MULTIPLIED BY FACTOR OF 1.43 FOR $\sigma_{sk} \leq 235$ mm.
 10. 'b' SHOULD BE INCREASED BY MULTIPLIER FACTOR (1.00) (1.25) (1.50).
 11. NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.

SCHEDULE OF PIER REINFORCEMENT

BAR NO.	DIA. (mm)	SPACING/NO.	SHAPE
P1	32	56 Nos.	1
P2	32	56 Nos.	1
P3	16	125 C/C	O
P4	25	70 C/C	O

GOOD FOR CONSTRUCTION
Use cast/BECC

Technika Engineering Do. Ltd.
In Association with
Technika Consultancy Services Pvt. Ltd.

REIN. DETAILS OF PIER COLUMN

SCALE: 1:20

DATE: 24.12.2000

PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER MIDRAI STRAIT CREEK, BETWEEN ANDAMAN & NICOBAR ISLANDS.

CONTRACTOR: TECHNICA CONSULTANCY SERVICES PVT. LTD.

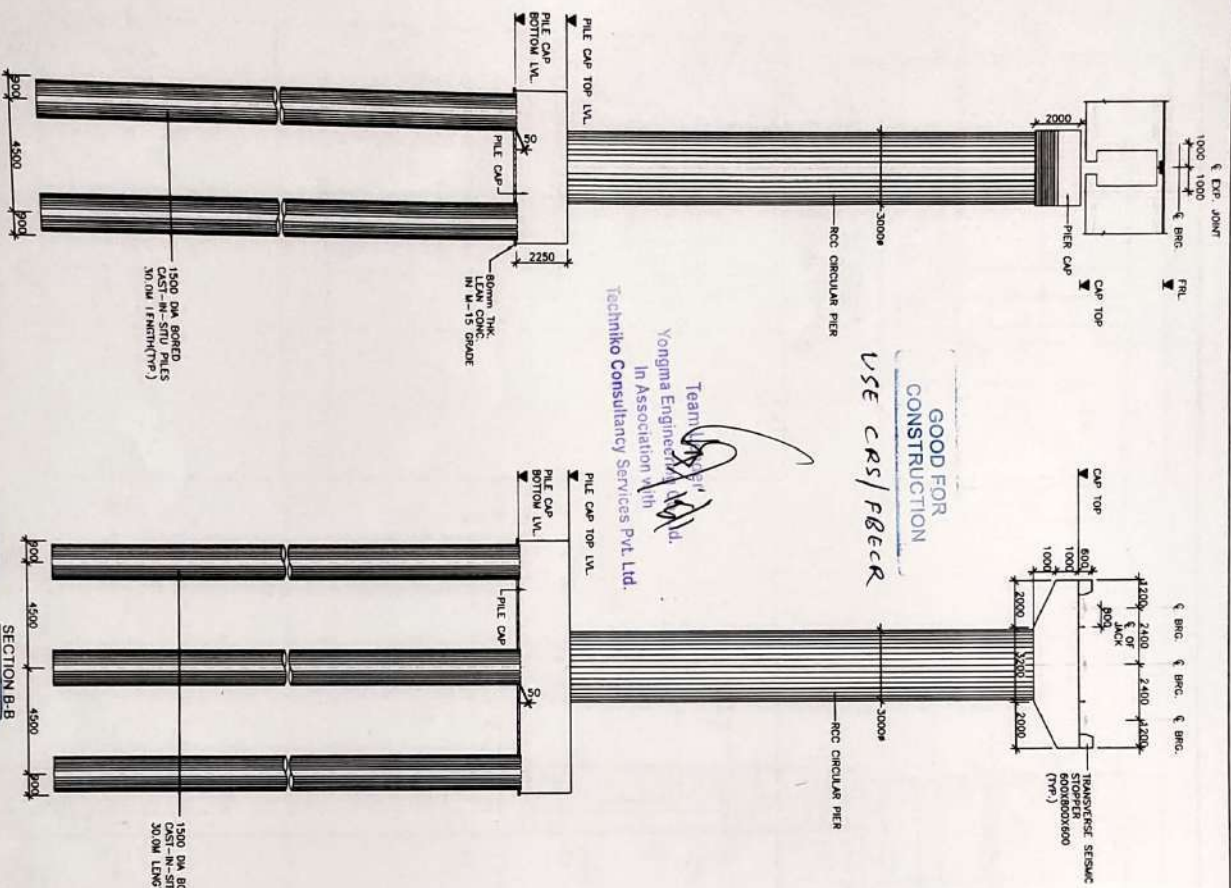
ENGINEER: TECHNICA CONSULTANCY SERVICES PVT. LTD.

DRAWN BY: A. Paul

CHECKED BY: K. Anjan

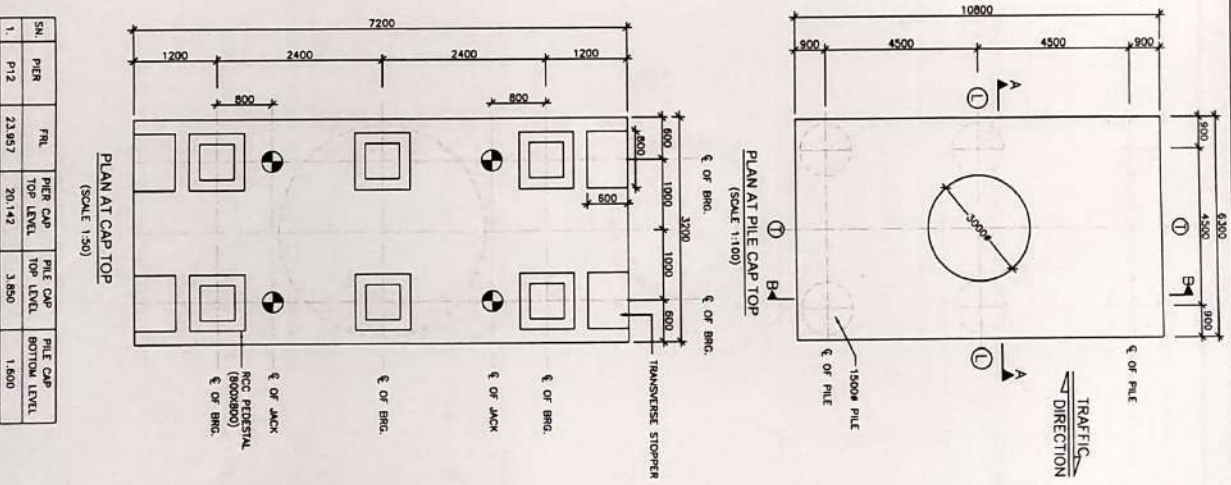
TITLE: DIMENSIONAL & REIN. DETAIL OF PIER #11 FOR CREEK BRIDGE.

DATE: 24.12.2000

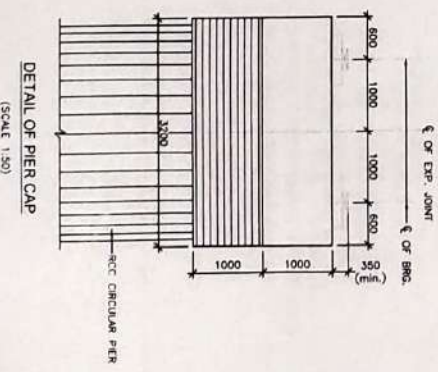
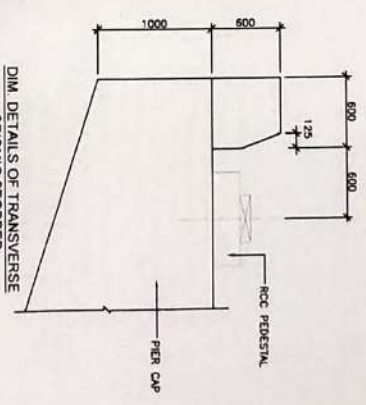


GOOD FOR CONSTRUCTION
USE CRS/RECR

Team
Yongma Engineering
In Association with
Techniko Consultancy Services PVT. Ltd.



SN.	PIER	FRL	PIER CAP TOP LEVEL	PILE CAP TOP LEVEL	PILE CAP BOTTOM LEVEL
1.	P12	23.857	20.142	3.850	1.600



- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS. LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
 - NO DIMENSION SHALL BE MEASURED FROM THE DRAWINGS.
 - ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 - THE REINFORCEMENT SHALL BE HYSD, BARS OF (GRADE DISCRESSION F4 5000 CHS) CORROSIONING TO IS: 1786-2008.
 - CONCRETE SHALL BE DESIGN MIX FOR DIFFERENT ELEMENTS AS FOLLOWS:
a. PIER CAP & STOPPER M40
b. PIER CAP & STOPPER M40
c. PIER CAP & STOPPER M40
d. PIER CAP & STOPPER M40
e. PIER CAP & STOPPER M40
f. PIER CAP & STOPPER M40
g. PIER CAP & STOPPER M40
h. PIER CAP & STOPPER M40
i. PIER CAP & STOPPER M40
j. PIER CAP & STOPPER M40
k. PIER CAP & STOPPER M40
l. PIER CAP & STOPPER M40
m. PIER CAP & STOPPER M40
n. PIER CAP & STOPPER M40
o. PIER CAP & STOPPER M40
p. PIER CAP & STOPPER M40
q. PIER CAP & STOPPER M40
r. PIER CAP & STOPPER M40
s. PIER CAP & STOPPER M40
t. PIER CAP & STOPPER M40
u. PIER CAP & STOPPER M40
v. PIER CAP & STOPPER M40
w. PIER CAP & STOPPER M40
x. PIER CAP & STOPPER M40
y. PIER CAP & STOPPER M40
z. PIER CAP & STOPPER M40
 - CLEAR COVER TO OUTER STEEL SHALL BE AS PER IRC:112.
 - CONCRETE OF EXPOSURE IS M20.
 - THE LOCATION OF JACK FOR LIFTING THE SUPERSTRUCTURE TO REPLACE THE STOPPER SHALL BE AS PER THE DRAWINGS.
 - IDENTIFICATION ON THE END CROSS ORDER AND ABUTMENT/PIER CAPS.

DESIGNED BY: P. Nagesh
DRAWING NO: DIMENSIONAL & REINF. DETAIL OF PIER P12 FOR CREEK BRIDGE
CHECKED BY: A. Hari
DATE: 24.12.2020

CLIENT: NATIONAL HIGHWAY AUTHORITY, INDIA
PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER ANDRA PRADEH CREEK BETWEEN ANDAMAN & NICOBAR ISLANDS.

CONTRACTOR: SRI SRI ENGINEERING & CONSTRUCTION
DESIGN CONSULTANT: SRI SRI ENGINEERING & CONSTRUCTION
SUPERVISOR: SRI SRI ENGINEERING & CONSTRUCTION

SCALE: 1:150

SECTION A-A
SCALE: 1:150

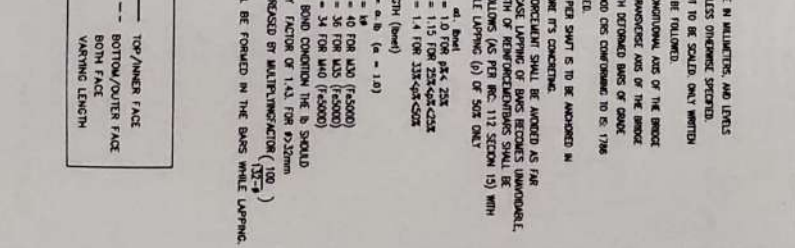
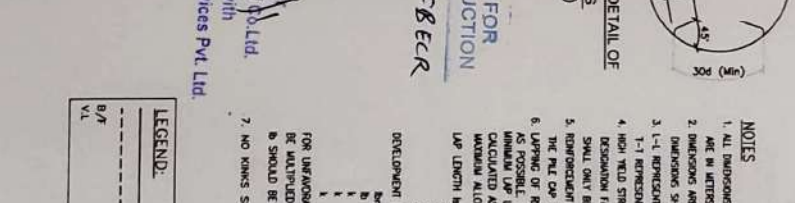
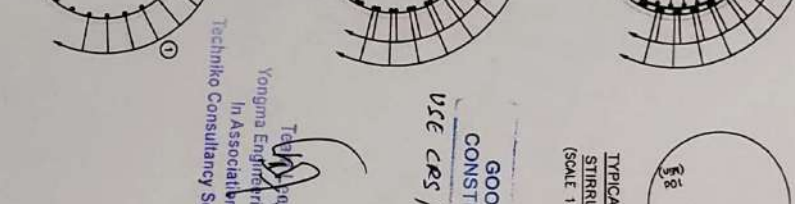
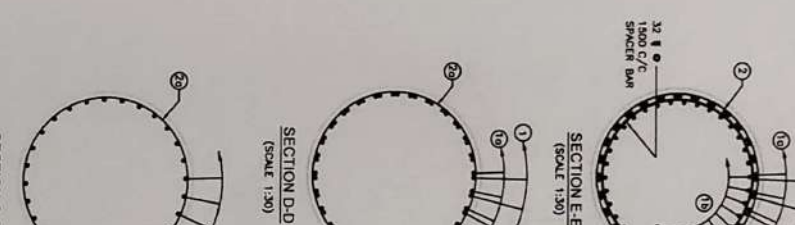
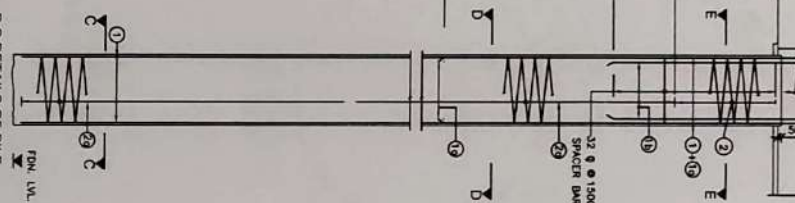
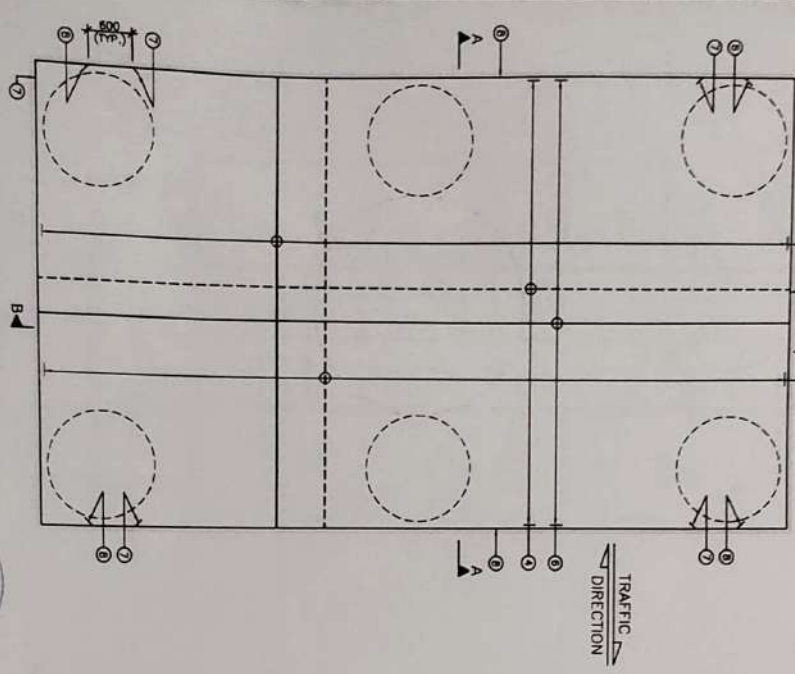
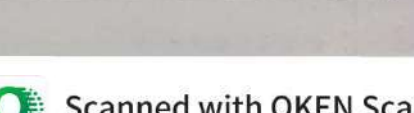
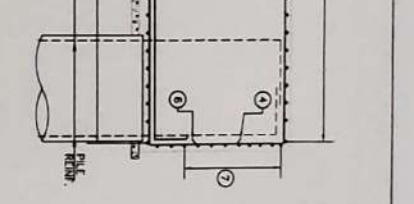
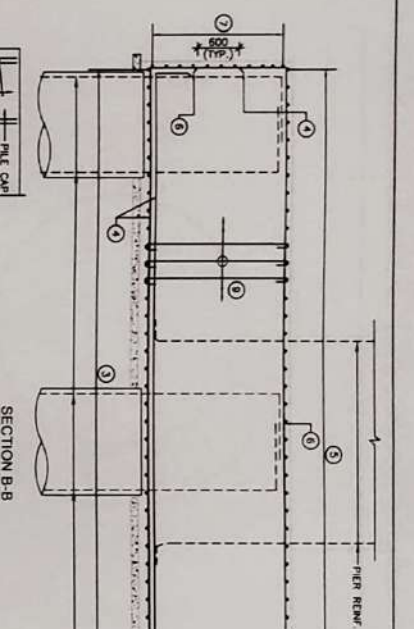
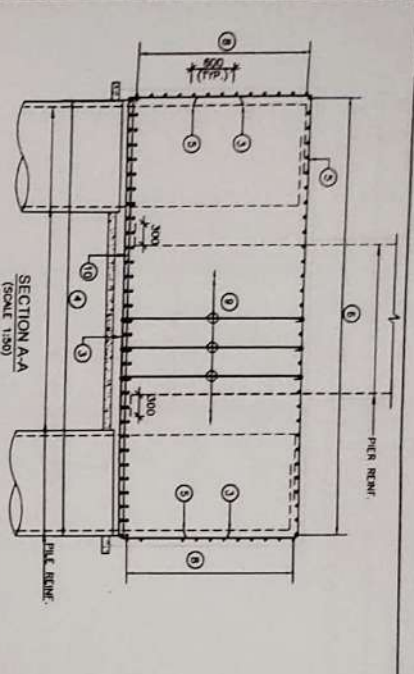
SECTION B-B
SCALE: 1:150

PLAN AT PILE CAP TOP
SCALE: 1:150

PLAN AT CAP TOP
SCALE: 1:150

DETAIL OF PIER CAP
SCALE: 1:50

DETAILS OF TRANSVERSE SEISMIC STOPPER
SCALE: 1:50



SCHEDULE OF PILE & PILE CAP REINFORCEMENT

BAR MKD	ØA (mm)	SPACING/NO.	SHAPE
1	25	28 Nos.	
10	25	28 Nos.	
16	25	34 Nos.	
18	25	34 Nos.	
1c	-	- Nos.	-mm
2	18	125 C/C	○ ϕ 300
20	10	125 C/C	○ ϕ 300
3	25	80 C/C	
4	32	80 C/C	
5	20	(200/150)	
6	20	80 C/C	
7	10	150 C/C	
8	10	150 C/C	
9	10	SPACING	
10	32	1500 C/C	SPACER BAR

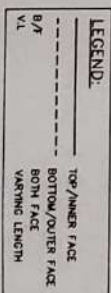
SPACER - 1500mm IN LONGITUDINAL DIRECTION AND 1500mm C/C TRANSVERSELY

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS AND ANGLES ARE IN DEGREES UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. L-L REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
4. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE ES250 SHALL BE USED.
5. REINFORCEMENT OF PIER SHAFT IS TO BE ADAPTED IN THE PILE CAP BEFORE ITS CONSTRUCTION.
6. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENTS SHALL BE AS ACCORDING TO FOLLOWING (AS PER REC. 113 SECTION 10) WITH MINIMUM ALLOWABLE LAPPING (L) OF 50% ONLY.
7. LAP LENGTH IS = d_l BUT NOT LESS THAN:
 - a) = 115 FOR 25% C/C
 - b) = 140 FOR 33% C/C
 - c) = 170 FOR 40% C/C
 - d) = 190 FOR 50% C/C
 - e) = 210 FOR 60% C/C
 - f) = 230 FOR 75% C/C
 - g) = 250 FOR 80% C/C
 - h) = 270 FOR 90% C/C
 - i) = 290 FOR 100% C/C
 - Development Length (DevL) = $a, b, c, e = 1.0$
8. FOR UNFAVORABLE BOND CONDITION THE a SHOULD BE MULTIPLIED BY FACTOR OF 1.4, FOR ϕ 25mm.
9. b SHOULD BE ADJUSTED BY MULTIPLICATION (10.2).
10. NO JOINTS SHALL BE FORMED IN THE BARS WHILE LAPPING.

GOOD FOR CONSTRUCTION
USE CRS / FERBER

Techniko Consultancy Services Pvt. Ltd.
Yongina Engineering & Technology
In Association with



REIN. DETAILS OF PILE CAP
(SCALE 1:30)

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

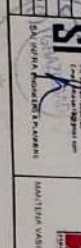
SECTION C-C
(SCALE 1:30)

SECTION D-D
(SCALE 1:30)

SECTION E-E
(SCALE 1:30)

TYPICAL DETAIL OF STRIPPERS
(SCALE 1:25)

NO.	REVISION	DATE
1	ISSUED FOR CONSTRUCTION	24.12.2020
2	REVISION	
3	REVISION	
4	REVISION	
5	REVISION	
6	REVISION	
7	REVISION	
8	REVISION	
9	REVISION	
10	REVISION	



TECHNIKO CONSULTANCY SERVICES PVT. LTD.
CONSULTANTS

YONGINA ENGINEERING & TECHNOLOGY
CONSULTANTS

ALTIMITY ENGINEERING
CONSULTANTS

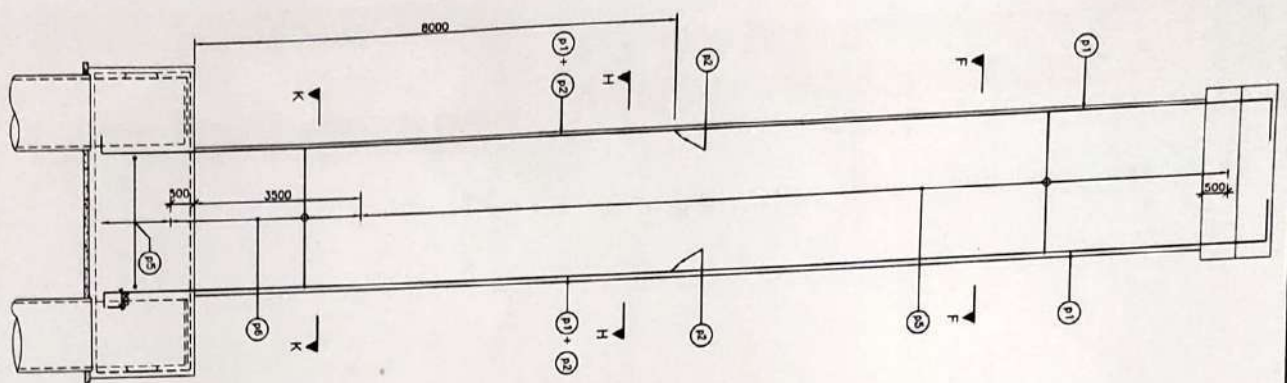
ALTIMITY ENGINEERING
CONSULTANTS

ALTIMITY ENGINEERING
CONSULTANTS

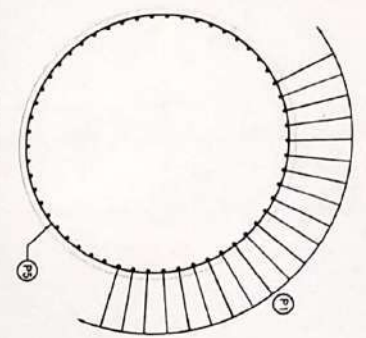
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CONSULTANTS

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CONSULTANTS

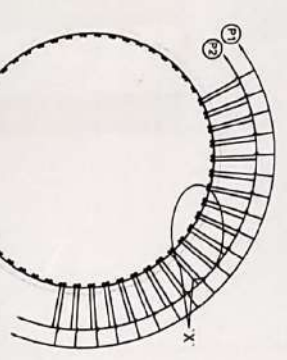
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CONSULTANTS



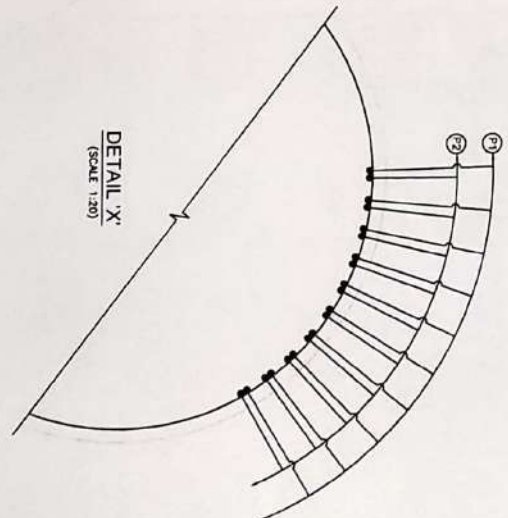
REINF. DETAILS OF PIER COLUMN
(SCALE 1:25)



SECTION F-F
(SCALE 1:40)



SECTION H-H
(SCALE 1:40)



DETAIL 'X'
(SCALE 1:20)

- NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALE ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
 4. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE B500 SHALL BE USED.
 5. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETING.
 6. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENTS SHALL BE CALCULATED AS FOLLOWS (AS PER IRC 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (L) OF 50% ONLY.
 7. NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.

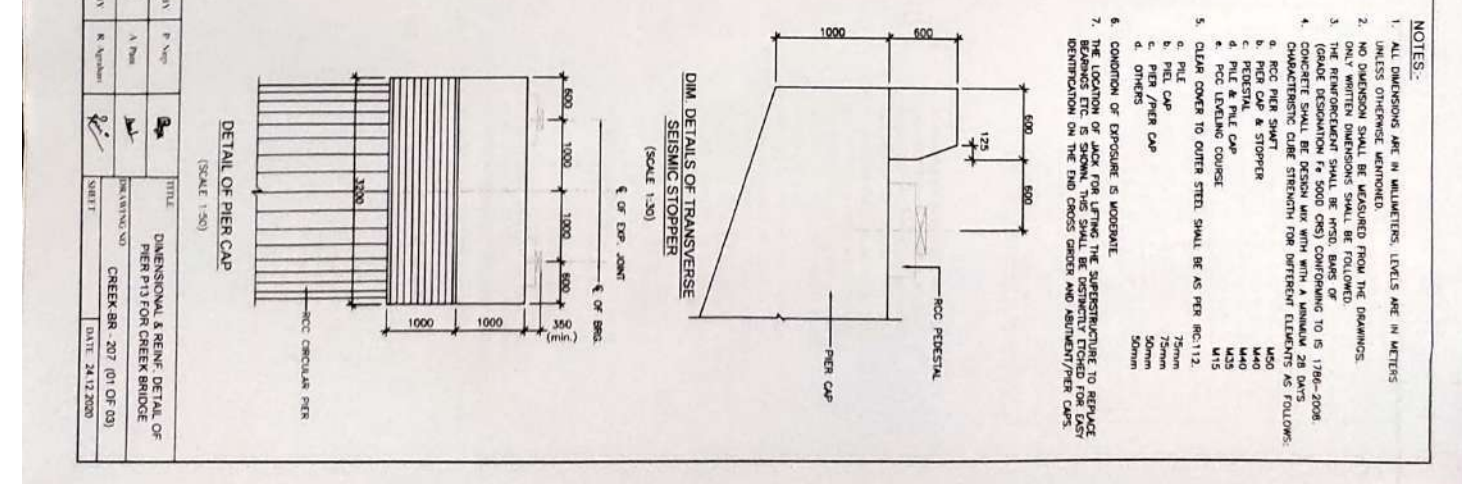
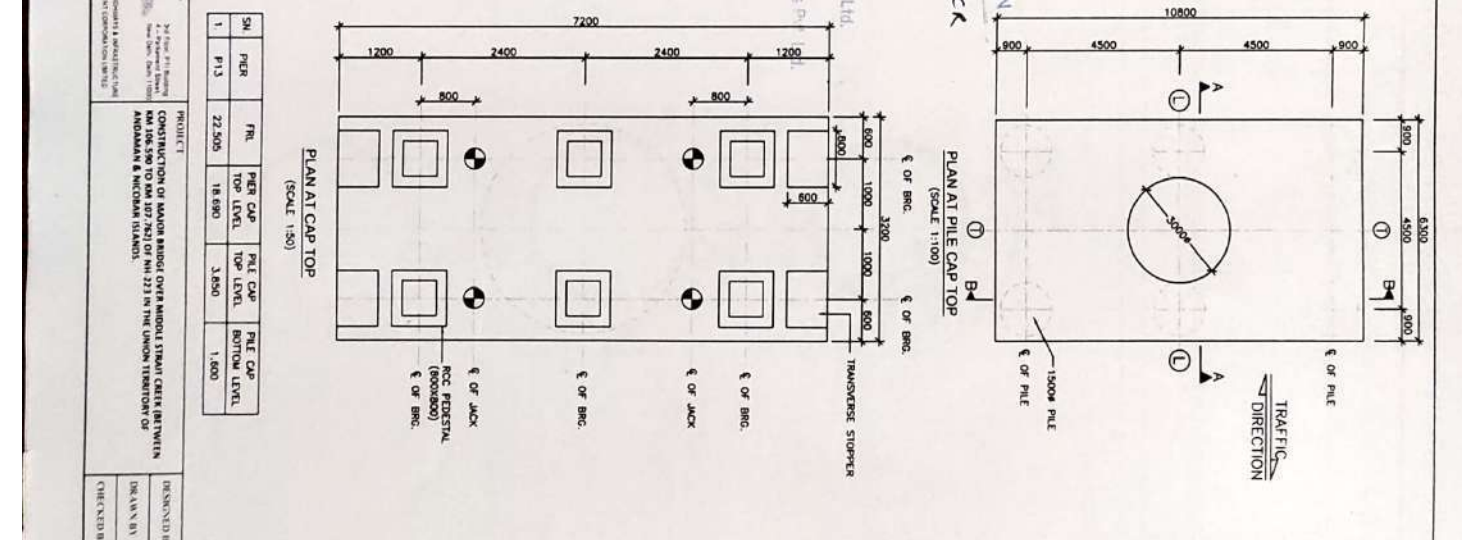
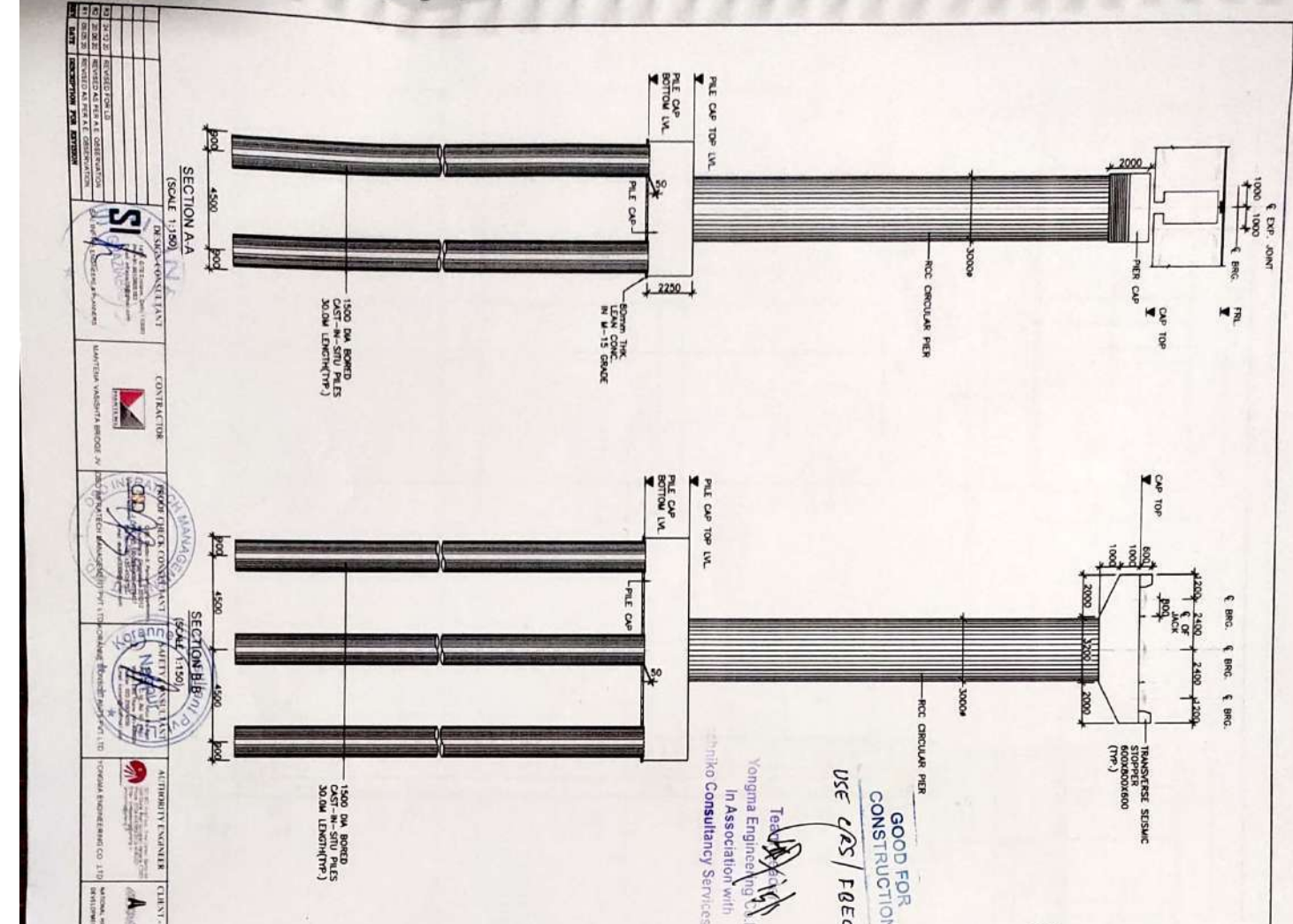
SCHEDULE OF PIER REINFORCEMENT

BAR ID	BAR DIA. (mm)	SPACING/NO.	SHAPE
P1	32	58 Nos.	T
P2	32	58 Nos.	T
P3	16	125 C/C	O
P4	25	70 C/C	O

GOOD FOR CONSTRUCTION
USE CRS / FEBCR

Yongma Engineering & Construction Co. Ltd.
In Association with
Technika Consultancy Services Pvt. Ltd.

DISCIPLINARY CONSULTANT	CONTRACTOR	ARCHITECTURAL CONSULTANT	CLIENT	PROJECT	DESIGNED BY	P. Nair	TITLE
SI	SI	SI	SI	CONSTRUCTION OF MAJOR BRIDGE OVER MIDHILL STRAIT CREEK BETWEEN KM 106.590 TO KM 107.263 OF NH 223 IN THE UNION TERRITORY OF ANDHRA PRADESH, INDIA	DR. N. V. A. P.		DIMENSIONAL & REINF. DETAIL OF PIER P12 FOR CREEK BRIDGE
SI	SI	SI	SI		CHECKED BY	R. Nair	DRAWING NO.
SI	SI	SI	SI				CHEEK-SR-206 (03 OF 03)
SI	SI	SI	SI				DATE: 24.12.2020

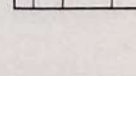
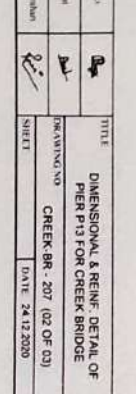
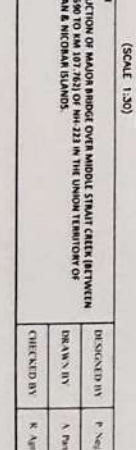
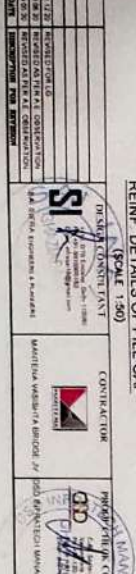
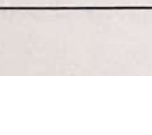
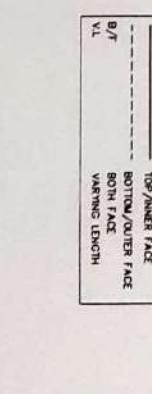
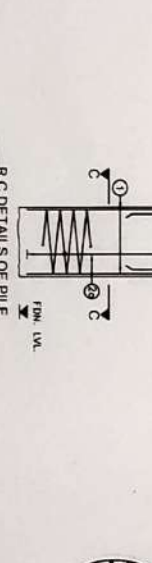
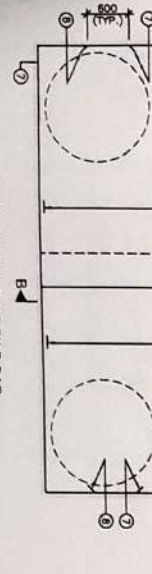
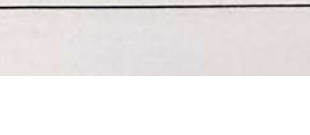
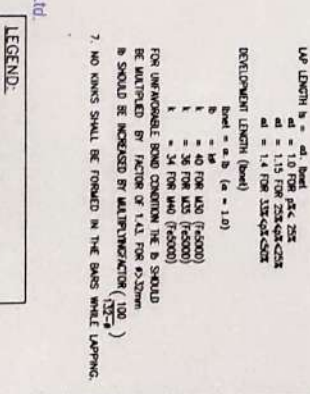
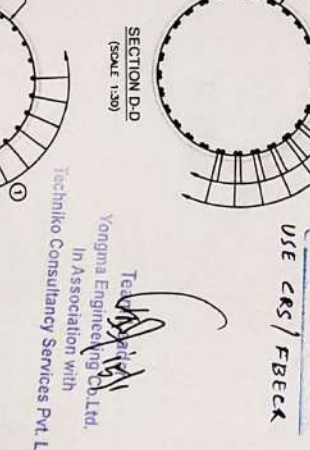
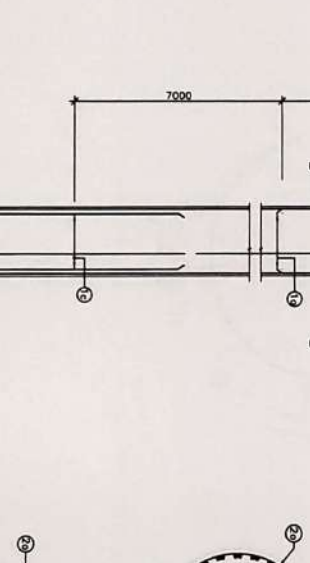
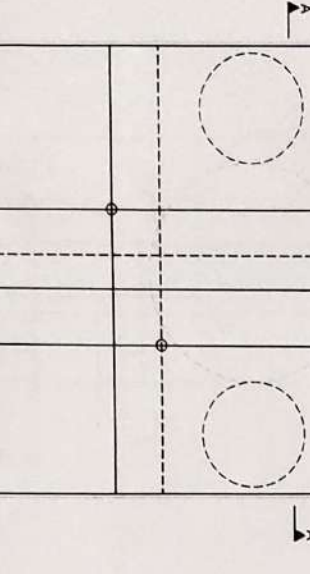
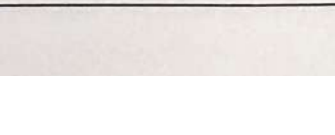
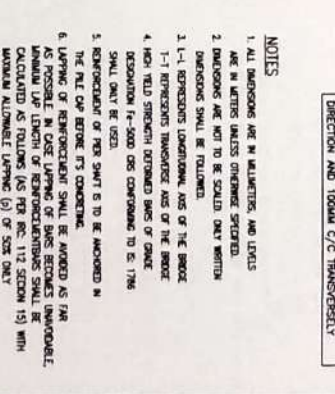
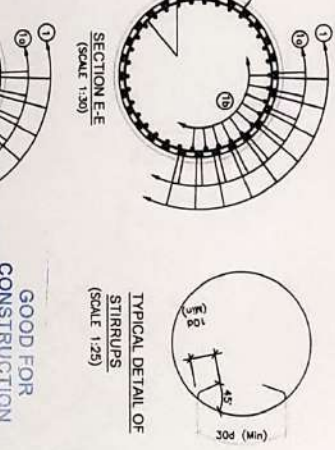
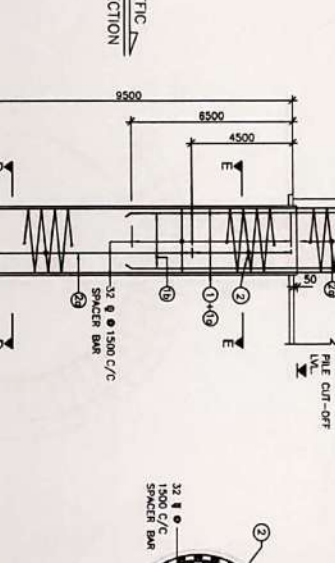
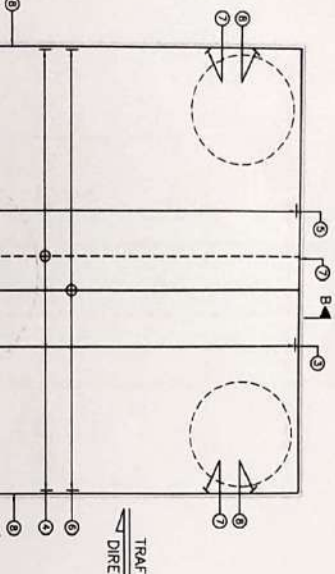
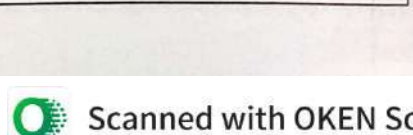
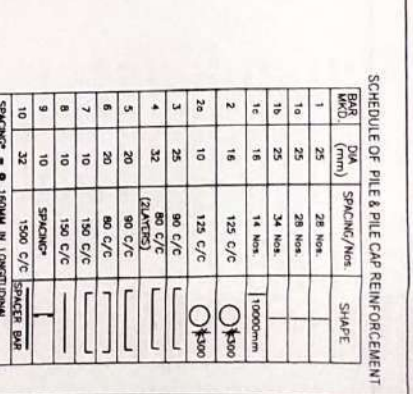
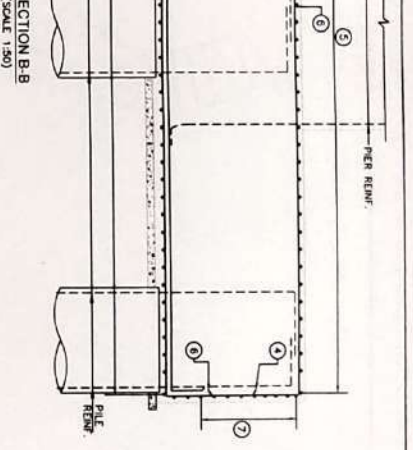
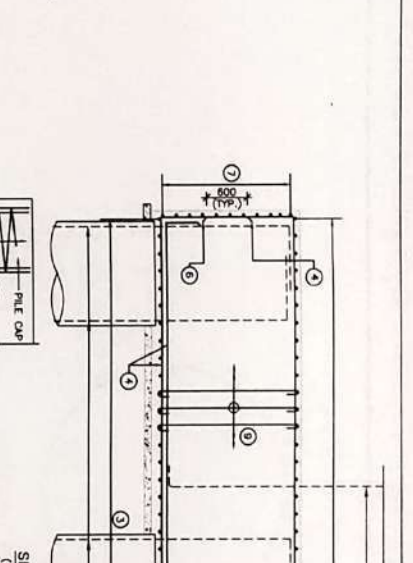
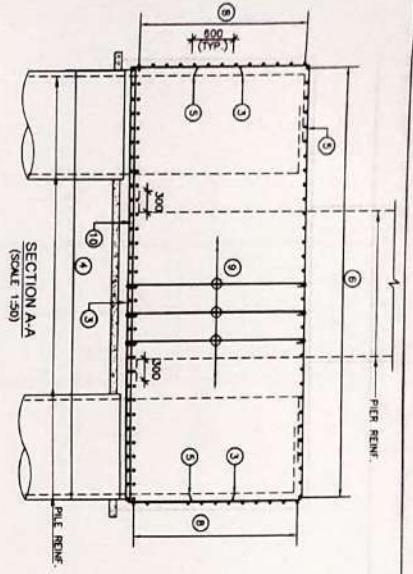


NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS. LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
2. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. THE REINFORCEMENT SHALL BE HRB50 BARS OR (GRADE DESIGNATION Fc 500D CRS) CONFORMING TO IS 1786-2008. CONCRETE SHALL BE DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC CURE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
 - M40
 - M40
 - M40
 - M40
 - M15
4. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IS:112.
5. PILE CAP
 - a. PILE CAP 75mm
 - b. PILE PIER CAP 75mm
 - c. OTHERS 50mm
 - d. OTHERS 50mm
6. CONDITION OF EXPOSURE IS MODERATE.
7. THE LOCATION OF JACK FOR LIFTING THE SUPERSTRUCTURE TO REPLACE BEAMS ETC IS SHOWN. THIS SHALL BE DISTINCTLY TIED FOR EASY DEMONSTRATION ON THE END CROSS GARDER AND ABUTMENT/PIER CAPS.

SCHEDULE OF PILE & PILE CAP REINFORCEMENT

BAR NO.	BAR DIA (mm)	SPACING/NO.	SHAPE
1	25	28 Nos	
2	25	28 Nos	
3	25	28 Nos	
4	25	28 Nos	
5	25	28 Nos	
6	25	28 Nos	
7	25	28 Nos	
8	25	28 Nos	
9	25	28 Nos	
10	25	28 Nos	



REINFORCEMENT

REINFORCEMENT (SCALE 1:50)

REINFORCEMENT

REINFORCEMENT (SCALE 1:50)

REINFORCEMENT

REINFORCEMENT (SCALE 1:50)

REINFORCEMENT

REINFORCEMENT (SCALE 1:50)

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REINFORCEMENT (SCALE 1:50)

REINFORCEMENT

REINFORCEMENT (SCALE 1:50)

REINFORCEMENT

REINFORCEMENT (SCALE 1:50)

REINFORCEMENT

REINFORCEMENT (SCALE 1:50)

GOOD FOR CONSTRUCTION

USE CRS / FEBEK

TYPICAL DETAIL OF STIRRUPS

(SCALE 1:25)

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LENGTHS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALE DRAWN WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
4. 2-2 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE.
5. HORIZONTAL DIMENSIONS SHOWN IN SECTION 1-1 SHALL ONLY BE USED.
6. REINFORCEMENT OF PIER SHAFT IS TO BE ACCORDING TO THE PILE CAP REINFORCEMENT.
7. LAPPING OF REINFORCEMENT SHALL BE ACCORDING TO THE PILE CAP REINFORCEMENT.
8. MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE CALCULATED AS FOLLOWS AS PER IRC 112 SECTION 15) WITH MAXIMUM ALTERNATE LAPPING (L) OF 50% ONLY.
9. LAP LENGTH $l = d$, but not less than:
 - a) 1.0 FOR $d \leq 25$
 - b) 1.15 FOR $25 < d \leq 35$
 - c) 1.3 FOR $35 < d \leq 45$
 - d) 1.4 FOR $45 < d \leq 55$
10. DEVELOPMENT LENGTH (L_d)
 - a) $l = 1.0$
 - b) $l = 1.15$
 - c) $l = 1.3$
 - d) $l = 1.4$

LEGEND:

TOP/INNER FACE

BOTTOM/OUTER FACE

BOTH FACE

WARNING LENGTH

CLIENT:

SRINAGAR ENGINEERING & CONSULTANTS

CONTRACTOR:

SRINAGAR ENGINEERING & CONSULTANTS

DESIGNER:

SRINAGAR ENGINEERING & CONSULTANTS

DATE:

24.12.2020

PROJECT:

CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK BETWEEN ANANDHAR & MICHOLAN ISLANDS

DESIGNED BY:

R. Arun

CHECKED BY:

R. Arun

DRAWING NO:

CREEK-BR-207 (02 OF 03)

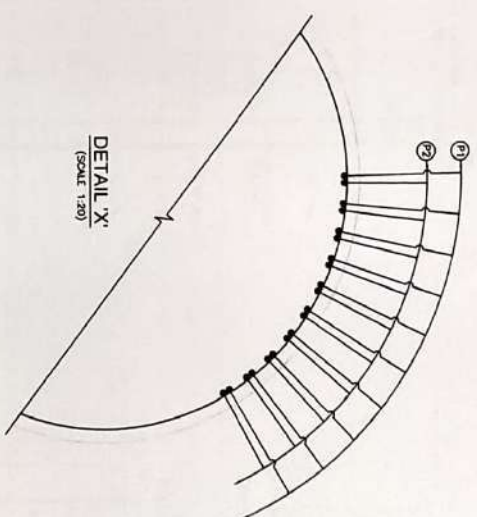
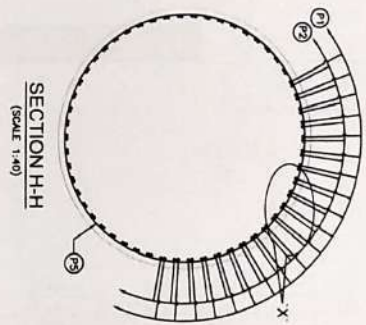
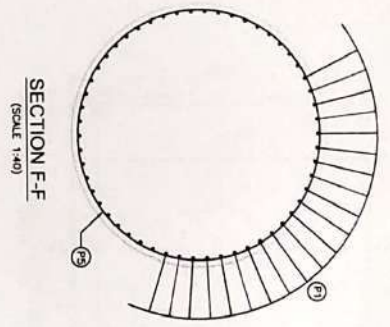
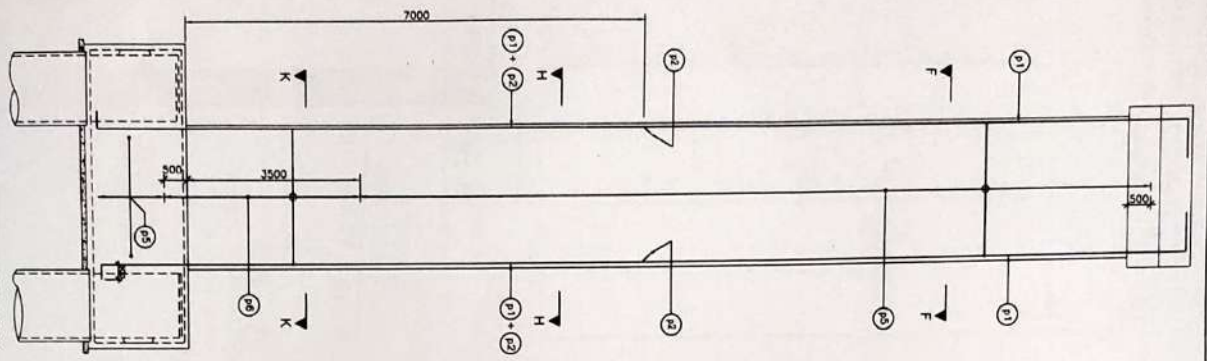
SHEET:

DATE 24.12.2020

DATE:

24.12.2020

REINF. DETAILS OF PIER COLUMN
(SCALE 1:25)



SCHEDULE OF PIER REINFORCEMENT

BAR NO.	DIA (mm)	SPACING/NO.	SHAPE
P1	32	58 Nos.	I
P2	32	58 Nos.	I
P3	16	125 C/C	O
P4	16	125 C/C	O
P5	16	70 C/C	O
P6	25	70 C/C	O

- NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALD, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. L-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
 4. H-1 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE.
 5. HIGH WELD STRENGTH DEVELOPED BARS OF GRADE DESIGNATION F-5000 OR EQUIVALENT TO IS 1786 SHALL ONLY BE USED.
 6. REINFORCEMENT OF PIER SHAFT S TO BE ANCHORED IN THE PIER CAP BEFORE IT'S CONCRETING.
 7. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES INEVITABLE, MINIMUM LAP LENGTH OF REINFORCEMENTS SHALL BE CALCULATED AS FOLLOWS (AS PER IS: 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (L) OF 50% ONLY.
 $LAP LENGTH = d \times \text{Stress}$
 $d = 1.0 \text{ FOR } \phi 25 \times 235$
 $d = 1.15 \text{ FOR } 235 < \text{Stress} < 250$
 $d = 1.4 \text{ FOR } 250 < \text{Stress} < 300$
 DEVELOPMENT LENGTH (L_{dev}) (mm)
 $L_{dev} = e \times b \times (a + 1.0)$
 $b = 14 \text{ FOR } 100 \text{ (F5000)}$
 $b = 16 \text{ FOR } 125 \text{ (F5000)}$
 $b = 18 \text{ FOR } 150 \text{ (F5000)}$
 $b = 20 \text{ FOR } 175 \text{ (F5000)}$
 $b = 24 \text{ FOR } 200 \text{ (F5000)}$
 $b = 28 \text{ FOR } 250 \text{ (F5000)}$
 $b = 32 \text{ FOR } 300 \text{ (F5000)}$
 FOR UNDESIGNATED BARS CONDITION THE b SHOULD BE MULTIPLIED BY FACTOR OF 1.43 FOR P-200. b SHOULD BE MULTIPLIED BY MULTIPLICATION FACTOR (1.05) IF b SHOULD BE MULTIPLIED BY MULTIPLICATION FACTOR (1.05).
 8. NO KINKS SHALL BE FORMED IN THE BARS WHILE LAPPING.

GOOD FOR CONSTRUCTION
USE CAS / FBCCR

T. Jayaraj
 Technical Lead
 Yonigra Engineering & Consultancy Pvt. Ltd.
 In Association with
 Techniko Consultancy Services Pvt. Ltd.

NO.	REVISION	DATE	BY	CHKD BY
01	ISSUED FOR TENDER			
02	REVISION AS PER A.E. OBSERVATION			
03	REVISION AS PER A.E. OBSERVATION			
04	REVISION AS PER A.E. OBSERVATION			

PROJECT CONSULTANT
 PROJECT CONSULTANT
 PROJECT CONSULTANT
 PROJECT CONSULTANT

CONTRACTOR
 CONTRACTOR
 CONTRACTOR
 CONTRACTOR

PROJECT MANAGER
 PROJECT MANAGER
 PROJECT MANAGER
 PROJECT MANAGER

CONSULTANT
 CONSULTANT
 CONSULTANT
 CONSULTANT

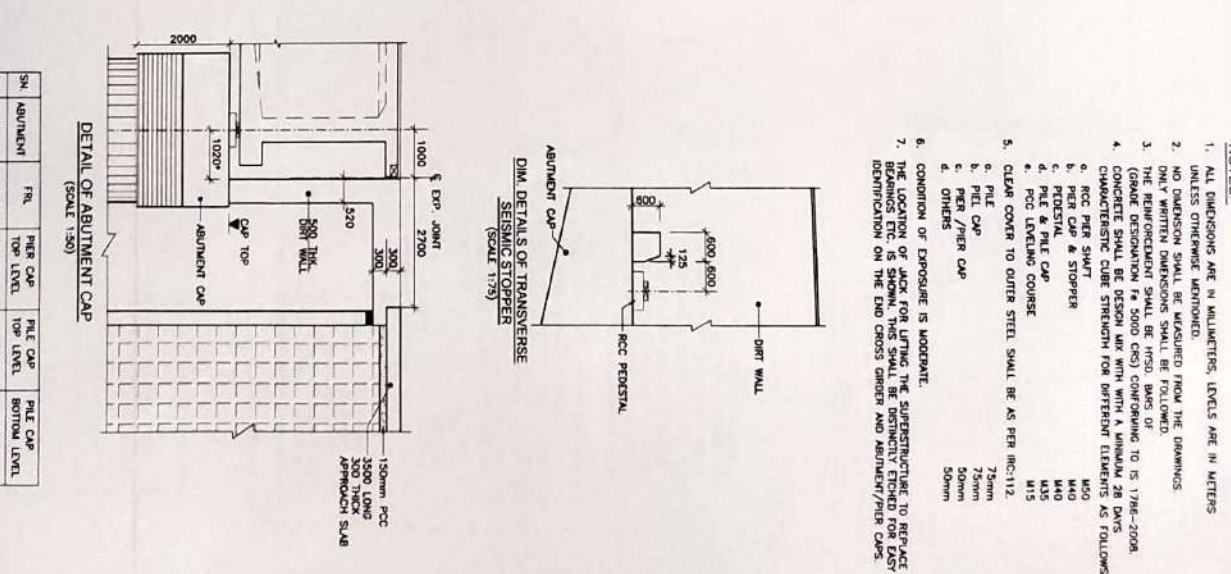
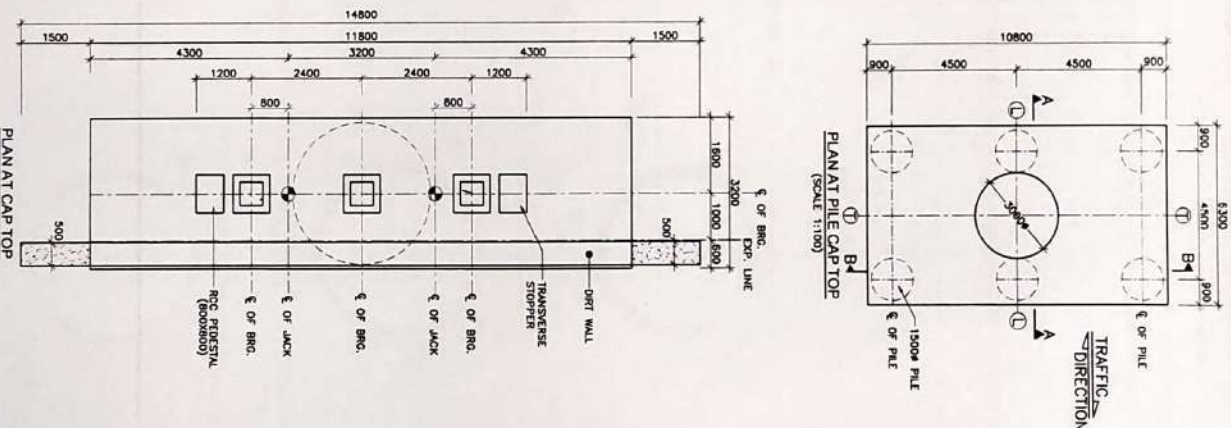
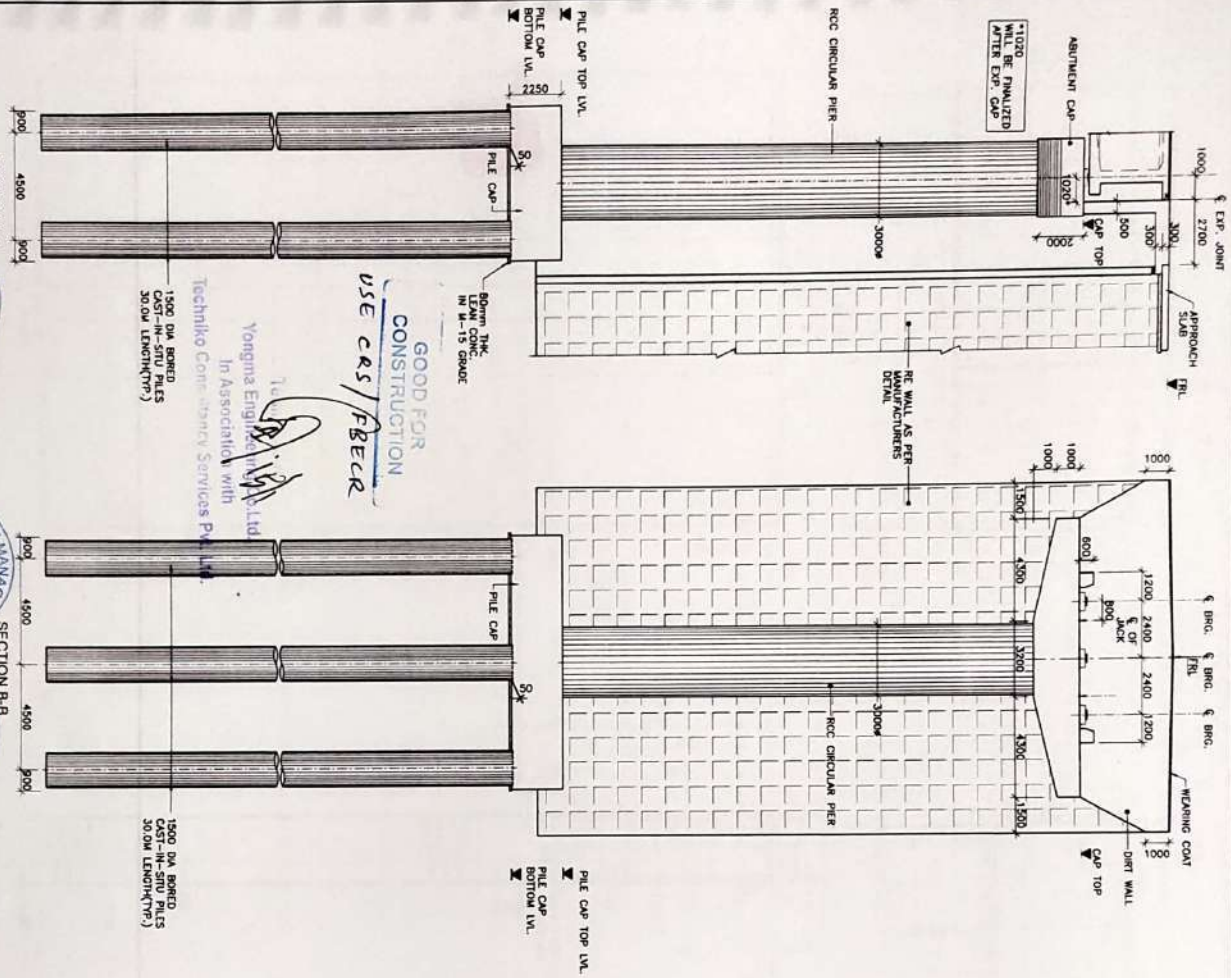
AUTHORITY ENGINEER
 AUTHORITY ENGINEER
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 AUTHORITY ENGINEER

CLIENT
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PROJECT
 CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK BETWEEN KM 106.580 TO KM 107.721 OF NH 221 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.

DESIGNED BY: P. Naji
 DRAWN BY: A. Poojari
 CHECKED BY: K. Arjunan

TITLE: DIMENSIONAL & REINF. DETAIL OF PIER P13 FOR CREEK BRIDGE
 DRAWING NO: CREEK BR. 207 (03 OF 03)
 SHEET: DATE: 24.12.2020



- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE INDICATED.
 2. NO DIMENSION SHALL BE MEASURED FROM THE DRAWINGS. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. THE REINFORCEMENT SHALL BE HYSD BARS OF GRADE DESIGNATION F4 5000 CRS) CONFORMING TO IS 1786-2008. CONCRETE SHALL BE DESIGN MIX WITH A MINIMUM 28 DAYS CHARACTERISTIC CUBE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
 - a. RCC PIER SHAFT M40
 - b. PIER CAP & STOPPER M40
 - c. PILE & PILE CAP M40
 - d. PILE STOPPER M40
 - e. PILE LEVELING COURSE M15
 4. CLEAR COVER TO OUTER STEEL SHALL BE AS PER IRC:112.
 - a. PILE 75mm
 - b. PILE CAP 75mm
 - c. PIER /PIER CAP 50mm
 - d. OTHERS 50mm
 5. CONDITION OF EXPOSURE IS MODERATE.
 6. THE LOCATION OF JACK FOR LIFTING THE SUPERSTRUCTURE TO BE RIGIDLY REDISTRIBUTION ON THE END CROSS GIRDER AND ABUTMENT/PIER CAPS.

SN	ABUTMENT	REL	PIER CAP TOP LEVEL	PILE CAP TOP LEVEL	PILE CAP BOTTOM LEVEL
1	A2	21.248	17.433	4.450	2.200

DETAIL OF ABUTMENT CAP (SCALE 1:50)

DIM. DETAILS OF TRANSVERSE SEISMIC STOPPER (SCALE 1:75)

TITLE

DIMENSIONAL & REINF. DETAIL OF ABUTMENT A2 FOR CREEK BRIDGE

CREEK BR - 208 (01 OF 03)

DATE 17.12.2020

PROJECT
CONSTRUCTION OF MAJOR BRIDGE OVER MIDDLE STRAIT CREEK BETWEEN KM 106.589 TO KM 107.261 OF NH 223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.

CLIENT
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION

CONSULTANT
YONGINA ENGINEERING PRIVATE LIMITED
In Association with Techniko Consultancy Services Private Limited

DESIGNED BY P. Nani

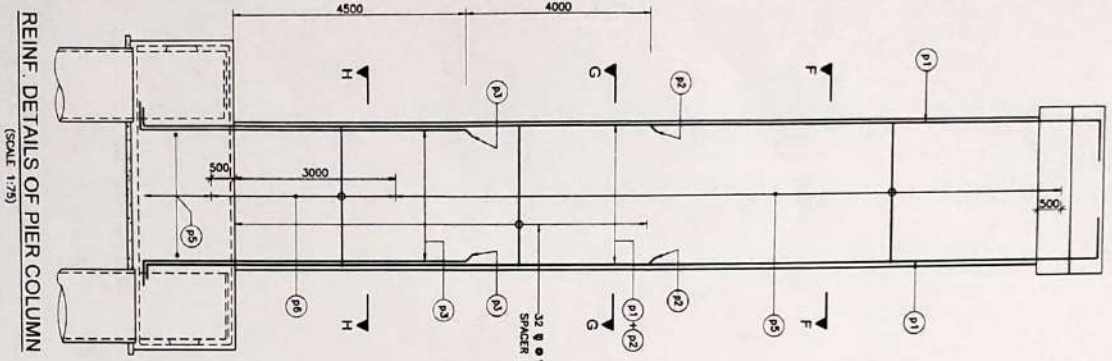
CHECKED BY K. Nandan

DRAWN BY A. Pasi

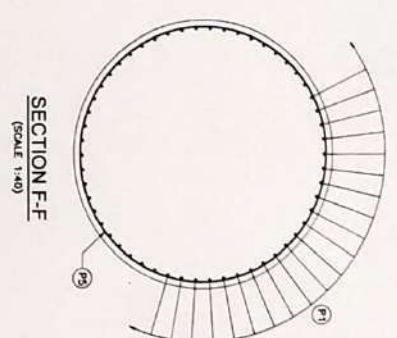
DATE 17.12.2020

SHEET

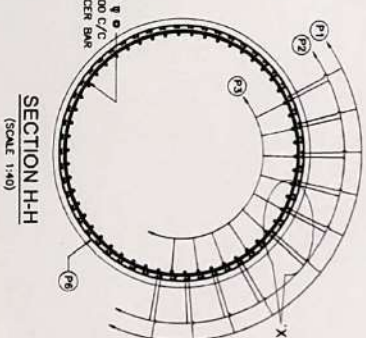
SCALE SECTION A-A (SCALE 1:150), SECTION B-B (SCALE 1:50), PLAN AT PILE CAP TOP (SCALE 1:100), DETAIL OF ABUTMENT CAP (SCALE 1:50), DIM. DETAILS OF TRANSVERSE SEISMIC STOPPER (SCALE 1:75)



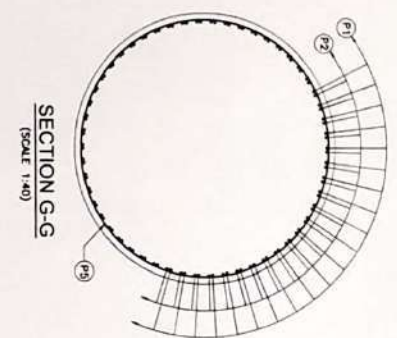
REIN. DETAILS OF PIER COLUMN
(SCALE 1:75)



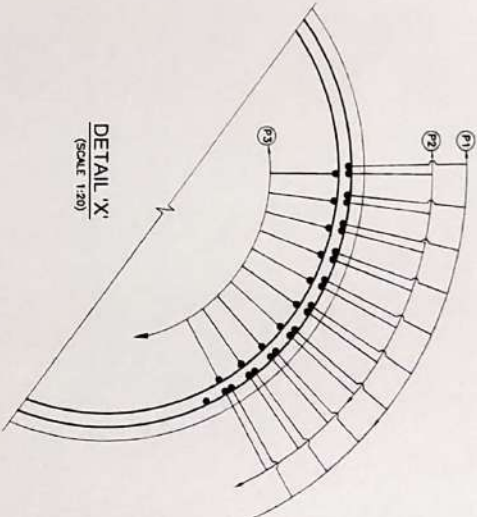
SECTION F-F
(SCALE 1:40)



SECTION H-H
(SCALE 1:40)



SECTION G-G
(SCALE 1:40)



DETAIL 'X'
(SCALE 1:20)

SCHEDULE OF PIER REINFORCEMENT

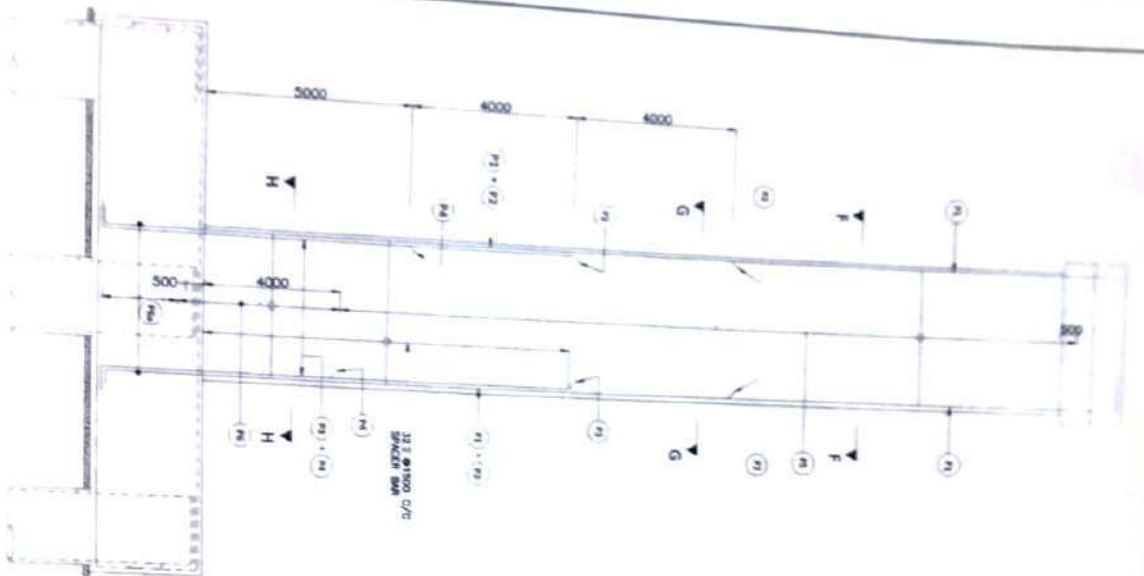
BAR NO.	BAR DIA (mm)	SPACING/NO.	SHAPE
P1	32	50 Nos	I
P2	32	58 Nos	I
P3	20	58 Nos	I
P4	16	125 C/C	O
P5	25	75 C/C	O

GOOD FOR CONSTRUCTION
USE CRS / FBCK

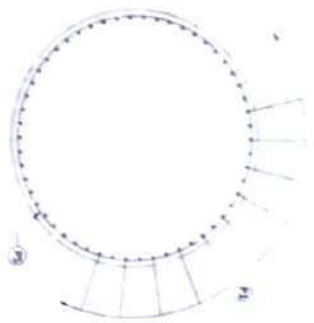
- NOTES
1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LENGTHS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
 3. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
 4. 1-1 REPRESENTS TRANSVERSE AXIS OF THE BRIDGE.
 5. HIGH YIELD STRENGTH DEFORMED BARS OF GRADE RESISTANCE $f_y = 500$ N/MM² CONFORMING TO IS 1786 SHALL ONLY BE USED.
 6. REINFORCEMENT OF PIER SHALL BE TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETING.
 7. LAP OR REINFORCEMENT SHALL BE ANCHORED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE, MINIMUM LAP LENGTH OF REINFORCEMENTS SHALL BE CALCULATED AS FOLLOWS (AS PER REC. 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (L) OF 50% ONLY.
 $LAP LENGTH L = a_1 \cdot Bar \cdot \sigma_{yk} \cdot 25k$
 $a_1 = 1.15$ FOR 25k-45k-55k
 $a_1 = 1.4$ FOR 55k-65k-80k
 $a_1 = 1.4$ FOR 80k-90k-100k
 8. DEVELOPMENT LENGTH (l_{bd})
 $l_{bd} = a_2 \cdot b \cdot (e - 1.0)$
 $a_2 = 1.0$
 $b = 40$ FOR M20 (F45000)
 $b = 40$ FOR M25 (F55000)
 $b = 35$ FOR M30 (F65000)
 $b = 34$ FOR M40 (F85000)
 $b = 34$ FOR M50 (F105000)
 9. FOR UNWARRANTABLE BOND CONDITION THE l_{bd} SHOULD BE MULTIPLIED BY FACTOR OF 1.45 FOR $\phi \geq 32$ mm.
 l_{bd} SHOULD BE INCREASED BY MULTIPLIER FACTOR (100 / $137 - \phi$)
 10. NO HOOKS SHALL BE FORMED IN THE BARS WHILE LAPPING.

Yongma Engineering Sol Ltd.
In Association with
Techniko Consultancy Services Pvt Ltd.

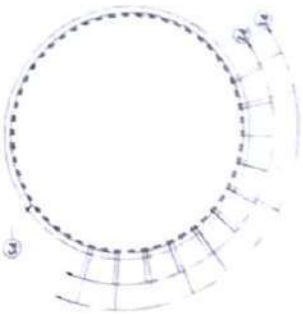
 SRI SANGHVI CONSULTANTS 64, PINKI, VEERAVATI, APURVA MUMBAI, MAHARASHTRA, INDIA	 CONTRACTOR MUMBAI, MAHARASHTRA, INDIA	 TECH MANAGER MUMBAI, MAHARASHTRA, INDIA	 CONSULTANT MUMBAI, MAHARASHTRA, INDIA	 ALTERNATIVE ENGINEER MUMBAI, MAHARASHTRA, INDIA	 CLIENT MUMBAI, MAHARASHTRA, INDIA	PROJECT CONSTRUCTION OF MAJOR BRIDGE OVER MANDLA STRAIT CREEK BETWEEN KM 106.580 TO KM 107.723 OF NH-223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.	DESIGNED BY DRAWN BY CHECKED BY P. Negi A. Paul R. Arshad	TITLE DIMENSIONAL & REIN. DETAIL OF ABUT. A2 FOR CREEK BRIDGE DRAWING NO. CHEEK-BR-208 (03 OF 03) DATE: 11.12.2020
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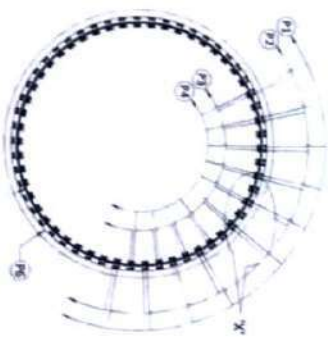
REIN. DETAILS OF PIER COLUMN
SCALE 1:100



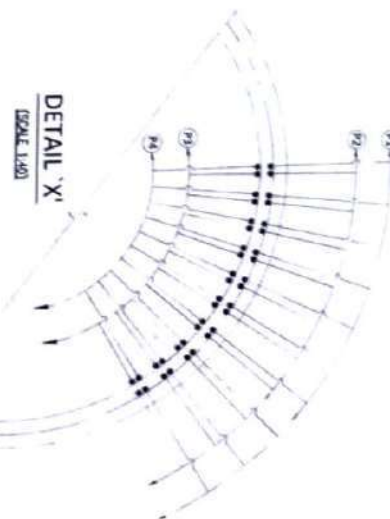
SECTION F-F
SCALE 1:50



SECTION G-G
SCALE 1:50



SECTION H-H
SCALE 1:50



DETAIL X
SCALE 1:50

SCHEDULE OF PIER REINFORCEMENT

BAR NO.	SIZE (MM)	SPACING (MM)	NO. OF BARS	SHAPE
P1	32	54	10	□
P2	32	54	10	□
P3	32	54	10	□
P4	17	54	10	□
P5	6	125	C/C	○
P6	32	100	C/C	○
P6a	2	200	C/C	○

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. THE PIER SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF IS 456:2000 AND IS 1786:1983.
3. THE PIER SHALL BE CAST IN ONE RISE.
4. THE PIER SHALL BE CURVED TO THE UPSTREAM SIDE.
5. THE PIER SHALL BE PROVIDED WITH AN ANTI-COLLISION CURB ON THE DOWNSTREAM SIDE.
6. THE PIER SHALL BE PROVIDED WITH AN ANTI-COLLISION CURB ON THE UPSTREAM SIDE.
7. THE PIER SHALL BE PROVIDED WITH AN ANTI-COLLISION CURB ON THE DOWNSTREAM SIDE.
8. THE PIER SHALL BE PROVIDED WITH AN ANTI-COLLISION CURB ON THE UPSTREAM SIDE.
9. THE PIER SHALL BE PROVIDED WITH AN ANTI-COLLISION CURB ON THE DOWNSTREAM SIDE.
10. THE PIER SHALL BE PROVIDED WITH AN ANTI-COLLISION CURB ON THE UPSTREAM SIDE.
11. THE PIER SHALL BE PROVIDED WITH AN ANTI-COLLISION CURB ON THE DOWNSTREAM SIDE.
12. THE PIER SHALL BE PROVIDED WITH AN ANTI-COLLISION CURB ON THE UPSTREAM SIDE.
13. THE PIER SHALL BE PROVIDED WITH AN ANTI-COLLISION CURB ON THE DOWNSTREAM SIDE.
14. THE PIER SHALL BE PROVIDED WITH AN ANTI-COLLISION CURB ON THE UPSTREAM SIDE.
15. THE PIER SHALL BE PROVIDED WITH AN ANTI-COLLISION CURB ON THE DOWNSTREAM SIDE.



GRS&P CONSULTANTS
CIVIL ENGINEERS
1, FIRST FLOOR,
MADHURAM COMPLEX, RAJIV GANDHI
ROAD, HYDRABAD - 500 082



PRAJNA ENGINEERING PVT. LTD.
PRAJNA ENGINEERING PVT. LTD.
PRAJNA ENGINEERING PVT. LTD.



SAFETY CONSULTANT
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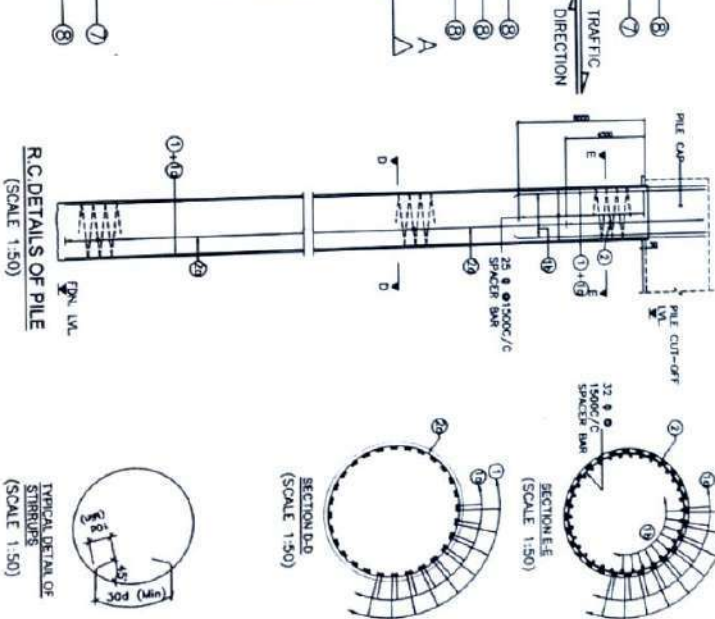
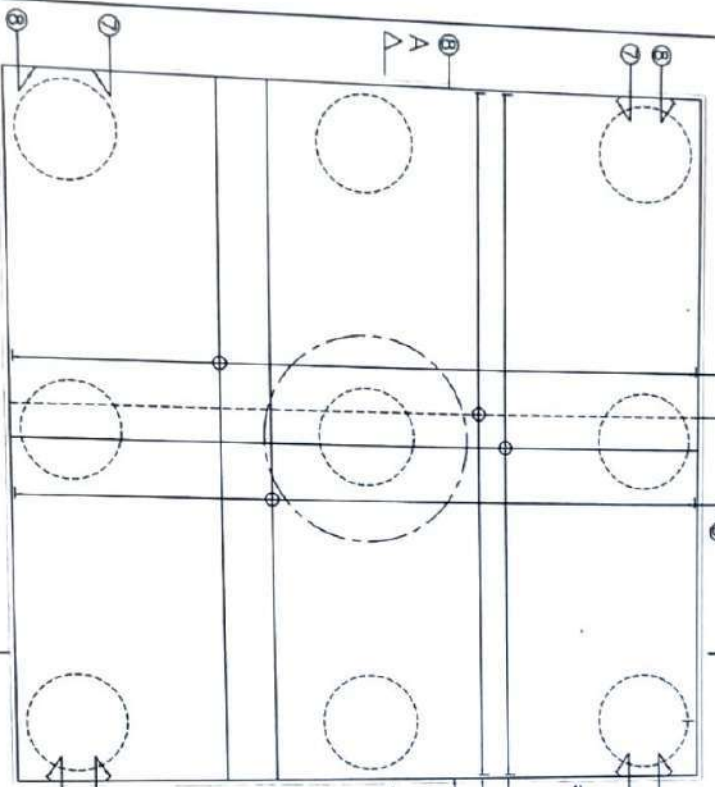
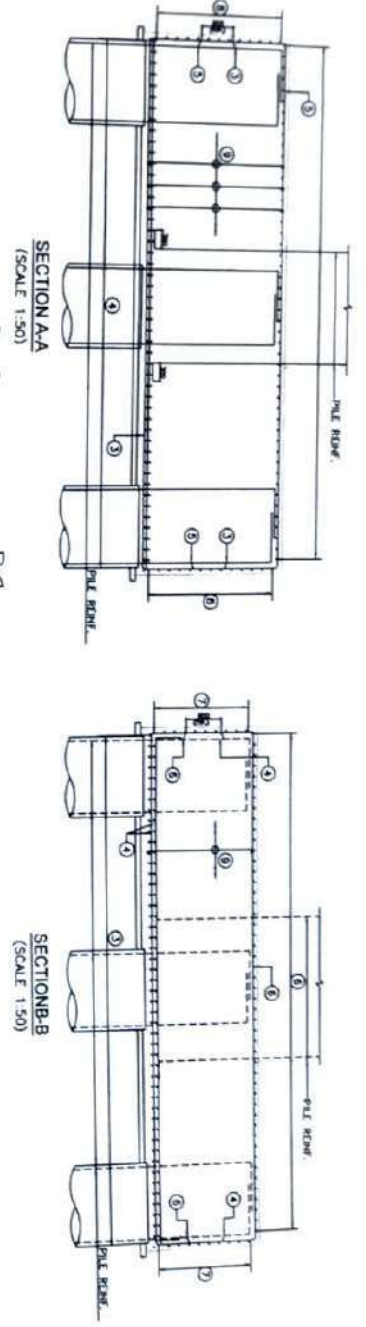
PROJECT
PROJECT
PROJECT

REVISIONS BY: P. Nagaraj, Date: 10/10/2011

TITLE: DIMENSIONAL & REIN. DETAIL OF PIER FOR CROSS BRIDGE

SHEET: 01 OF 01

DATE: 10/10/2011



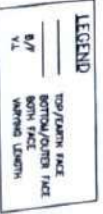
SCHEDULE OF PILE & PILE CAP REINFORCEMENT

BAR	DIA (mm)	SPACING / Nos.	SHAPE
1	25	28 Nos.	-
1a	25	28 Nos.	-
1b	25	34 Nos.	-
2	18	125 C/C	○
2a	10	125 C/C	○
3	32	125 C/C (SLABERS)	-
4	32	125 C/C (SLABERS)	-
5	20	125 C/C	-
6	20	125 C/C	-
7	10	150 C/C	-
8	10	150 C/C	-
9	12	SPACING*	-

* SPACING* = 250MM IN LONGITUDINAL DIRECTION AND 125MM C/C TRANSVERSELY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS AND UNLESS NOTED OTHERWISE OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE EXCEEDED AND ONLY DIMENSIONS ARE TO BE FOLLOWED.
3. 1-1 REPRESENTS LONGITUDINAL VIEW OF THE BRIDGE.
4. REINFORCEMENT SHALL BE PROVIDED TO ALL THE SPACERS ONLY BE USED.
5. THE PILE CAP SHALL BE 10% BE PROVIDED IN THE PILE CAP BEFORE IT'S CONSTRUCTION.
6. LAPPING OF REINFORCEMENT SHALL BE ACCORDING TO THE PILE CAP BEFORE IT'S CONSTRUCTION.
7. THE PILE CAP SHALL BE PROVIDED TO ALL THE SPACERS ONLY BE USED.
8. CALCULATED AS FOLLOWS: (AS PER IS:456 SECTION 19) WITH MINIMUM ALLOWABLE LAPING (L) OF 250 MM.
9. LAP LENGTH = 01.5d
10. 01 = 1.2 FOR 250 C/C
11. 01 = 1.2 FOR 150 C/C
12. 01 = 1.14 FOR 125 C/C
13. DEVELOPMENT LENGTH (L_d)
14. 4d FOR 25 (14000)
15. 4d FOR 32 (14000)
16. 4d FOR 18 (14000)
17. 4d FOR 20 (14000)
18. 4d FOR 10 (14000)
19. 4d FOR 12 (14000)



CONSTRICTION
(SCALE 1:50)

GOOD FOR
(SCALE 1:50)

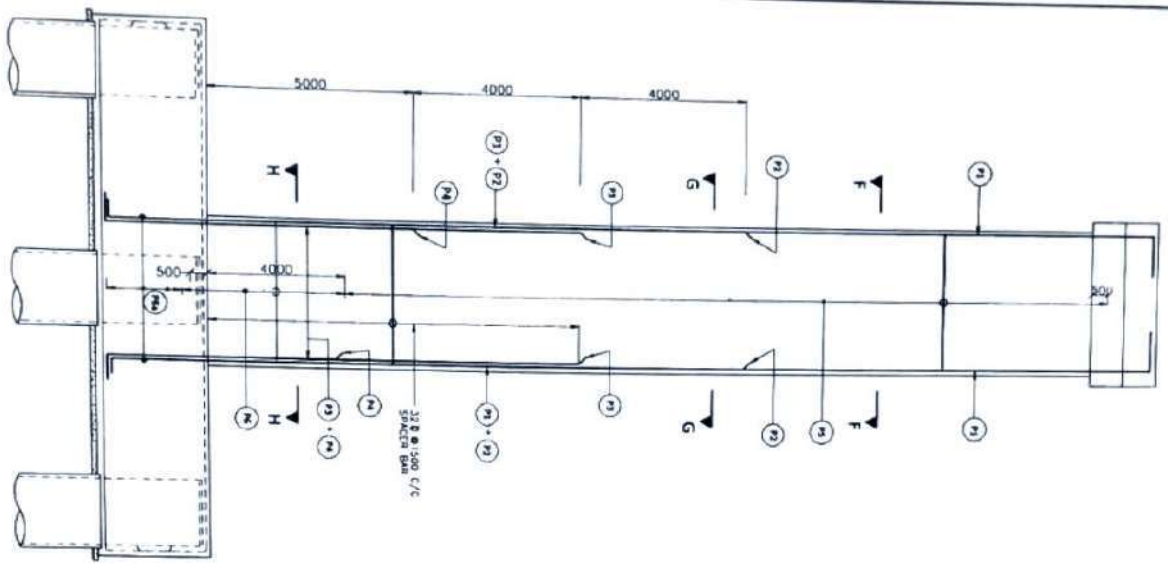
PROJECT: CONSTRUCTION OF BRIDGE OVER CREEK AT CHIEF POST, DISTRICT OF CHIEF POST, JAMMU & KASHMIR.

REVISIONS:

NO.	DATE	BY	CHKD BY	REVISION
1	10/10/2011	AS	AS	ISSUED FOR TENDERS

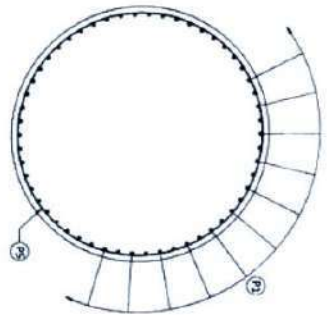
DESIGNED BY: AS
CHECKED BY: AS
DATE: 10/10/2011

TECHNICO CONSULTANCY SERVICES PVT. LTD.
Kangra, Himachal Pradesh



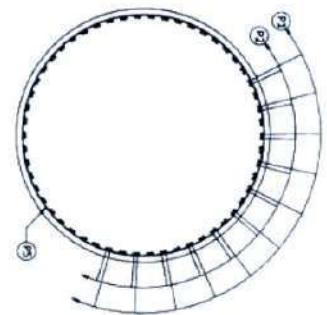
REINF. DETAILS OF PIER COLUMN

SCALE: 1:100



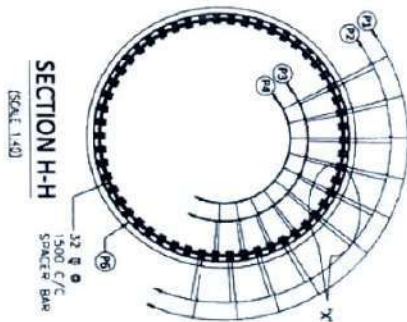
SECTION F-F

SCALE 1:50



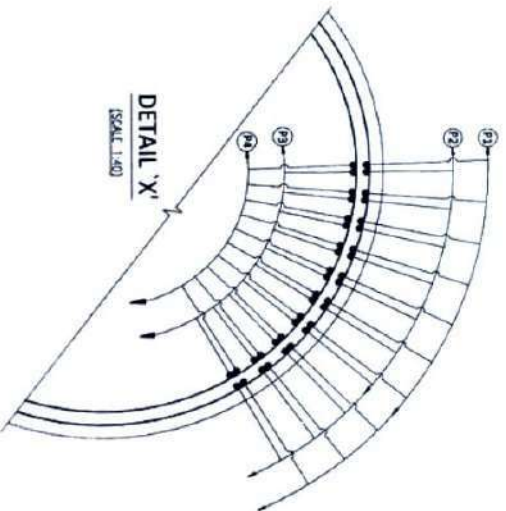
SECTION G-G

SCALE 1:50



SECTION H-H

SCALE 1:50



DETAIL 'X'

SCALE 1:50

SCHEDULE OF PIER REINFORCEMENT

BAR MKD.	BAR DIA (MM)	SPACING/NOS	SHAPE
P1	32	54 Nos	1
P2	32	54 Nos	1
P3	32	54 Nos	1
P4	32	54 Nos	1
P5	16	125 C/C	○
P6	32	100 C/C	○
P60	12	200 C/C	○

- NOTES
1. DIMENSIONS ARE IN METERS AND ANGLES ARE IN DEGREES UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALED IN ANY OTHER DIMENSIONS SHALL BE FOLLOWED.
 3. L₁ REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
 4. L₂ REPRESENTS TRANSVERSE AXIS OF THE BRIDGE.
 5. FOR YIELD STRENGTH DEFORMED BARS OF GRADE DESIGNATION 44-500 C/S CONFORMING TO IS: 1786 SHALL ONLY BE USED.
 6. REINFORCEMENT OF PIER SHAFT IS TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETING.
 7. LAPPING OF REINFORCEMENT SHALL BE AVOIDED AS FAR AS POSSIBLE. IN CASE LAPPING OF BARS BECOMES UNAVOIDABLE MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE CALCULATED AS FOLLOWS (AS PER IRC 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPPING (l) OF 50% ONLY.

$$l = 1.0 \text{ for } p\% \leq 25\%$$

$$l = 1.15 \text{ for } 25\% < p\% \leq 35\%$$

$$l = 1.4 \text{ for } 35\% < p\% \leq 50\%$$
 DEVELOPMENT LENGTH (l_{dev})

$$l_{dev} = a \cdot l_b \text{ (a=1.0)}$$

$$l_b = k \cdot d$$

$$k = 40 \text{ FOR M30 (F45000)}$$

$$k = 35 \text{ FOR M35 (F45000)}$$
 FOR UNFAVORABLE BOND CONDITION THE l_b SHOULD BE MULTIPLE BY FACTOR OF 1.43 FOR Ø>32mm IT SHOULD BE INCREASED BY MULTIPLYING FACTOR (100/132-Ø).
 8. THE LAP ANCHORAGE LENGTH TO BE INCREASED BY 25% AS PER 18.2.3.2 OF IRC 112 FOR EPOXY COATED REINFORCEMENT.
 9. NO HOOKS SHALL BE FORMED IN THE BARS WHILE LAPPING.
 10. GROUND IMPROVEMENT TO BE DONE BY LIME SLURRY INJECTION FOR A DEPTH OF AT LEAST 10M BELOW THE F.C.L.
 11. CORROSION RESISTANCE STEEL & SULPHUR RESISTANT CEMENT TO BE USED.

TECHNICO CONSULTANCY SERVICES PVT. LTD.

SAFETY CONSULTANT: TECHNICO CONSULTANCY SERVICES PVT. LTD.

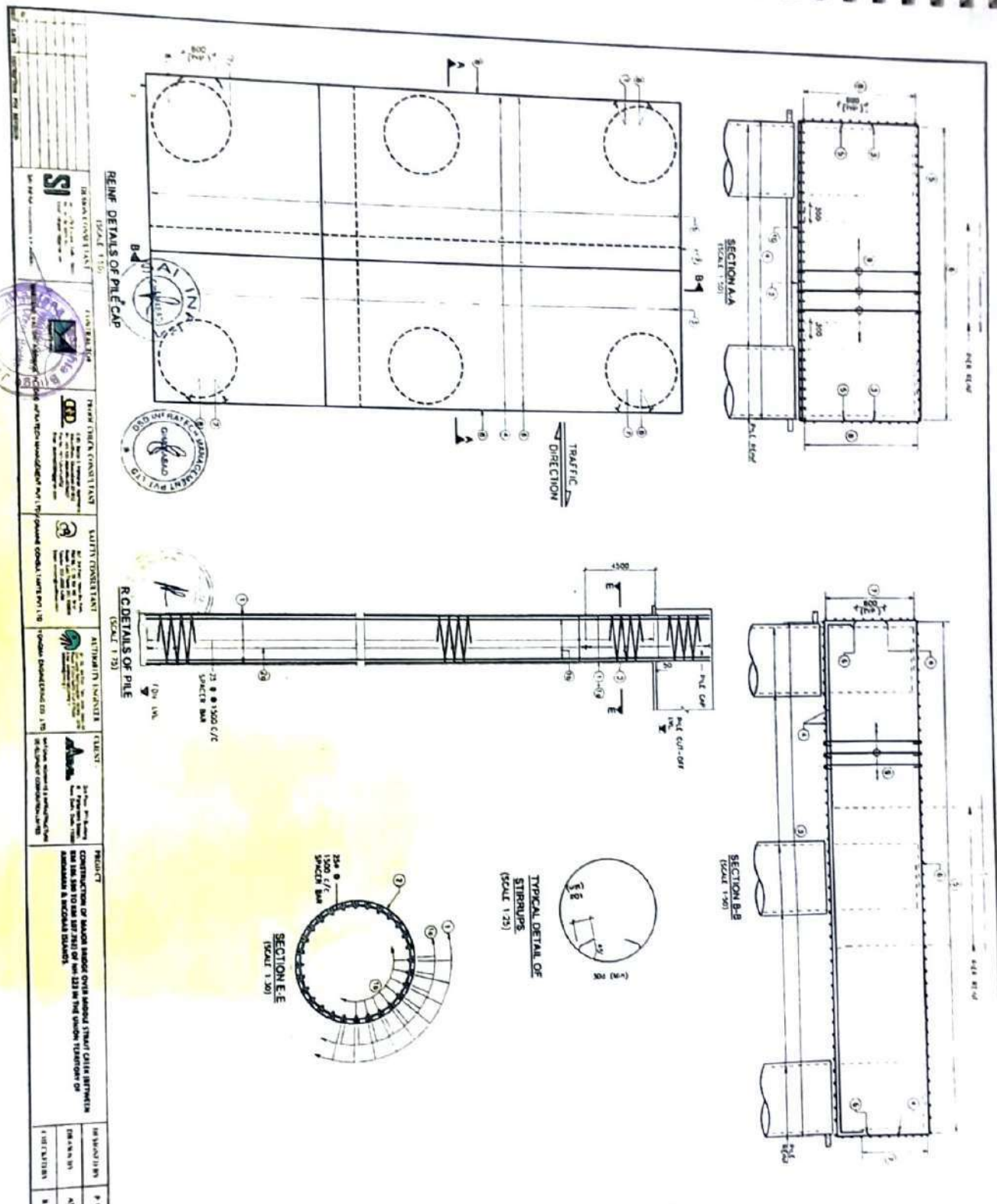
PROJECT: DIMENSIONAL & REINF. DETAIL OF PIER FOR CHEER BRIDGE

DESIGNED BY: P. Singh

DRAWN BY: A. K. Singh

CHECKED BY: K. Singh

DATE: 08/12/2011



NOTES

1. All dimensions are in millimeters and shall be in metric units unless otherwise specified.
2. Reinforcement shall be provided in accordance with the design drawings.
3. All reinforcement shall be provided in accordance with the design drawings.
4. All reinforcement shall be provided in accordance with the design drawings.
5. All reinforcement shall be provided in accordance with the design drawings.
6. All reinforcement shall be provided in accordance with the design drawings.
7. All reinforcement shall be provided in accordance with the design drawings.
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9. All reinforcement shall be provided in accordance with the design drawings.
10. All reinforcement shall be provided in accordance with the design drawings.

LEGEND

UP/Down FACE
 BOTH FACE
 VARIOUS LENGTHS

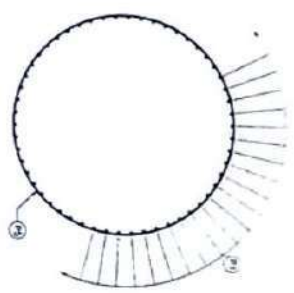
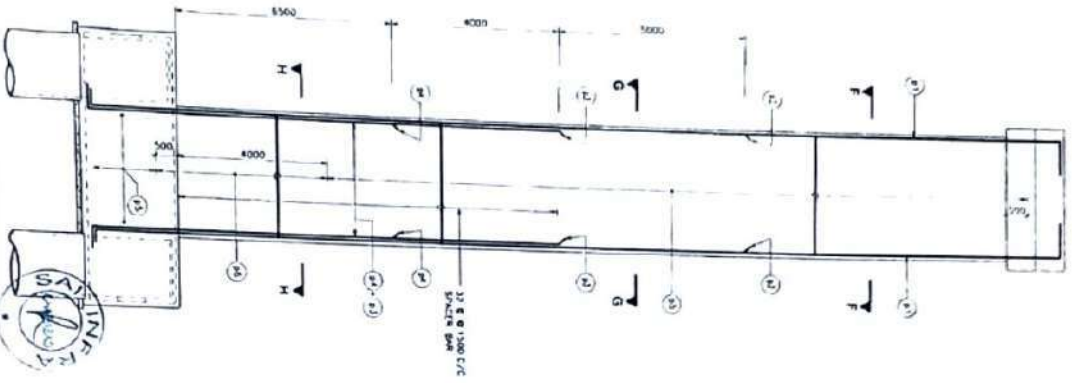
REVISIONS

NO.	DATE	DESCRIPTION
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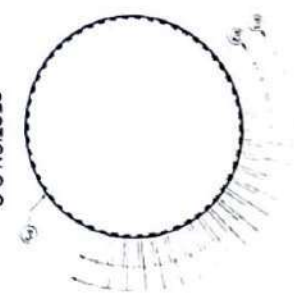
APPROVALS

DESIGNER: [Signature]
 CHECKER: [Signature]
 DATE: 2018-08-01

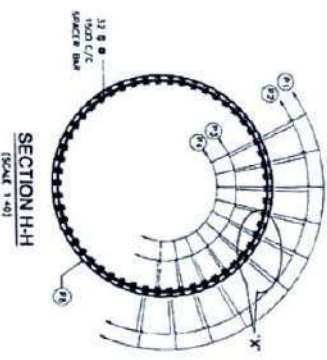
REIN. DETAILS OF PIER COLUMN
(SCALE 1:20)



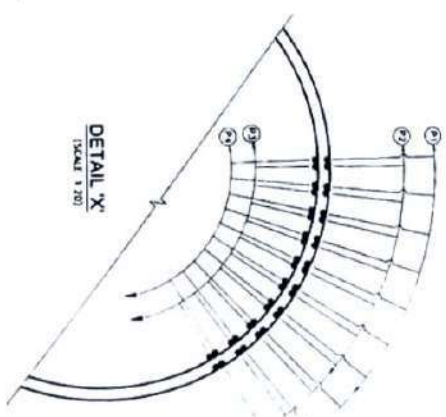
SECTION F-F
(SCALE 1:40)



SECTION G-G
(SCALE 1:40)



SECTION H-H
(SCALE 1:40)



DETAIL X-X
(SCALE 1:20)

SCHEDULE OF PIER REINFORCEMENT

BAR	SIZE	SPACING	NUMBER	REMARKS
1	22	1200	12	LONGITUDINAL BARS
2	8	1200	12	LONGITUDINAL BARS
3	8	1200	12	LONGITUDINAL BARS
4	8	1200	12	LONGITUDINAL BARS
5	8	1200	12	LONGITUDINAL BARS
6	8	1200	12	LONGITUDINAL BARS
7	8	1200	12	LONGITUDINAL BARS
8	8	1200	12	LONGITUDINAL BARS
9	8	1200	12	LONGITUDINAL BARS
10	8	1200	12	LONGITUDINAL BARS
11	8	1200	12	LONGITUDINAL BARS
12	8	1200	12	LONGITUDINAL BARS
13	8	1200	12	LONGITUDINAL BARS
14	8	1200	12	LONGITUDINAL BARS
15	8	1200	12	LONGITUDINAL BARS
16	8	1200	12	LONGITUDINAL BARS
17	8	1200	12	LONGITUDINAL BARS
18	8	1200	12	LONGITUDINAL BARS
19	8	1200	12	LONGITUDINAL BARS
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21	8	1200	12	LONGITUDINAL BARS
22	8	1200	12	LONGITUDINAL BARS
23	8	1200	12	LONGITUDINAL BARS
24	8	1200	12	LONGITUDINAL BARS
25	8	1200	12	LONGITUDINAL BARS
26	8	1200	12	LONGITUDINAL BARS
27	8	1200	12	LONGITUDINAL BARS
28	8	1200	12	LONGITUDINAL BARS
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32	8	1200	12	LONGITUDINAL BARS
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35	8	1200	12	LONGITUDINAL BARS
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39	8	1200	12	LONGITUDINAL BARS
40	8	1200	12	LONGITUDINAL BARS
41	8	1200	12	LONGITUDINAL BARS
42	8	1200	12	LONGITUDINAL BARS
43	8	1200	12	LONGITUDINAL BARS
44	8	1200	12	LONGITUDINAL BARS
45	8	1200	12	LONGITUDINAL BARS
46	8	1200	12	LONGITUDINAL BARS
47	8	1200	12	LONGITUDINAL BARS
48	8	1200	12	LONGITUDINAL BARS
49	8	1200	12	LONGITUDINAL BARS
50	8	1200	12	LONGITUDINAL BARS

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. ALL REINFORCEMENT SHALL BE PROVIDED AS SHOWN IN THE DRAWING.
 3. ALL REINFORCEMENT SHALL BE PROVIDED AS SHOWN IN THE DRAWING.
 4. ALL REINFORCEMENT SHALL BE PROVIDED AS SHOWN IN THE DRAWING.
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 49. ALL REINFORCEMENT SHALL BE PROVIDED AS SHOWN IN THE DRAWING.
 50. ALL REINFORCEMENT SHALL BE PROVIDED AS SHOWN IN THE DRAWING.

PROJECT INFORMATION

CLIENT: [Name]

PROJECT: [Name]

DATE: [Date]

SCALE: [Scale]

DESIGNER: [Name]

CHECKER: [Name]

DATE: [Date]

PROJECT LOCATION: [Location]

PROJECT DESCRIPTION: [Description]

PROJECT STATUS: [Status]

PROJECT OWNER: [Owner]

PROJECT CONTRACT NO.: [Contract No.]

PROJECT DRAWING NO.: [Drawing No.]

PROJECT SHEET NO.: [Sheet No.]

PROJECT TOTAL SHEETS: [Total Sheets]

PROJECT DATE: [Date]

PROJECT LOCATION: [Location]

PROJECT DESCRIPTION: [Description]

PROJECT STATUS: [Status]

PROJECT OWNER: [Owner]

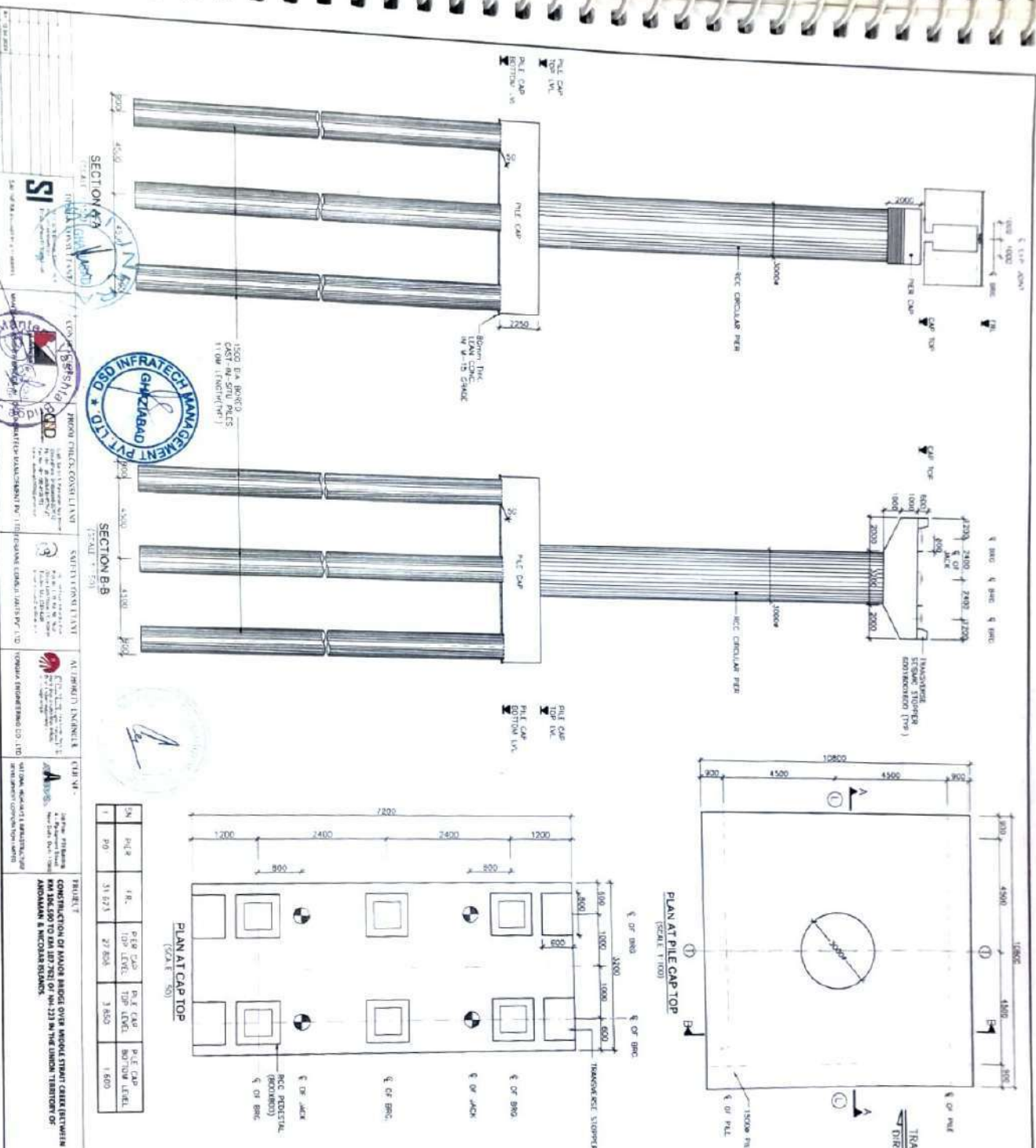
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PROJECT DRAWING NO.: [Drawing No.]

PROJECT SHEET NO.: [Sheet No.]

PROJECT TOTAL SHEETS: [Total Sheets]

PROJECT DATE: [Date]



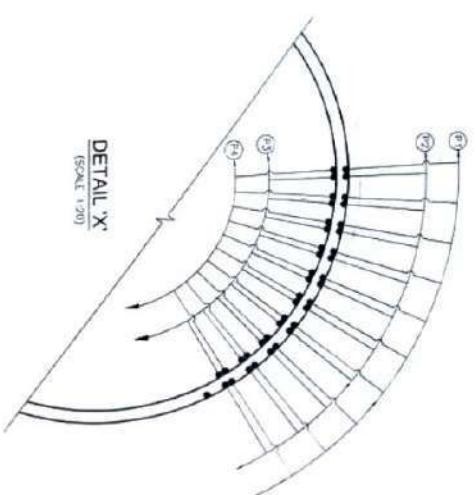
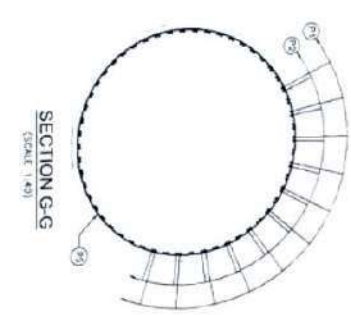
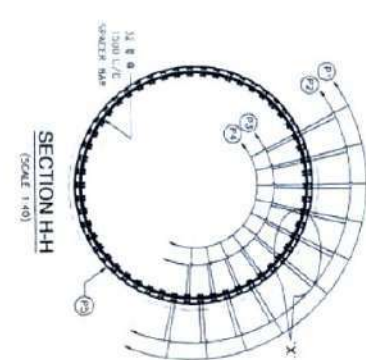
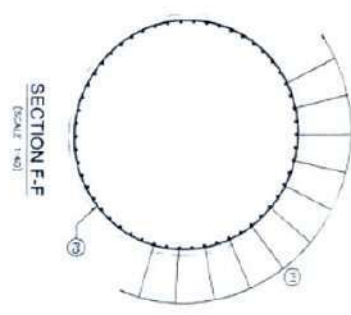
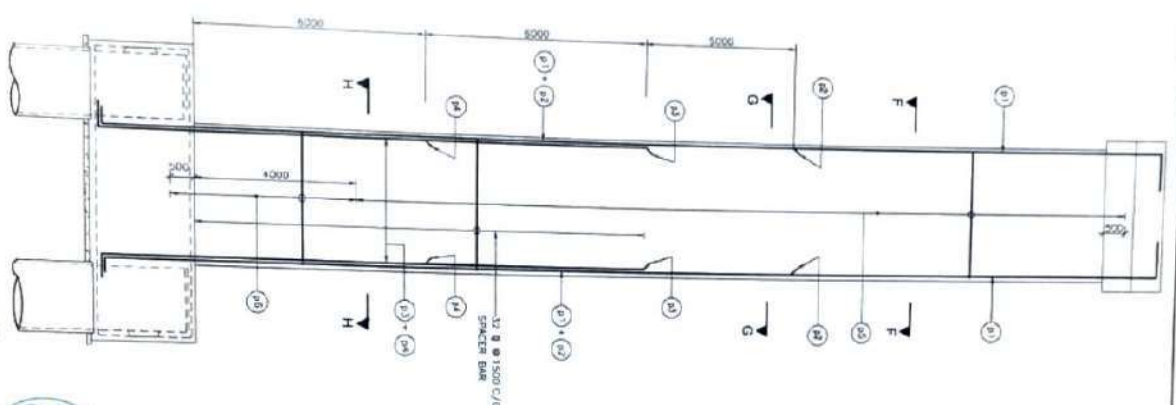
NO.	REVISION	DATE
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DESIGNED BY	DR. N. S. S. S.
CHECKED BY	K. S. S. S.
DATE	12.04.2021

PROJECT	CONSTRUCTION OF MAJOR BRIDGE OVER NATIONAL HIGHWAY CROSSING AT ANJALI & NEELAKSARI.
SCALE	AS SHOWN
DATE	12.04.2021

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
 2. ALL DIMENSIONS SHALL BE APPROVED BY THE ARCHITECT.
 3. ALL DIMENSIONS SHALL BE APPROVED BY THE ARCHITECT.
 4. CONCRETE SHALL BE DESIGN GR 40 WITH A MINIMUM 28 DAYS COMPRESSIVE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
 5. PIER CAP & STOPPER
 6. PIER CAP & STOPPER
 7. PIER CAP & STOPPER
 8. PIER CAP & STOPPER
 9. OTHERS
 10. CLEAR CONCRETE TO COVER STEEL SHALL BE AS PER IS: 1173.
 11. CONDITION OF EXPOSURE IS UNCLASSIFIED.
 12. ALL DIMENSIONS SHALL BE APPROVED BY THE ARCHITECT.
 13. CONCRETE SHALL BE DESIGN GR 40 WITH A MINIMUM 28 DAYS COMPRESSIVE STRENGTH FOR DIFFERENT ELEMENTS AS FOLLOWS:
 14. PIER CAP & STOPPER
 15. PIER CAP & STOPPER
 16. PIER CAP & STOPPER
 17. OTHERS
 18. CLEAR CONCRETE TO COVER STEEL SHALL BE AS PER IS: 1173.
 19. CONDITION OF EXPOSURE IS UNCLASSIFIED.
 20. ALL DIMENSIONS SHALL BE APPROVED BY THE ARCHITECT.

REINF. DETAILS OF PIER COLUMN



SCHEDULE OF PIER REINFORCEMENT

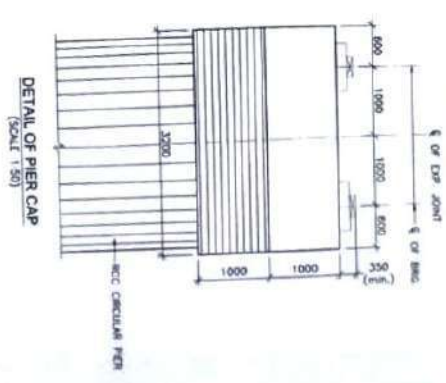
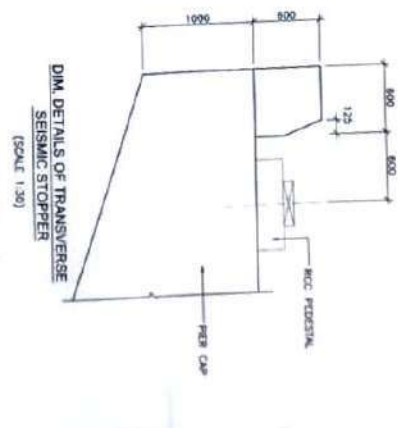
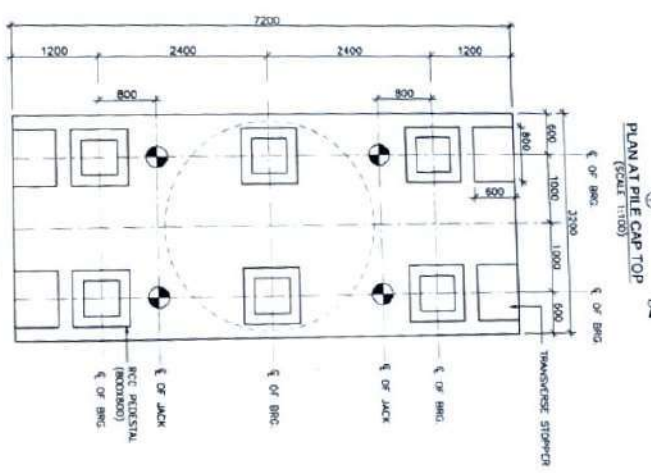
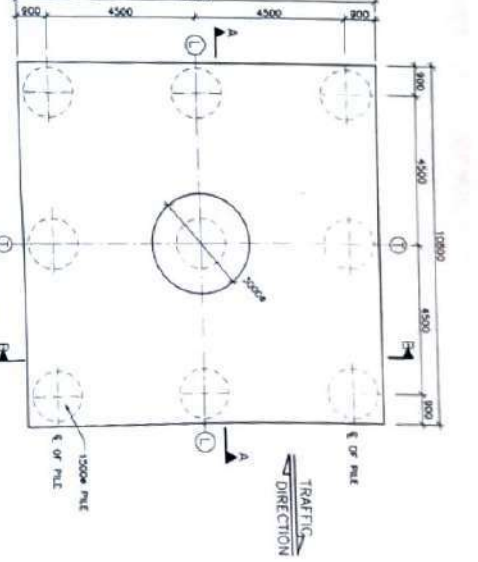
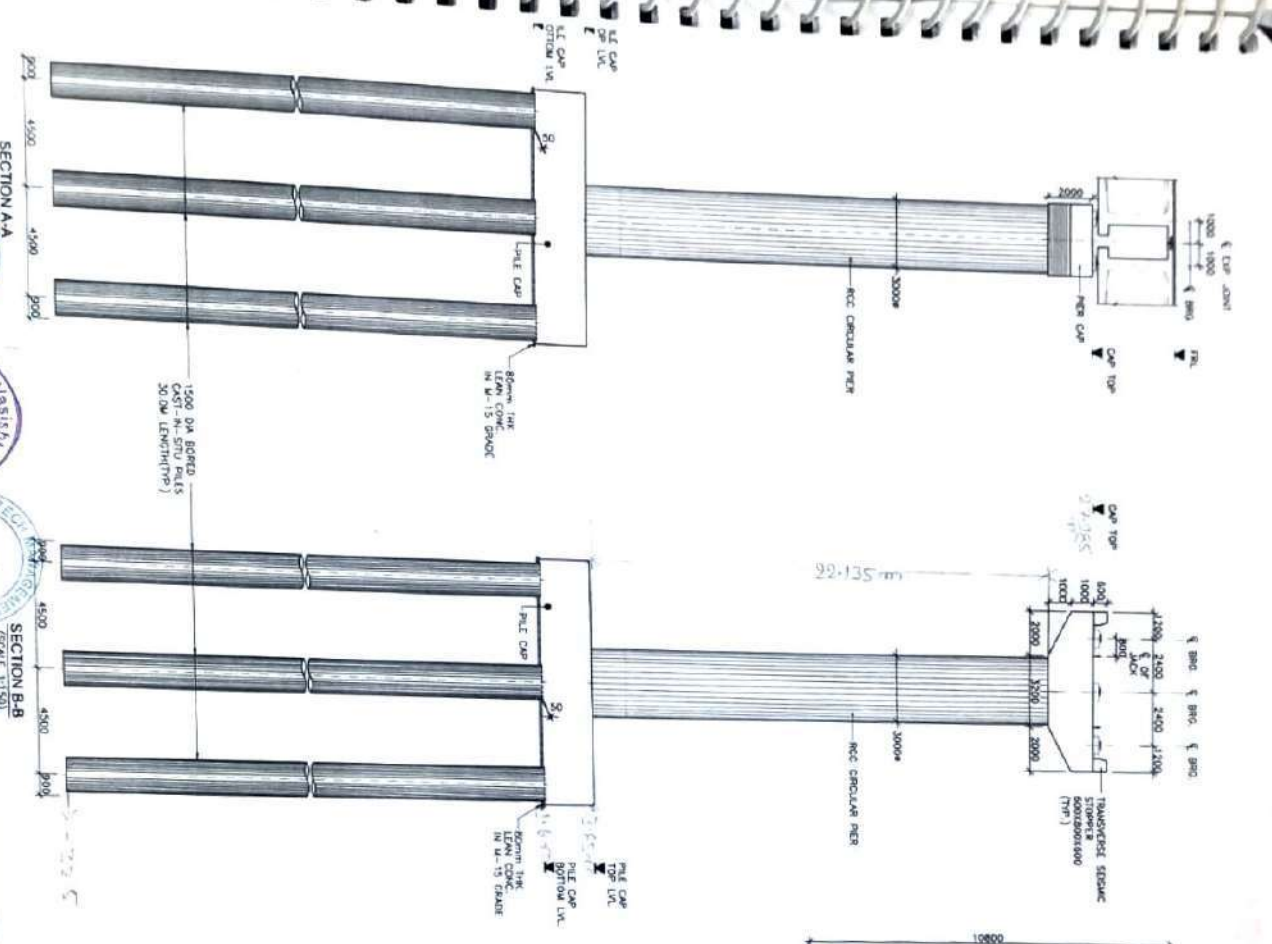
BAR NO.	SIZE (mm)	SPACING (mm)	SHAPE
P1	32	26 Nos.	□
P2	32	26 Nos.	□
P3	32	26 Nos.	□
P4	32	26 Nos.	□
P5	18	125 C/C	○
P6	20	75 C/C	○

NOTE

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
2. DIMENSIONS ARE TO FACE UNLESS OTHERWISE STATED.
3. ALL REINFORCEMENT SHALL BE TO THE CENTERLINE UNLESS OTHERWISE STATED.
4. ALL REINFORCEMENT SHALL BE TO THE CENTERLINE UNLESS OTHERWISE STATED.
5. ALL REINFORCEMENT SHALL BE TO THE CENTERLINE UNLESS OTHERWISE STATED.
6. ALL REINFORCEMENT SHALL BE TO THE CENTERLINE UNLESS OTHERWISE STATED.
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8. ALL REINFORCEMENT SHALL BE TO THE CENTERLINE UNLESS OTHERWISE STATED.
9. ALL REINFORCEMENT SHALL BE TO THE CENTERLINE UNLESS OTHERWISE STATED.
10. ALL REINFORCEMENT SHALL BE TO THE CENTERLINE UNLESS OTHERWISE STATED.

SI
 DEPARTMENT
 PROJECT CONSULTANT
 SAFTI CONSULTANT
 ATHERTON ENGINEERS
 CHINA
 PROJECT
 CONSTRUCTION OF MAJOR BRIDGE OVER MAJOR STRAITS CROSSING AT
 ANCHALAM & NEIGAL STRAITS
 DRAWN BY
 CHECKED BY
 TITLE
 DIMENSIONAL & REINFORCEMENT DETAIL OF
 PIER FOR CHINA BRIDGE
 DRAWING NO.
 CHECKED BY
 DATE





SI	PIER	PIL	PIER CAP TOP LEVEL	PILE CAP TOP LEVEL	PILE CAP BOTTOM LEVEL
1	P8	P1	27.955	5.85	1.800

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS. LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
 2. ALL DIMENSIONS SHALL BE WITHIN TOLERANCE FROM THE DRAWING.
 3. THE REINFORCEMENT SHALL BE WELDED FROM THE DRAWING.
 4. THE REINFORCEMENT SHALL BE WELDED FROM THE DRAWING.
 5. THE REINFORCEMENT SHALL BE WELDED FROM THE DRAWING.
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 20. THE REINFORCEMENT SHALL BE WELDED FROM THE DRAWING.

SECTION AA (SCALE 1:150)

SECTION BA (SCALE 1:150)

PLAN AT CAP TOP (SCALE 1:50)

PLAN AT PILE CAP TOP (SCALE 1:100)

DETAIL OF PIER CAP (SCALE 1:30)

DETAILS OF TRANSVERSE SEISMIC STOPPER (SCALE 1:30)

PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER ANDHRA STATE CANAL BETWEEN ANANDAM & NICHARA ISLANDS.

CLIENT: NATIONAL HIGHWAYS AUTHORITY OF INDIA

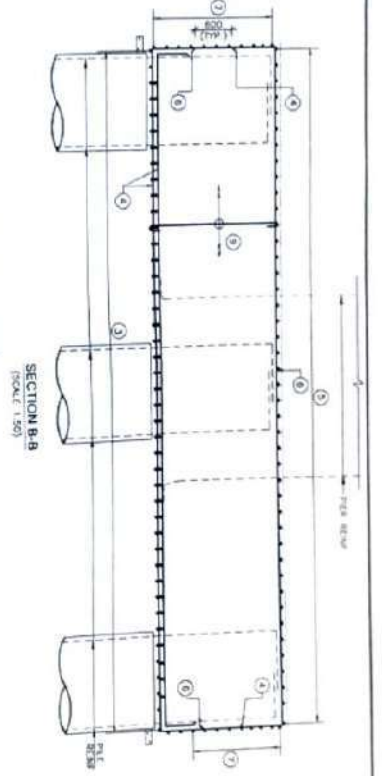
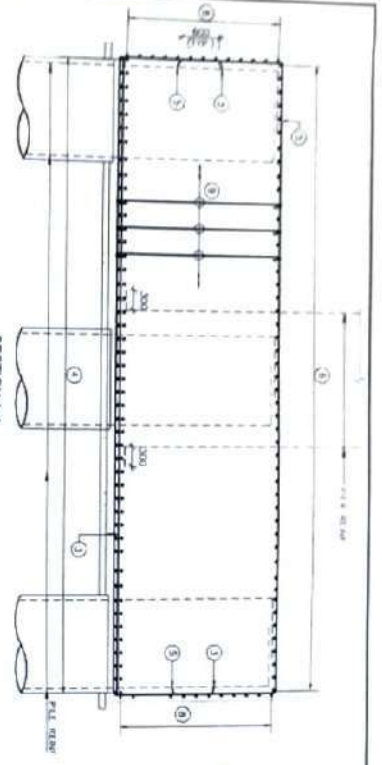
DESIGNED BY: P. Nagesh

DRAWN BY: ANJLI

CHECKED BY: R. Anjan

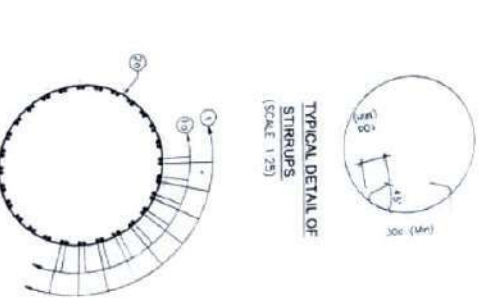
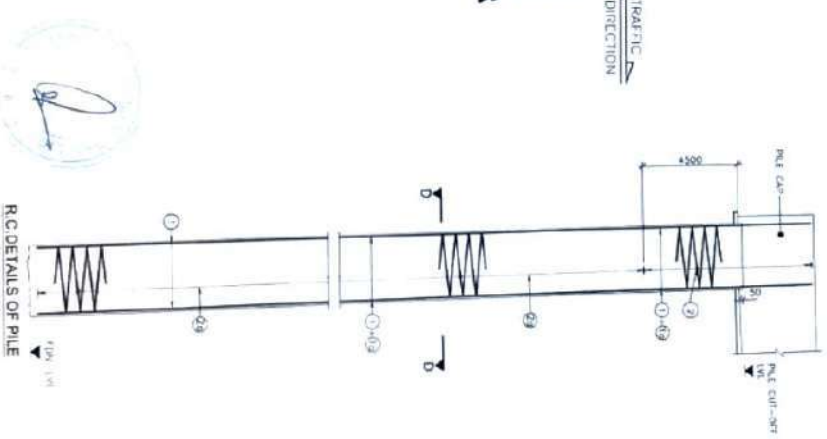
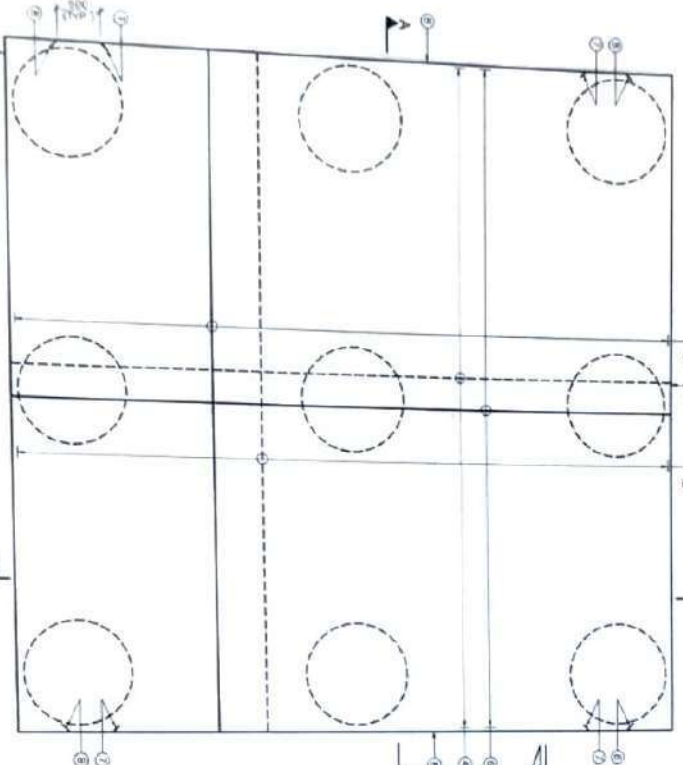
TITLE: DIMENSIONAL & REINFORCEMENT DETAIL OF PIER FOR CHECK BRIDGE

REVISIONS: CHECKER: BR-200 (01 OF 03)

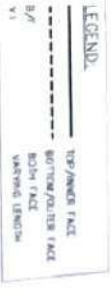


SCHEDULE OF PILE & PILE CAP REINFORCEMENT

Sl. No.	Bar No.	Bar Size	Length (mm)	Quantity	Remarks
1	1	25	2300	1	TOP
2	2	25	2700	1	TOP
3	3	25	2700	1	TOP
4	4	25	2700	1	TOP
5	5	25	2700	1	TOP
6	6	25	2700	1	TOP
7	7	25	2700	1	TOP
8	8	25	2700	1	TOP
9	9	25	2700	1	TOP
10	10	25	2700	1	TOP
11	11	25	2700	1	TOP
12	12	25	2700	1	TOP
13	13	25	2700	1	TOP
14	14	25	2700	1	TOP
15	15	25	2700	1	TOP
16	16	25	2700	1	TOP
17	17	25	2700	1	TOP
18	18	25	2700	1	TOP
19	19	25	2700	1	TOP
20	20	25	2700	1	TOP
21	21	25	2700	1	TOP
22	22	25	2700	1	TOP
23	23	25	2700	1	TOP
24	24	25	2700	1	TOP
25	25	25	2700	1	TOP
26	26	25	2700	1	TOP
27	27	25	2700	1	TOP
28	28	25	2700	1	TOP
29	29	25	2700	1	TOP
30	30	25	2700	1	TOP
31	31	25	2700	1	TOP
32	32	25	2700	1	TOP
33	33	25	2700	1	TOP
34	34	25	2700	1	TOP
35	35	25	2700	1	TOP
36	36	25	2700	1	TOP
37	37	25	2700	1	TOP
38	38	25	2700	1	TOP
39	39	25	2700	1	TOP
40	40	25	2700	1	TOP
41	41	25	2700	1	TOP
42	42	25	2700	1	TOP
43	43	25	2700	1	TOP
44	44	25	2700	1	TOP
45	45	25	2700	1	TOP
46	46	25	2700	1	TOP
47	47	25	2700	1	TOP
48	48	25	2700	1	TOP
49	49	25	2700	1	TOP
50	50	25	2700	1	TOP



SECTION D-D (SCALE 1:30)



- NOTES**
- ALL DIMENSIONS ARE IN MILLIMETERS, AND UNLESS NOTED OTHERWISE.
 - CONCRETE IS TO BE GRADE 30 MPa.
 - REINFORCEMENT IS TO BE GRADE 460 MPa.
 - FOR UNIFORM BOND DEVELOPMENT, THE BARS SHOULD BE WELDED BY FACTOR OF 1.43 FOR EXPOSED BARS AND 1.25 FOR BARS IN CONCRETE.
 - NO BARS SHALL BE TOWARD IN THE BARS SHALL BE WELDED.
- FOR UNIFORM BOND DEVELOPMENT, THE BARS SHOULD BE WELDED BY FACTOR OF 1.43 FOR EXPOSED BARS AND 1.25 FOR BARS IN CONCRETE.**
- NO BARS SHALL BE TOWARD IN THE BARS SHALL BE WELDED.**

REINFORCEMENT CONSULTANTS
 (CONSULTANTS) FOR THE DESIGN AND SUPERVISION OF THE CONSTRUCTION OF THE
 GREEN BRIDGE AT THE INTERSECTION OF THE MAIN ROAD AND THE BRIDGE ROAD
 AT THE INTERSECTION OF THE MAIN ROAD AND THE BRIDGE ROAD
 AT THE INTERSECTION OF THE MAIN ROAD AND THE BRIDGE ROAD

CHALABAD
 CIVIL ENGINEERING CONSULTANTS
 101, AL-FAYYAZ STREET, AL-DIBBAH, BAGHDAD, IRAQ
 TEL: 00964 780 1234567890
 FAX: 00964 780 1234567890
 E-MAIL: CHALABAD@GMAIL.COM

AL-HADITHI ENGINEERING
 CIVIL ENGINEERING CONSULTANTS
 101, AL-FAYYAZ STREET, AL-DIBBAH, BAGHDAD, IRAQ
 TEL: 00964 780 1234567890
 FAX: 00964 780 1234567890
 E-MAIL: ALHADITHI@GMAIL.COM

AL-HADITHI ENGINEERING
 CIVIL ENGINEERING CONSULTANTS
 101, AL-FAYYAZ STREET, AL-DIBBAH, BAGHDAD, IRAQ
 TEL: 00964 780 1234567890
 FAX: 00964 780 1234567890
 E-MAIL: ALHADITHI@GMAIL.COM

PROJECT
 GREEN BRIDGE AT THE INTERSECTION OF THE MAIN ROAD AND THE BRIDGE ROAD
 AT THE INTERSECTION OF THE MAIN ROAD AND THE BRIDGE ROAD
 AT THE INTERSECTION OF THE MAIN ROAD AND THE BRIDGE ROAD

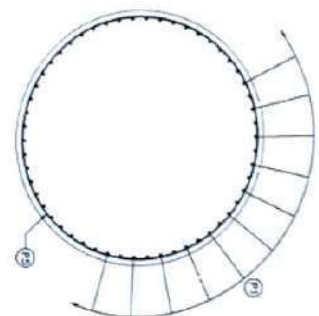
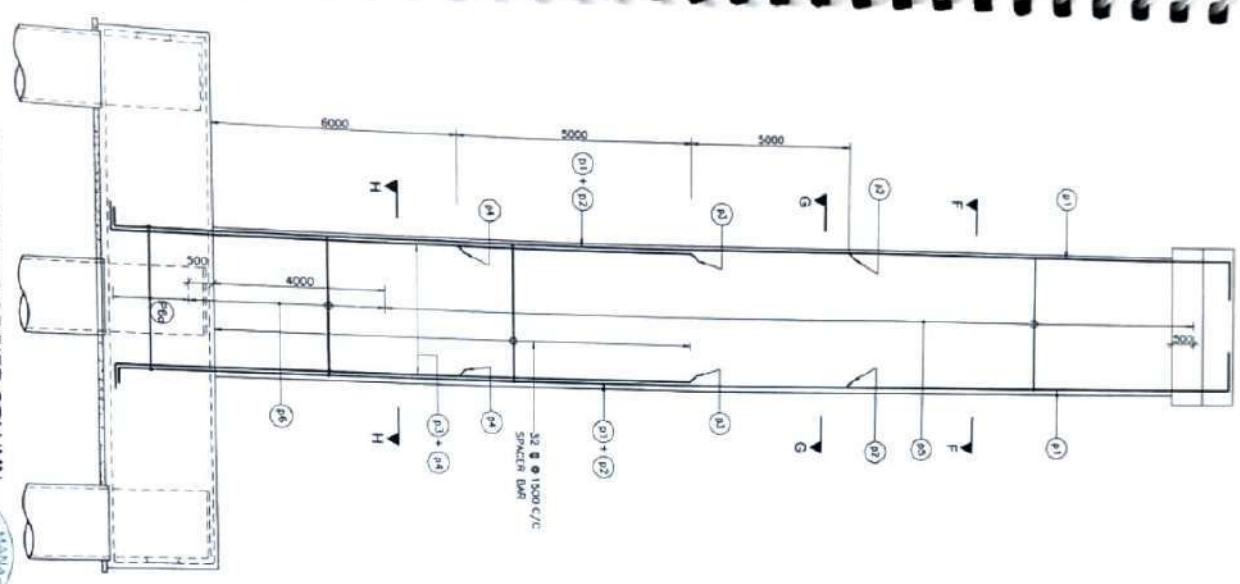
DESIGNED BY: P. Saeed
DRAWN BY: A. Saeed
CHECKED BY: H. Saeed

DATE: 12/04/2023

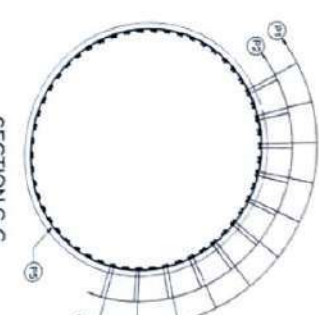
PROJECT
 GREEN BRIDGE AT THE INTERSECTION OF THE MAIN ROAD AND THE BRIDGE ROAD
 AT THE INTERSECTION OF THE MAIN ROAD AND THE BRIDGE ROAD
 AT THE INTERSECTION OF THE MAIN ROAD AND THE BRIDGE ROAD

DESIGNED BY: P. Saeed
DRAWN BY: A. Saeed
CHECKED BY: H. Saeed

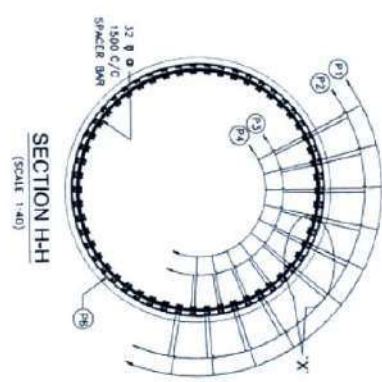
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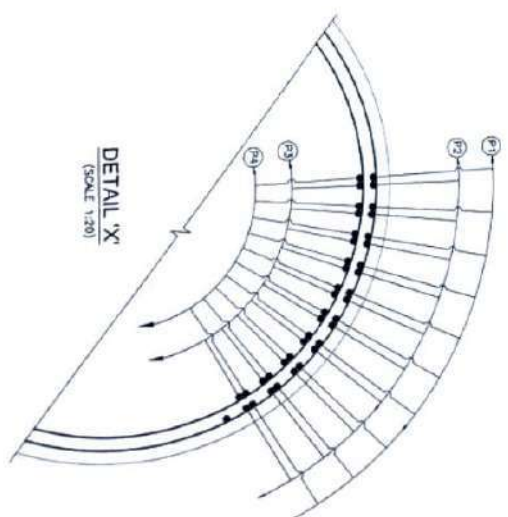
SECTION F-F
(SCALE 1:40)



SECTION G-G
(SCALE 1:40)



SECTION H-H
(SCALE 1:40)



DETAIL 'X'
(SCALE 1:20)

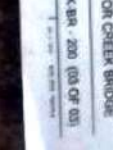
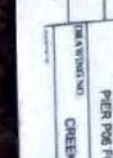
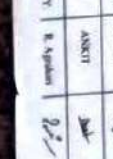
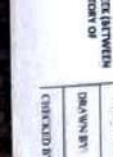
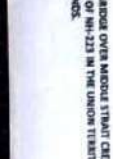
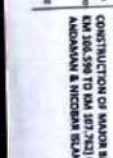
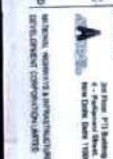
SCHEDULE OF PIER REINFORCEMENT

BAR NO.	BAR DIA. (mm)	SPACING/USE	SHAPE
P1	32	58 Min.	—
P2	32	20 Min.	—
P3	32	28 Min.	—
P4	32	58 Min.	—
P5	16	175 C/C	○
P6	20	75 C/C	○
P14	12	200 C/C	○

- ALL DIMENSIONS ARE IN MILLIMETER AND UNLESS SPECIFIED IN OTHER UNITS OTHERWISE SPECIFIED.
- CONCRETE AND SOIL IS IN SCALE ONLY UNITS.
- CONCRETE SHALL BE FOLLOWING:
 - 1.1. REINFORCEMENT CONCRETE AND OF THE BRIDGE
 - 1.2. REINFORCEMENT CONCRETE AND OF THE BRIDGE
 - 1.3. REINFORCEMENT CONCRETE AND OF THE BRIDGE
- MIN. TENSILE STRENGTH OF CONCRETE SHALL BE 17 N/mm² AND COMPRESSIVE STRENGTH SHALL BE 17 N/mm².
- REINFORCEMENT OF NEW SPILL 5 TO BE ANCHORED IN THE OLD CONCRETE 75 CM MINIMUM.
- LAPPING OF REINFORCEMENT SHALL BE ANCHORED AS PER IS 456 (1978) AND IS 456 (2000) AS POSSIBLE. IN CASE LAPPING OF BARS REINFORCEMENT MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE CALCULATED AS FOLLOWS (AS PER IS 456 (2000)) WITH MINIMUM ANCHORING LAPPING (L) OF 500 CM ONLY.
 - LAP LENGTH IN % OF BAR DIA.
 - 1.1. 1.1 FOR 456 (1978)
 - 1.2. 1.1 FOR 456 (2000)
 - 1.3. 1.1 FOR 456 (2000)
- NO JOINTS SHALL BE FORMED IN THE BARS WHERE LAPPING

REIN. DETAILS OF PIER COLUMN

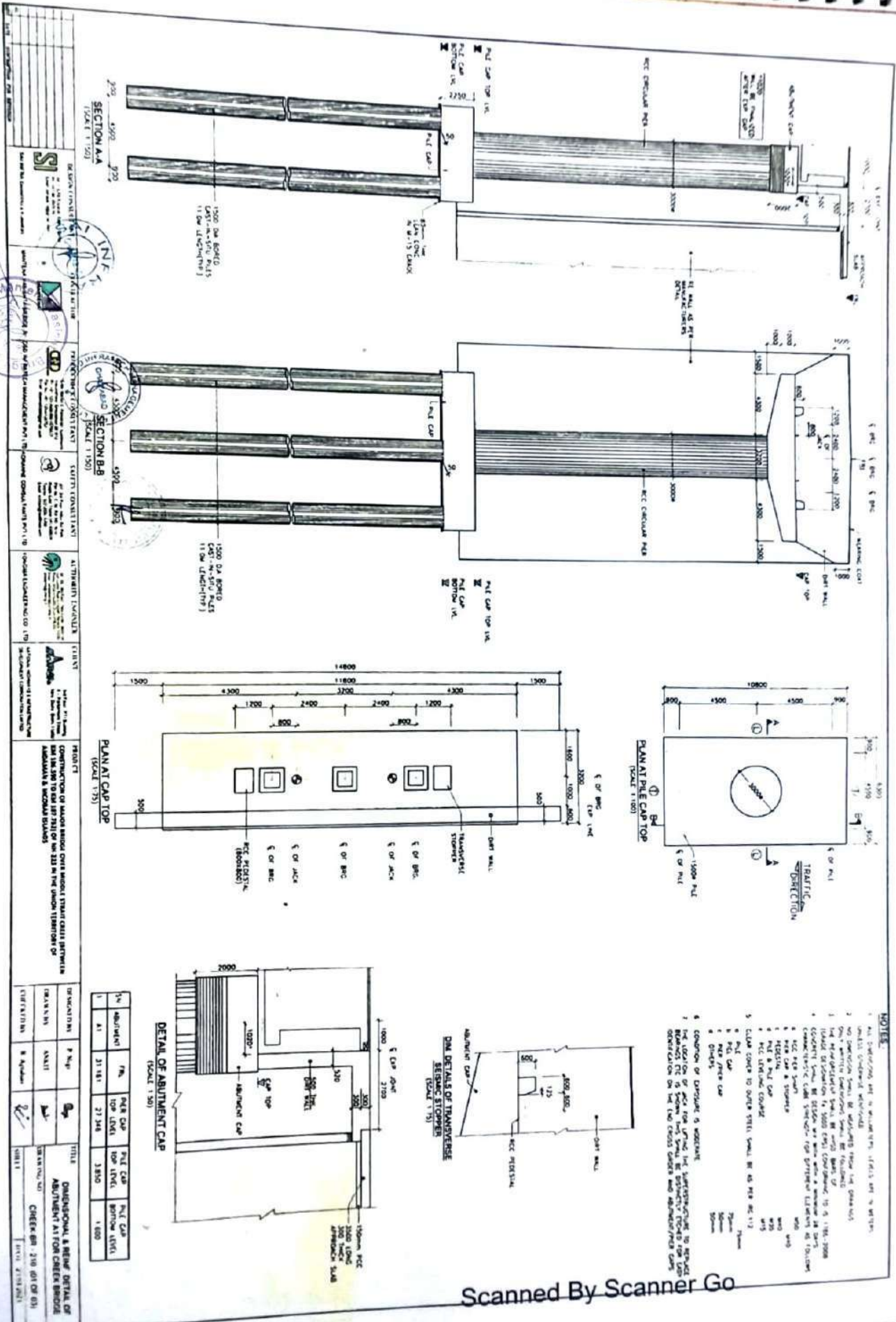
(SCALE 1:75)



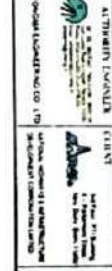
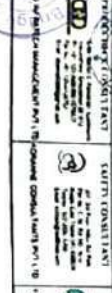
PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER MIDHAT TRIBUTARY CREEK BETWEEN KM 106.598 TO KM 107.243 OF NH 223 IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS.

RESPONSIBLE BY: P. Singh
DRAWN BY: ANKIT

TITLE: DIMENSIONAL & REIN. DETAIL OF PIER FOR CREEK BRIDGE
CREEK BR. - 200 (03 OF 03)



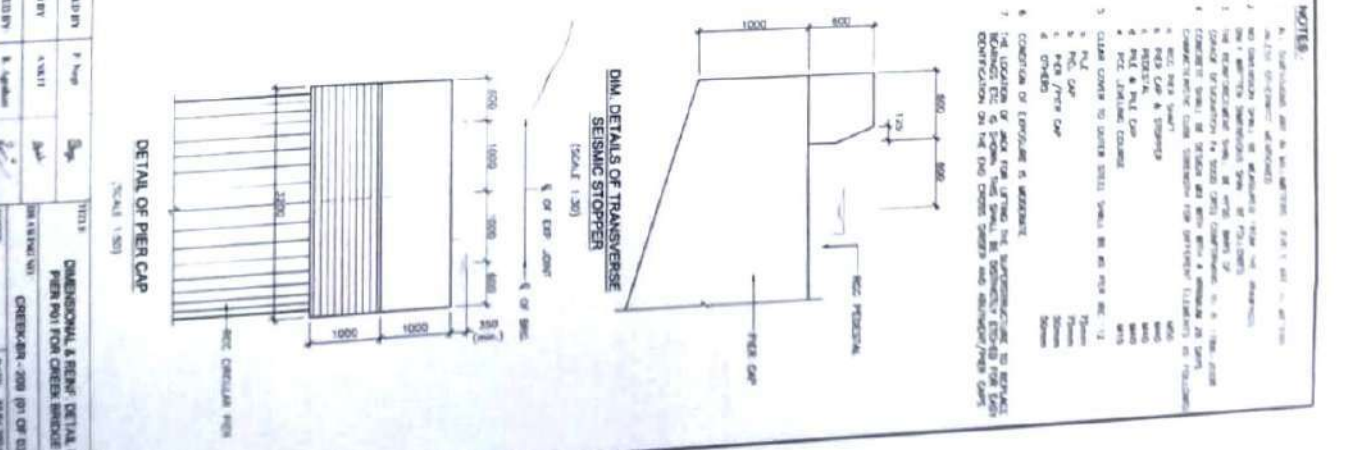
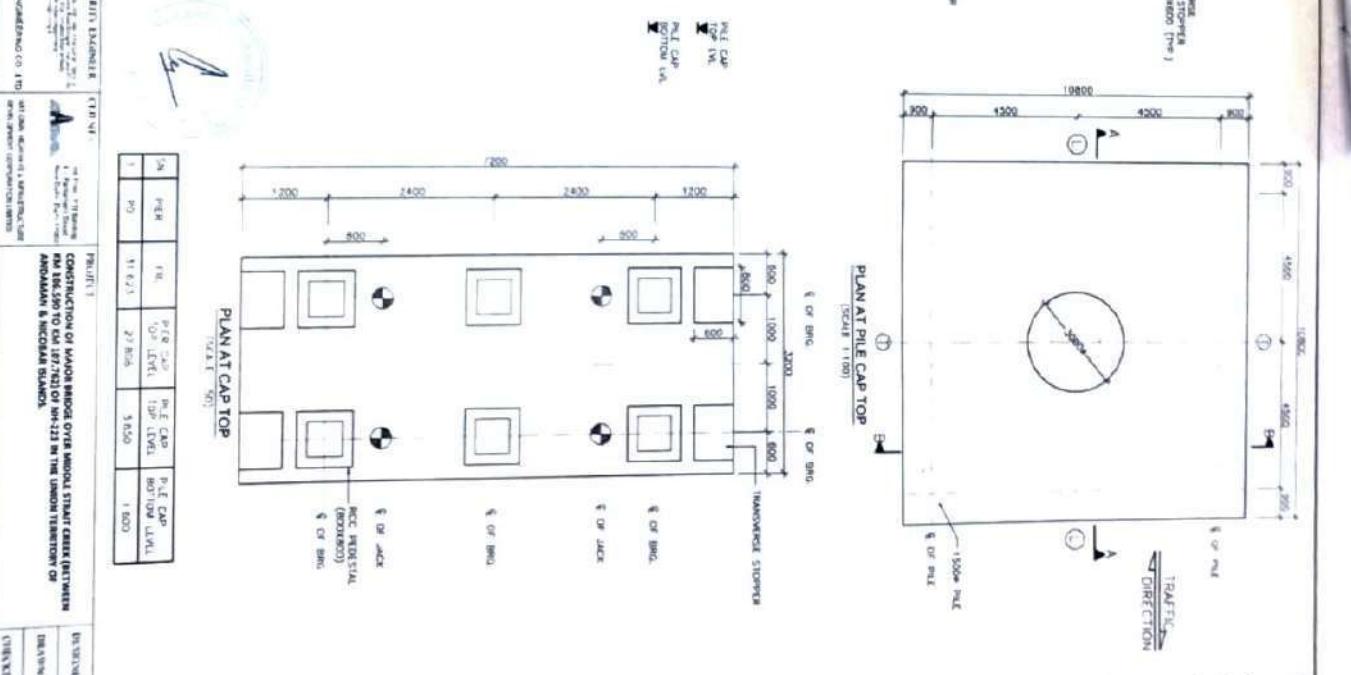
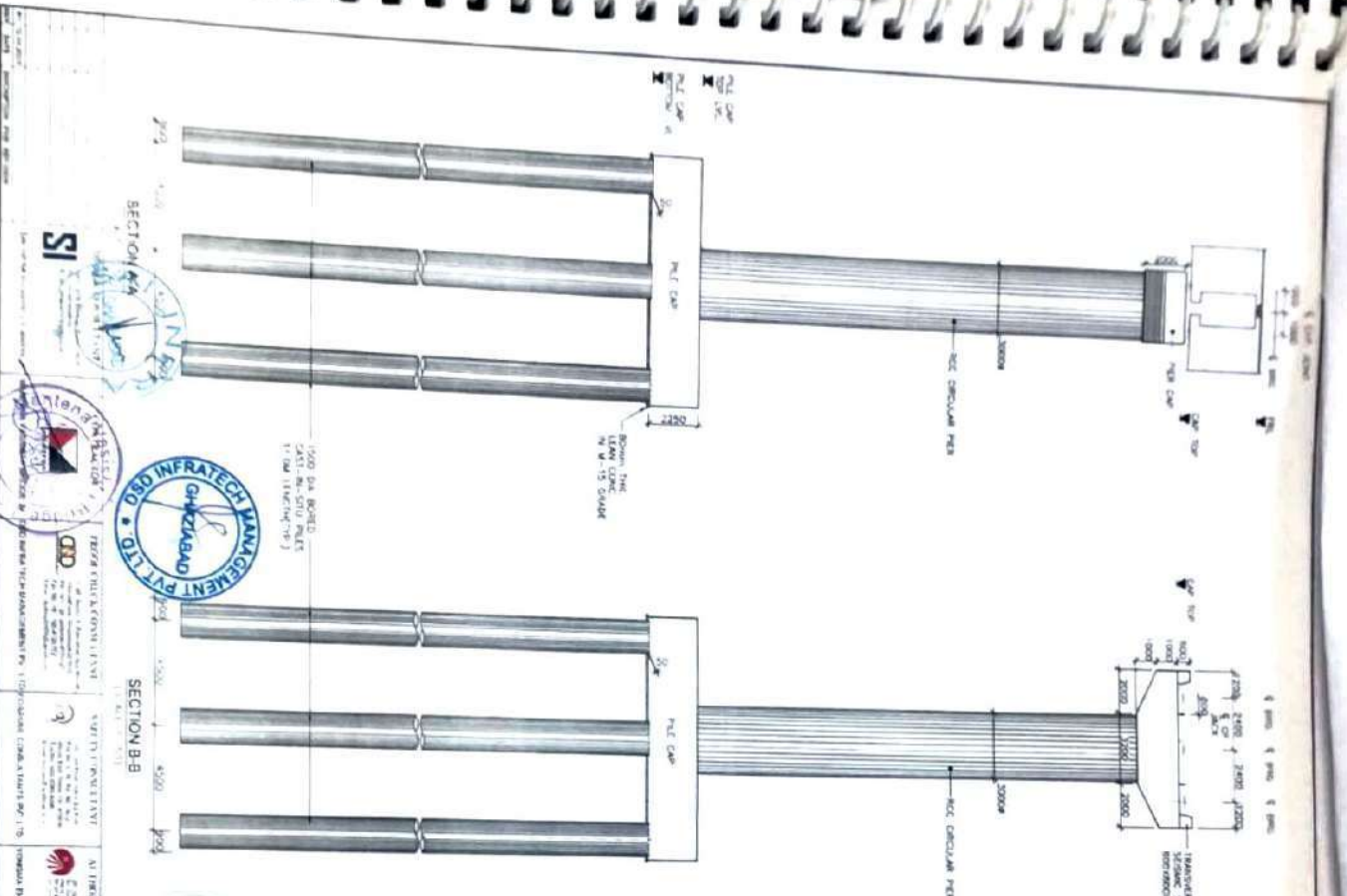
NO.	DESCRIPTION	DATE
1	PREPARED BY ARCHITECT	
2	CHECKED BY ARCHITECT	
3	APPROVED BY ARCHITECT	



PROJECT
 CONSTRUCTION OF MAJOR ROAD OVER RAILROAD BRIDGE AT
 ABUTMENT & WINDY BRIDGE

NO.	DESCRIPTION	DATE
1	PREPARED BY ARCHITECT	
2	CHECKED BY ARCHITECT	
3	APPROVED BY ARCHITECT	

- NOTES**
1. All dimensions are in millimeters unless otherwise specified.
 2. No dimension shall be indicated when not shown.
 3. All reinforcement shall be welded steel bar.
 4. All reinforcement shall be welded steel bar.
 5. All reinforcement shall be welded steel bar.
 6. All reinforcement shall be welded steel bar.
 7. All reinforcement shall be welded steel bar.
 8. All reinforcement shall be welded steel bar.
 9. All reinforcement shall be welded steel bar.
 10. All reinforcement shall be welded steel bar.



NO.	REVISION	DATE
1	1	11/6/21
2	2	27/8/21
3	3	18/9/21
4	4	1/10/21

CONSTRUCTION OF MAJOR BRIDGE OVER NATIONAL TRUNK CANAL BETWEEN KM 18+500 TO KM 18+720 OF NH-213 IN THE UNION TERRITORY OF ANDHRA PRADESH AND NIZAMABAD.

PROJECT: MAJOR BRIDGE OVER NATIONAL TRUNK CANAL BETWEEN KM 18+500 TO KM 18+720 OF NH-213 IN THE UNION TERRITORY OF ANDHRA PRADESH AND NIZAMABAD.

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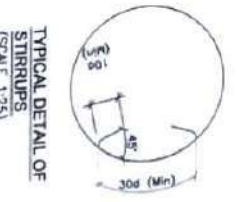
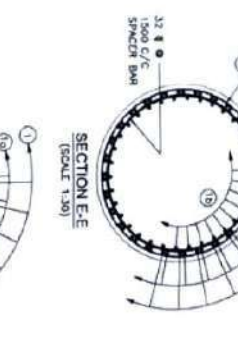
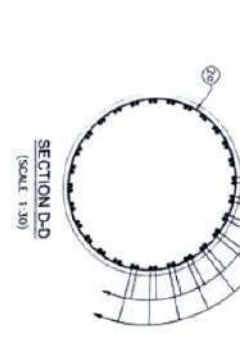
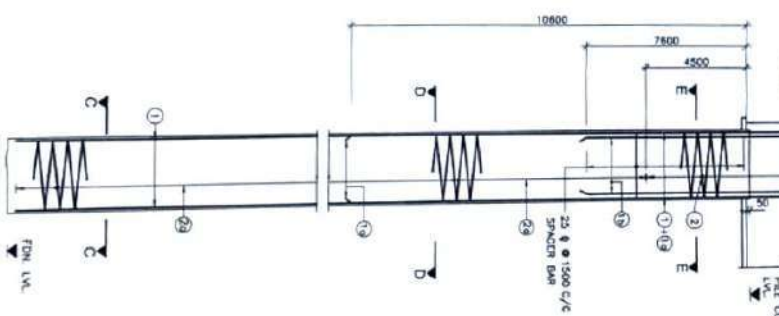
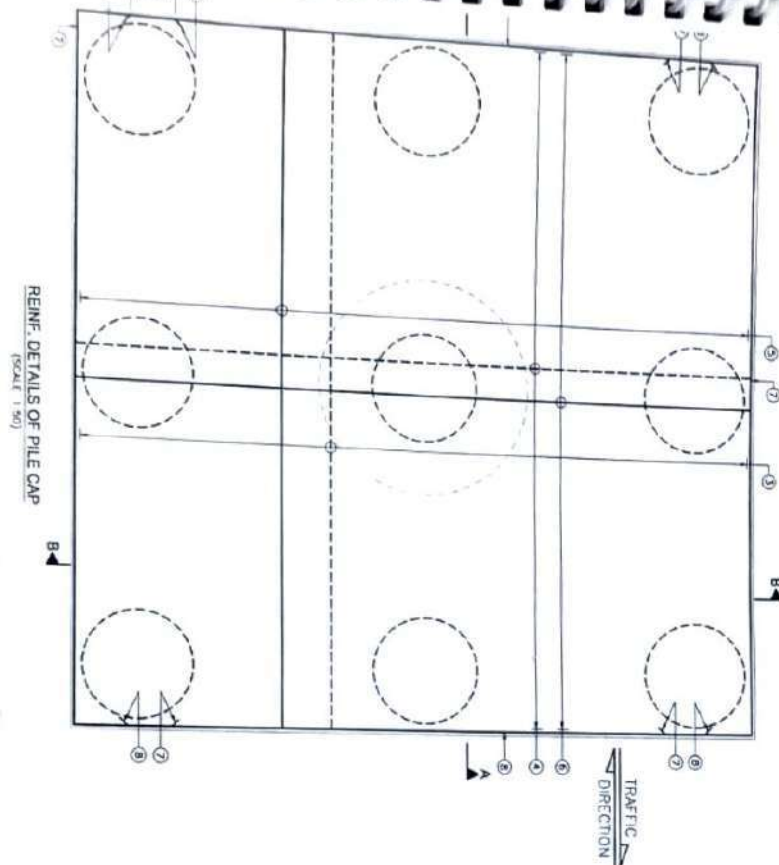
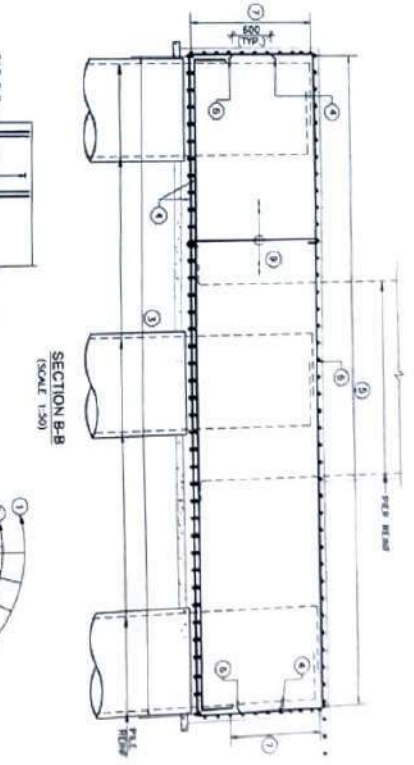
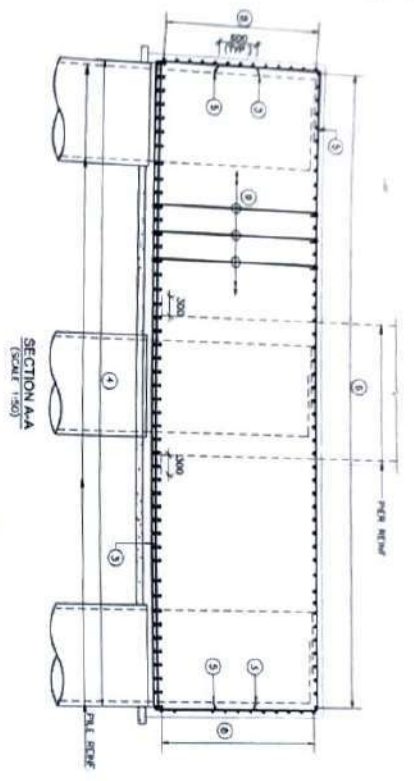
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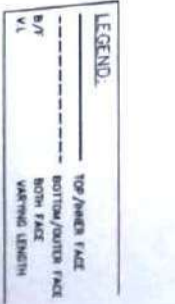


DETAILS OF PILE & PILE CAP REINFORCEMENT

BAR NO.	SIZE	SPACING/NO.	SHAPE
1	25	24 mm	Square
2	25	24 mm	Square
3	25	24 mm	Square
4	25	24 mm	Square
5	25	24 mm	Square
6	25	24 mm	Square
7	25	24 mm	Square
8	25	24 mm	Square
9	25	24 mm	Square
10	25	24 mm	Square
11	25	24 mm	Square
12	25	24 mm	Square

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE TO BE SCALED ONLY UNLESS OTHERWISE SPECIFIED.
3. 1-1 REPRESENTS LONGITUDINAL AXIS OF THE BRIDGE.
4. HIGH FIELD STRENGTH REINFORCED BARS OF GRADE 420 SHALL BE USED.
5. REINFORCEMENT OF PILE SHALL BE TO BE ANCHORED IN THE PILE CAP BEFORE ITS CONCRETION.
6. LAPING OF REINFORCEMENT SHALL BE ANCHORED AS FAR AS POSSIBLE IN ONE LAPING OF BARS BECOMES UNDESIRABLE MINIMUM LAP LENGTH OF REINFORCEMENTS SHALL BE CALCULATED AS FOLLOWS (AS PER IS: 112 SECTION 15) WITH MAXIMUM ALLOWABLE LAPING (L) OF 50% ONLY.
7. NO JOINTS SHALL BE FORMED IN THE BARS WHILE LAPING.



CLIENT: ANANDHI ENGINEERING CONSULTANTS

PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER MADHAI STRAIGHT CREEK BETWEEN KM 106.500 TO KM 107.250 OF NH 223 IN THE UNION TERRITORY OF ANDHRA PRADESH.

DESIGNED BY: P. Srinivas

CHECKED BY: E. Srinivas

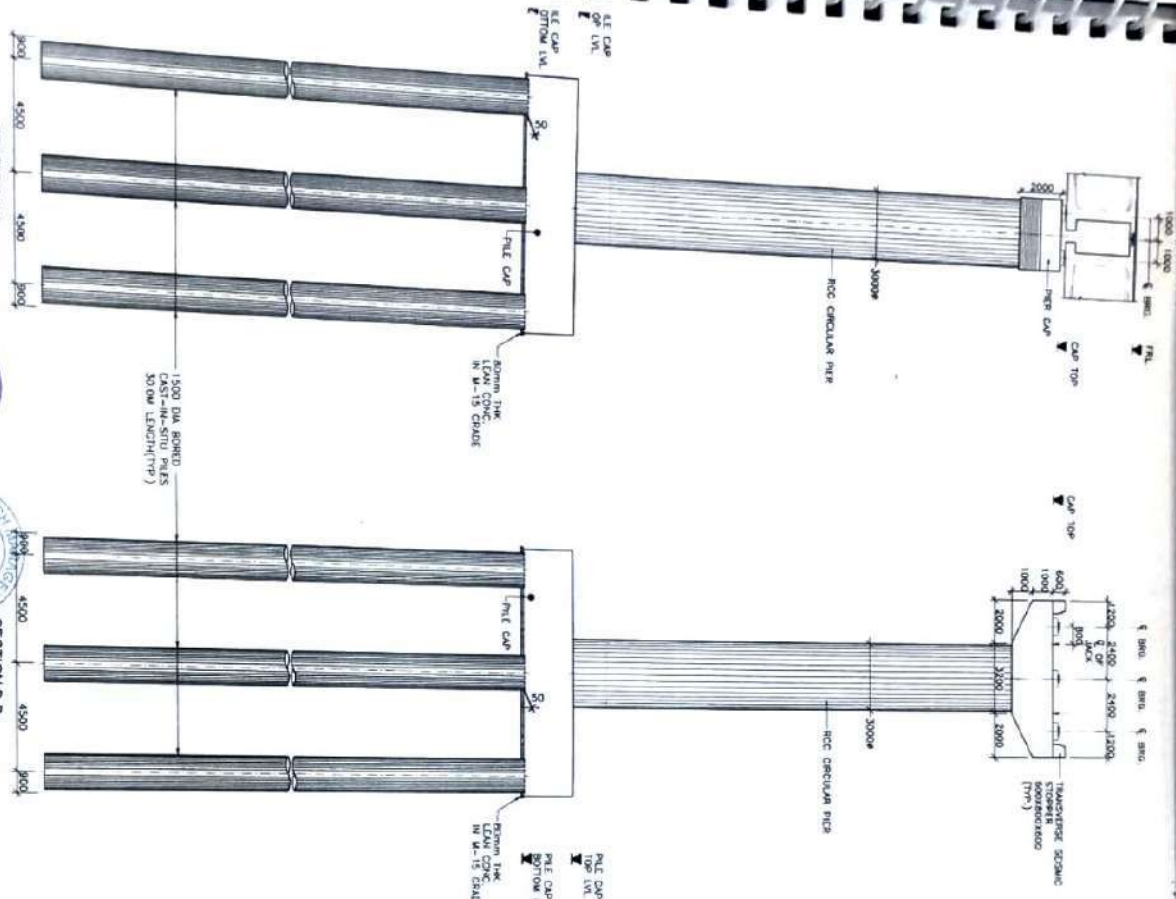
TITLE: DIMENSIONAL & REINFORCING DETAIL OF PIER FOR GREEN BRIDGE

DATE: 02/08/2024

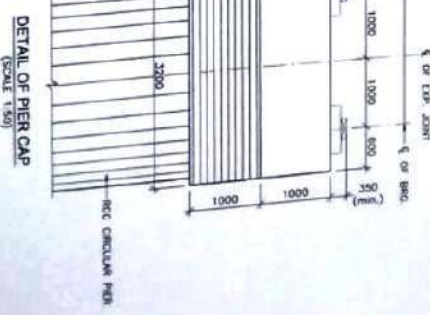
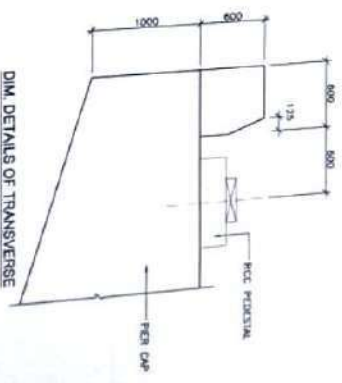
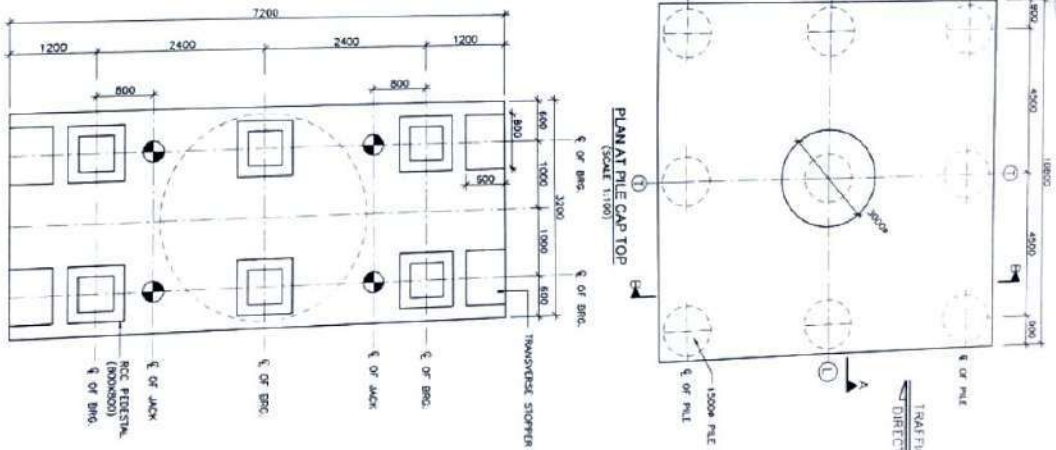
SCALE: 1:30

PROJECT NO.: CREER-GR-200 (02 OF 03)

LOGO: ANANDHI ENGINEERING CONSULTANTS



SL.	PER	FRI.	PER CAP TOP LEVEL	PILE CAP TOP LEVEL	PILE CAP BOTTOM LEVEL
1.	P6	31.600	27.285	2.85	1.600



- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETER. LEVELS ARE IN METERS.
 2. ALL DIMENSIONS ARE IN MILLIMETER. LEVELS ARE IN METERS.
 3. ALL DIMENSIONS ARE IN MILLIMETER. LEVELS ARE IN METERS.
 4. ALL DIMENSIONS ARE IN MILLIMETER. LEVELS ARE IN METERS.
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 9. ALL DIMENSIONS ARE IN MILLIMETER. LEVELS ARE IN METERS.
 10. ALL DIMENSIONS ARE IN MILLIMETER. LEVELS ARE IN METERS.

CLIENT: MAINTENANCE & REPAIR DIVISION, PORTLAND ENGINEERING CO. (P)

PROJECT: CONSTRUCTION OF MAJOR BRIDGE OVER MADRID STRAIT CREEK BETWEEN KM 106+500 TO KM 107+263 OF NH-222 IN THE UNION TERRITORY OF ANDHRA PRADESH, INDIA.

DESIGNED BY: F. N. S. (F)

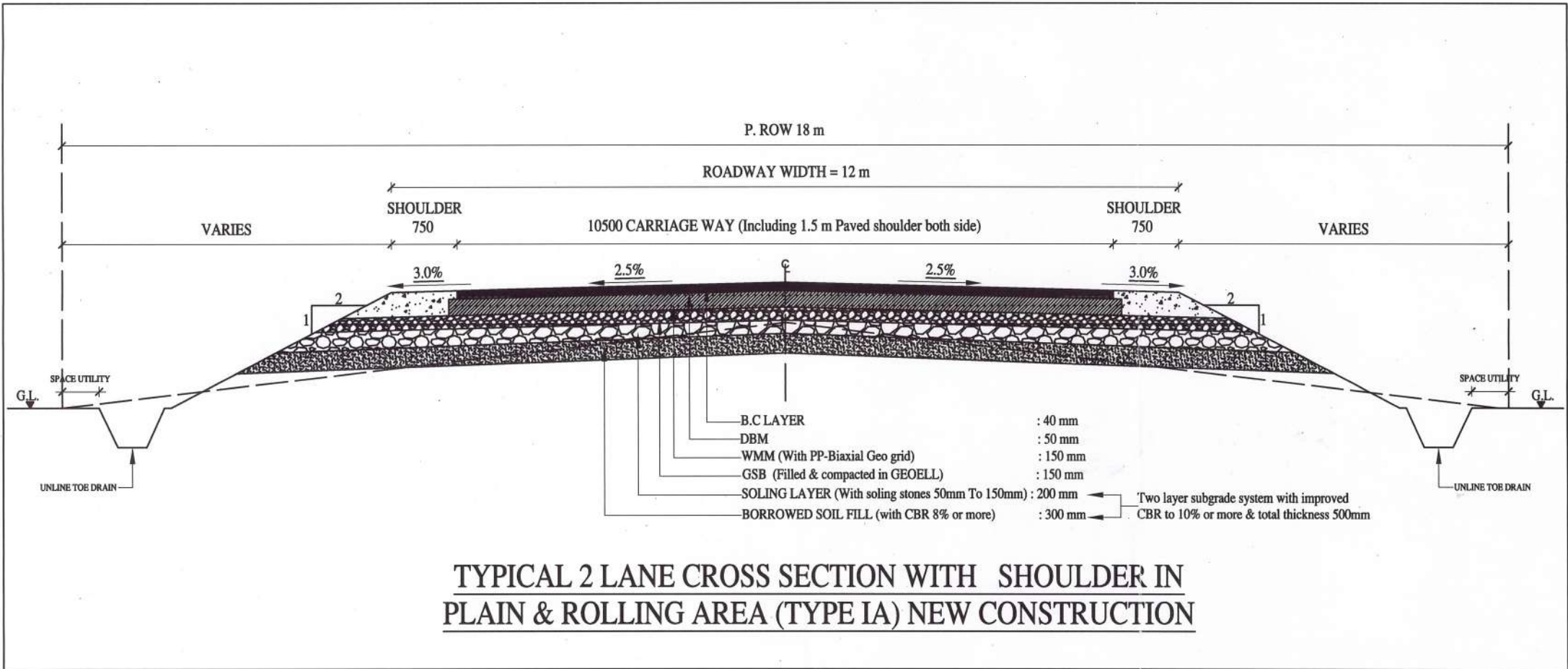
DRAWN BY: ANKIT (A)

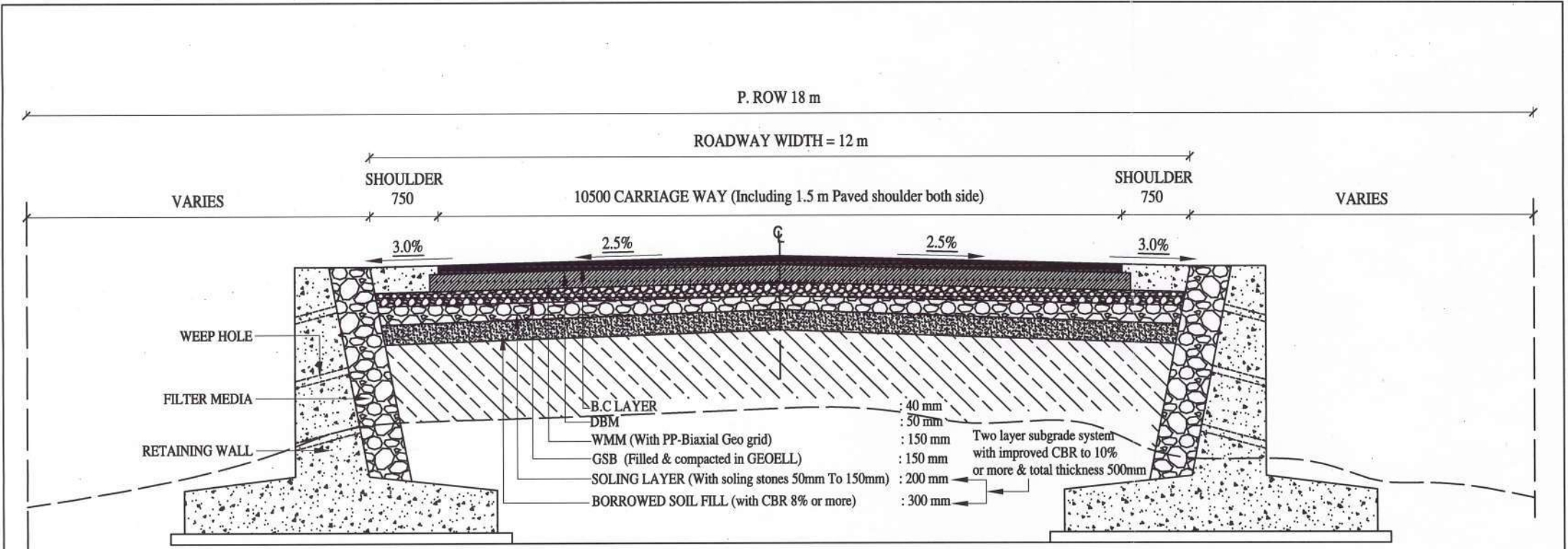
CHECKED BY: K. Anshu (K)

TITLE: DIMENSIONAL & REIN. DETAIL OF PIER P6 FOR CREEK BRIDGE

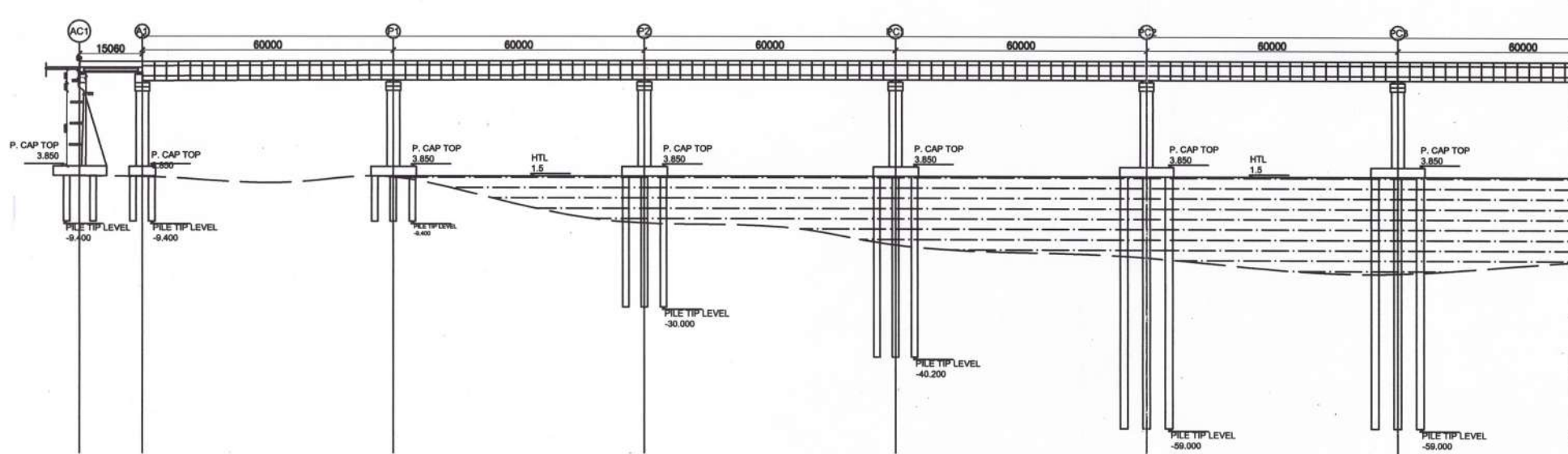
DATE: 20/01/2024

SCALE: DIMENSIONAL & REIN. DETAIL OF PIER P6 FOR CREEK BRIDGE



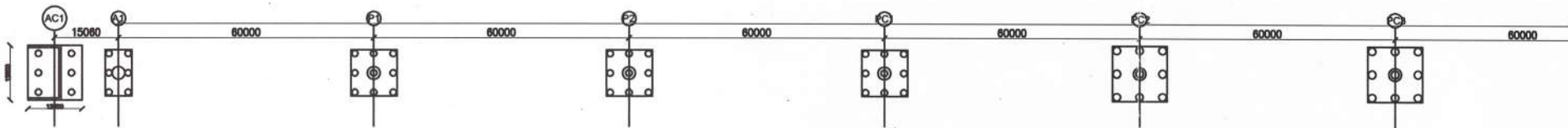


**TYPICAL 2 LANE CROSS SECTION WITH RETAINING WALL, SHOULDER IN
PLAIN & ROLLING AREA (TYPE IB) NEW CONSTRUCTION**

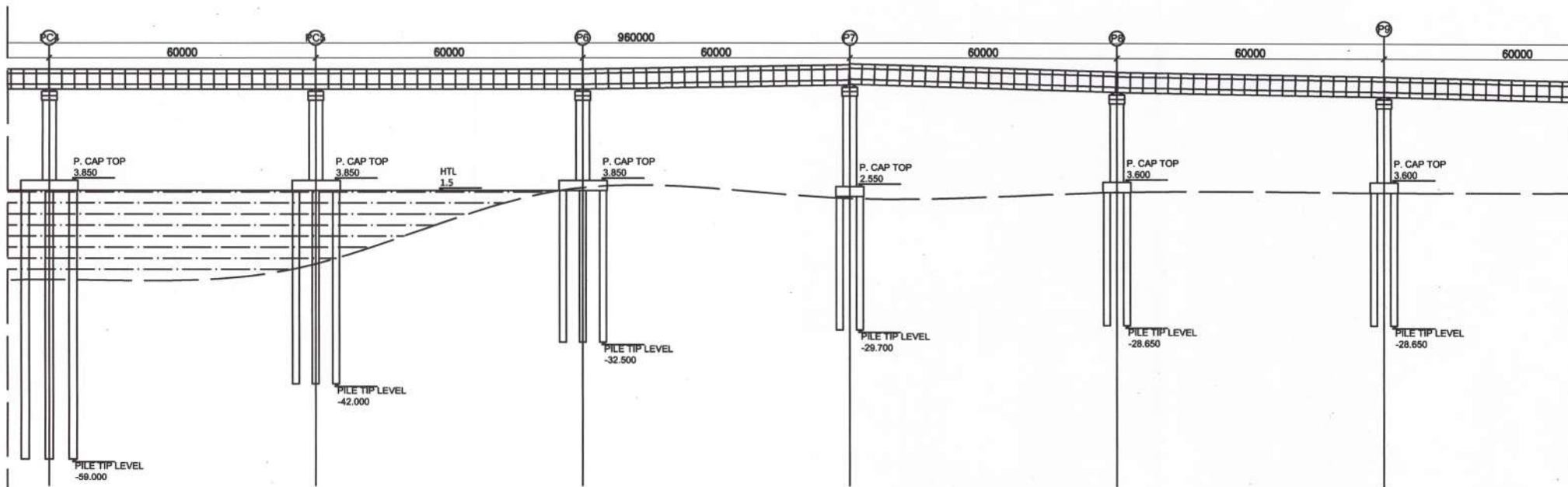


LONGITUDNAL SECTION A-A (part 1/3)
SCALE-1:1000

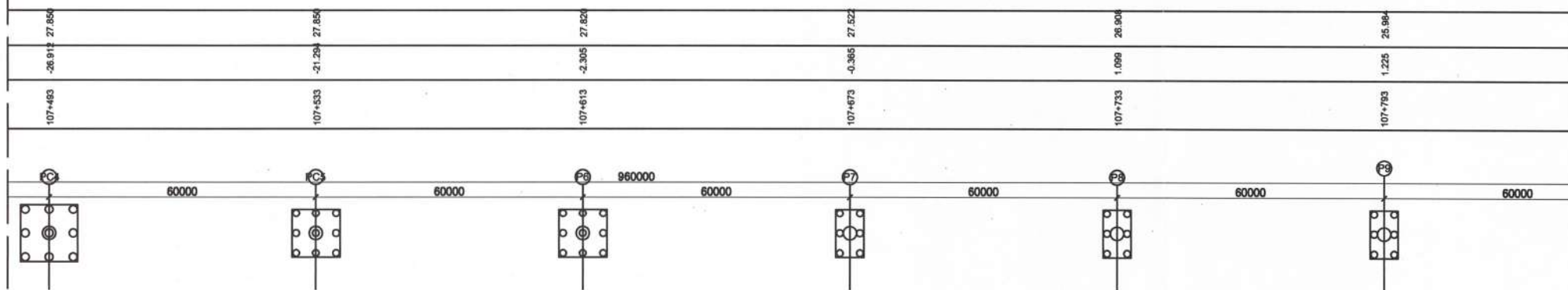
FORMATION LEVEL (FRL)	27.591	27.591	27.76	27.856	27.856	27.856	27.856
GROUND LEVEL	2.969	2.969	0.449	-13.558	-13.998	-19.041	-26.451
CHAINAGE (KM)	107+118	107+133	107+193	107+253	107+313	107+373	107+433



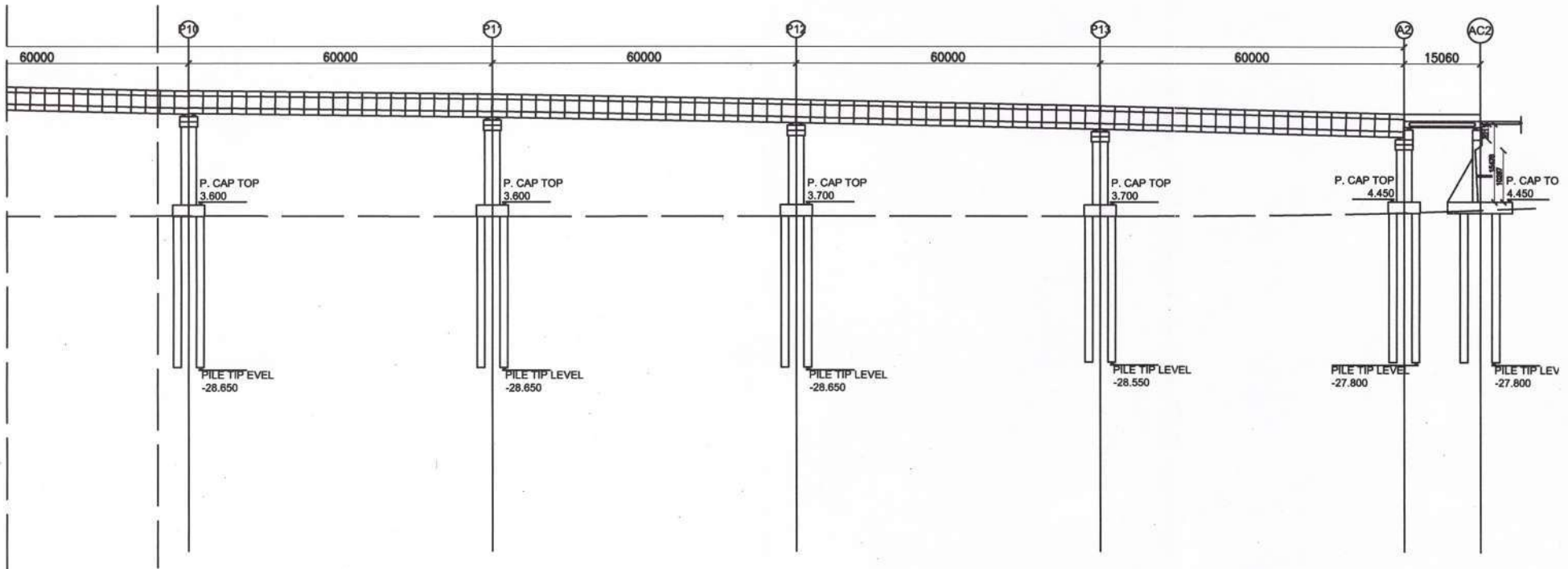
PLAN (part 1/3)
SCALE-1:1000



LONGITUDINAL SECTION A-A (part 2/3)
SCALE:1:1000

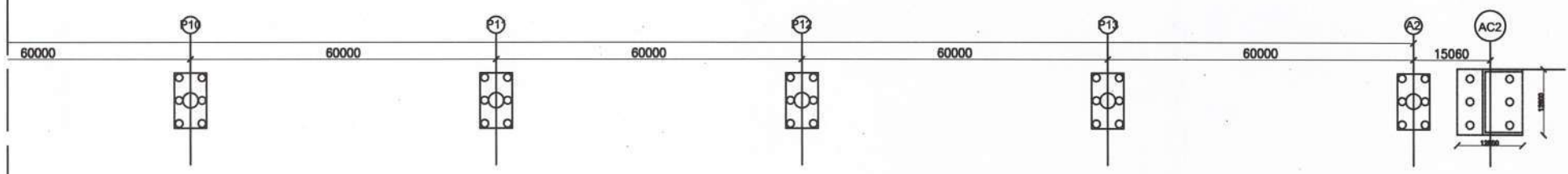


PLAN (part 2/3)
SCALE:1:1000

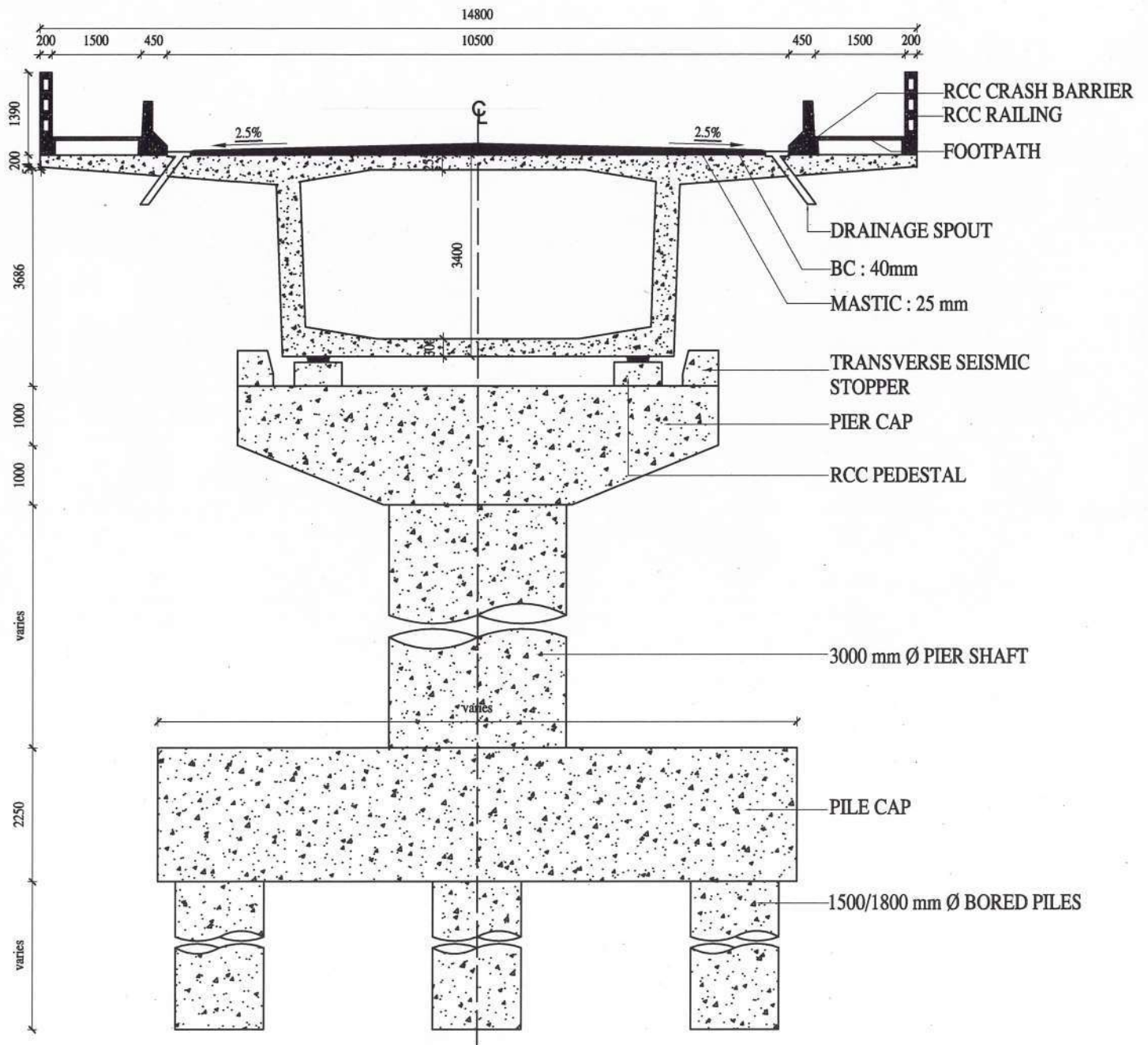


LONGITUDINAL SECTION A-A (part 3/3)
SCALE:1:1000

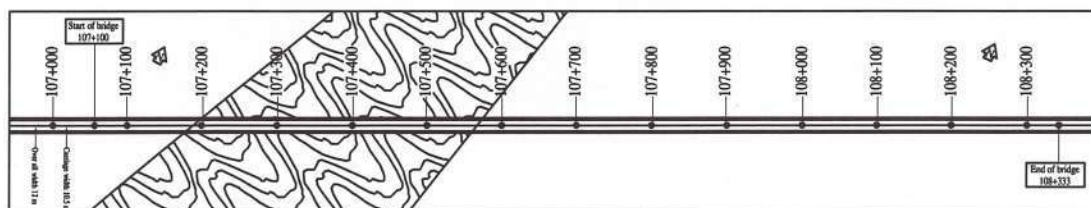
24.974	23.986	22.944	21.866	20.724	20.724
1.428	1.021	1.425	1.700	2.162	2.162
107+853	107+913	107+973	108+033	108+093	108+108



PLAN (part 3/3)
SCALE:1:1000

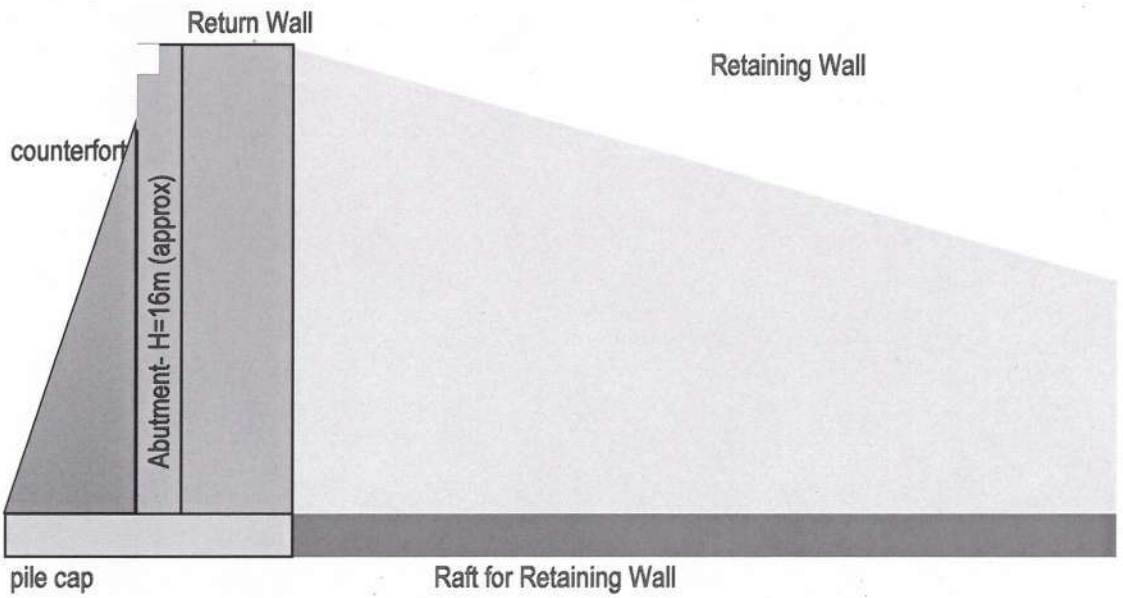
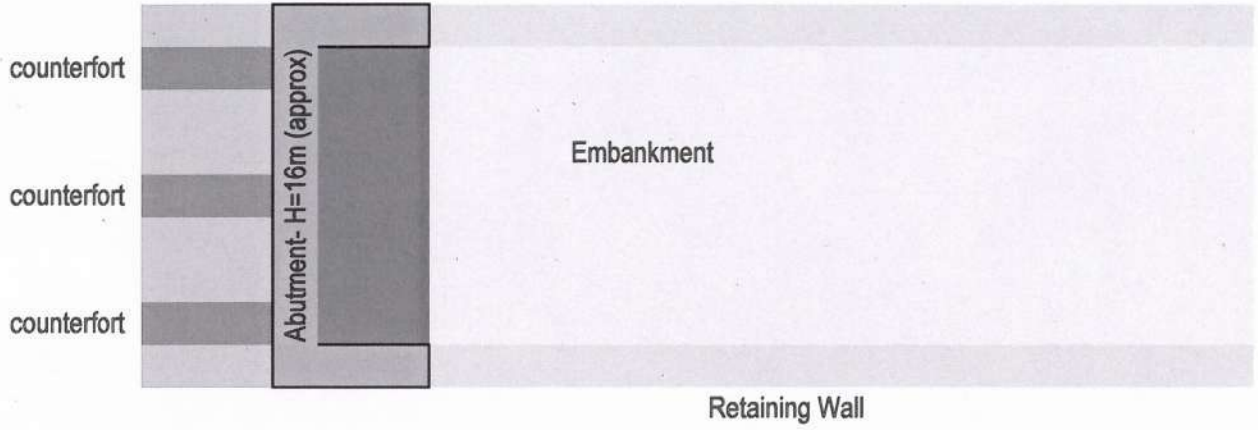


**TYPICAL 2 LANE CROSS SECTION WITH SEGMENT & STRUCTURE
WORK (TYPE II) NEW CONSTRUCTION**

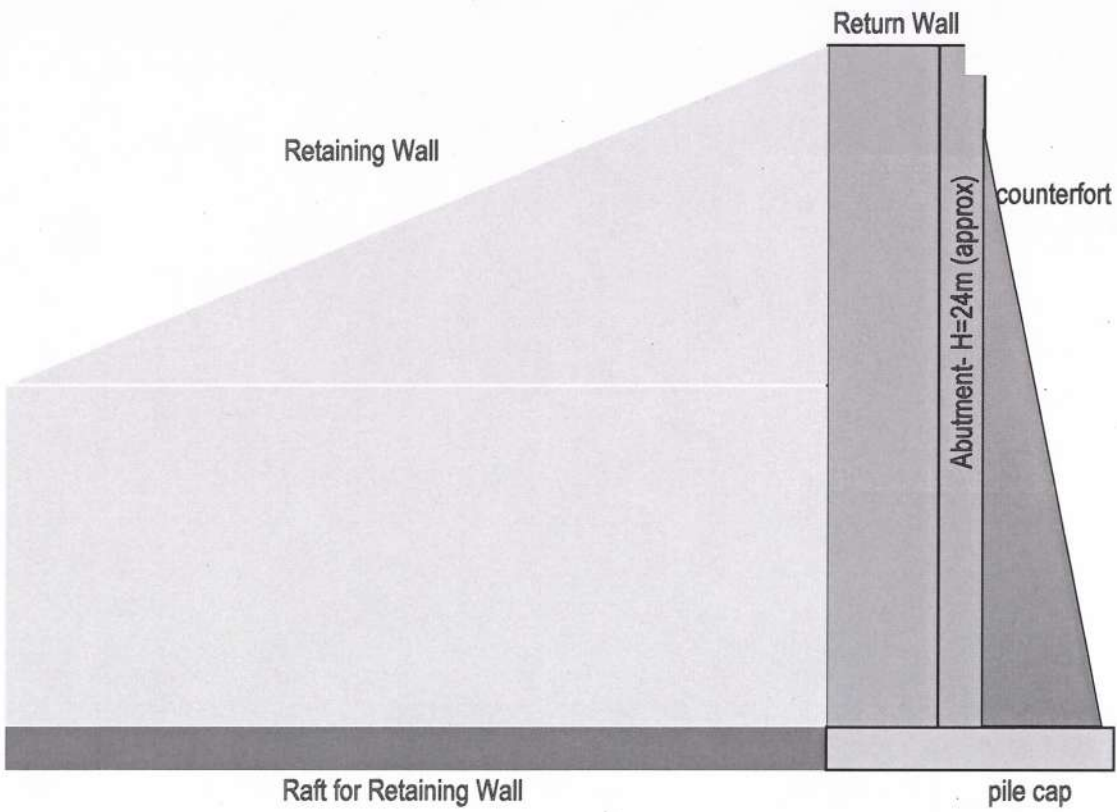
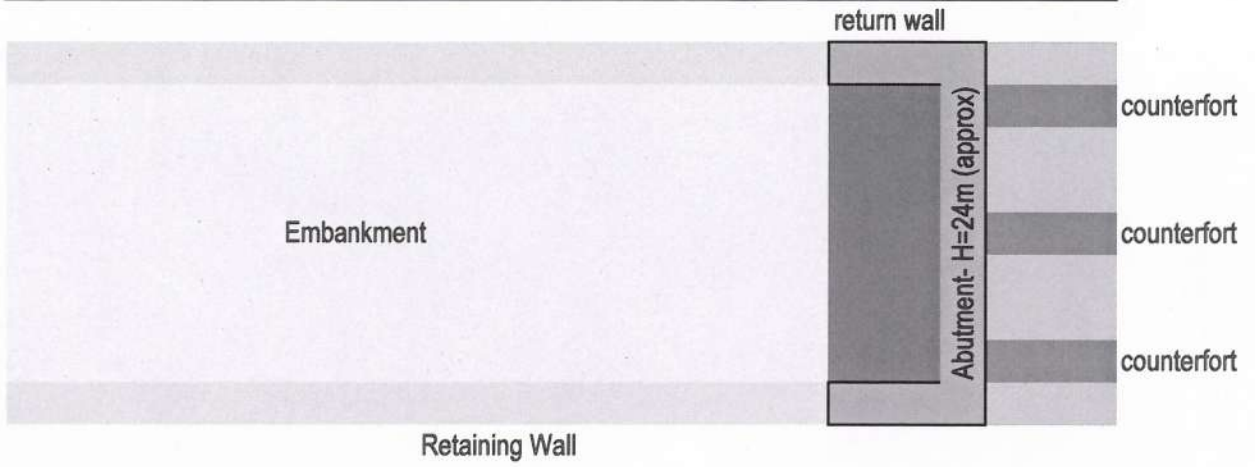


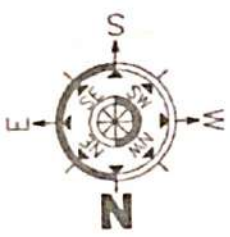
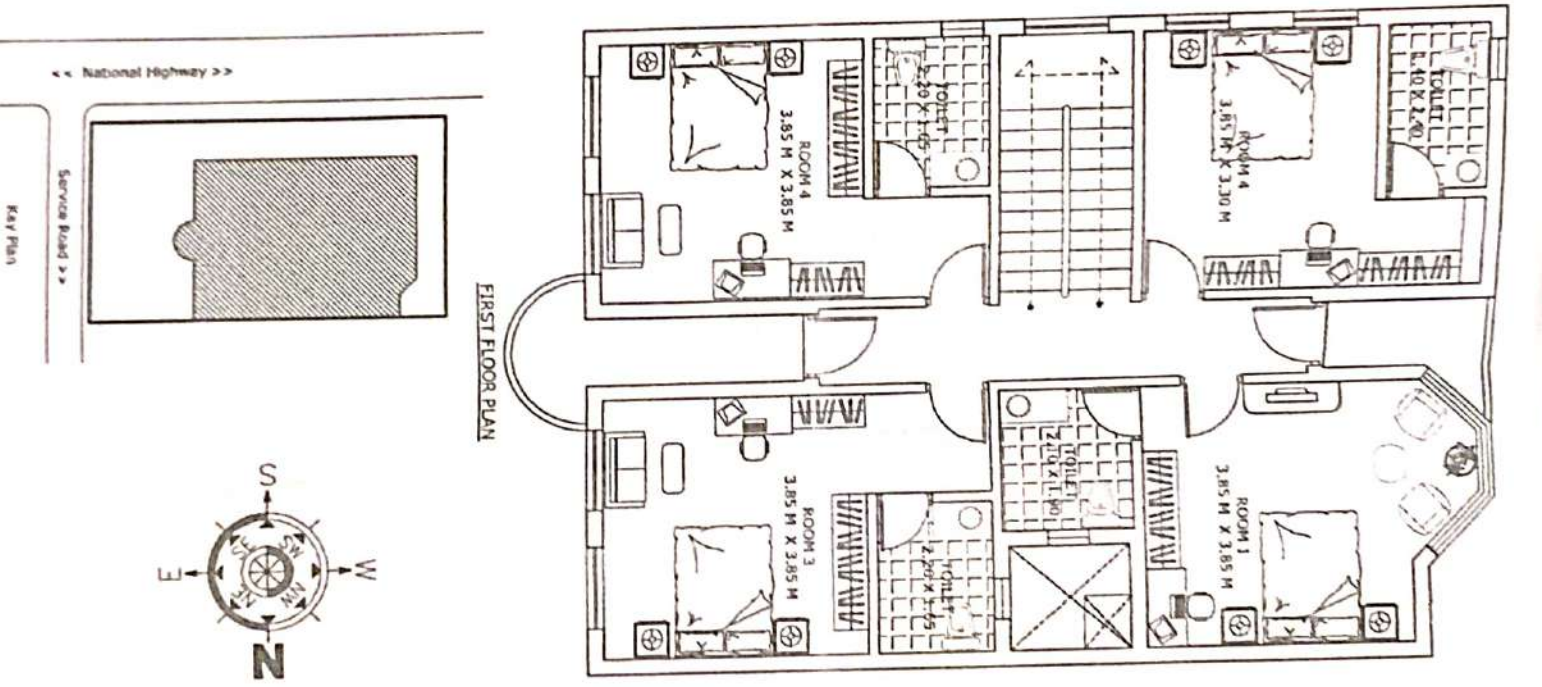
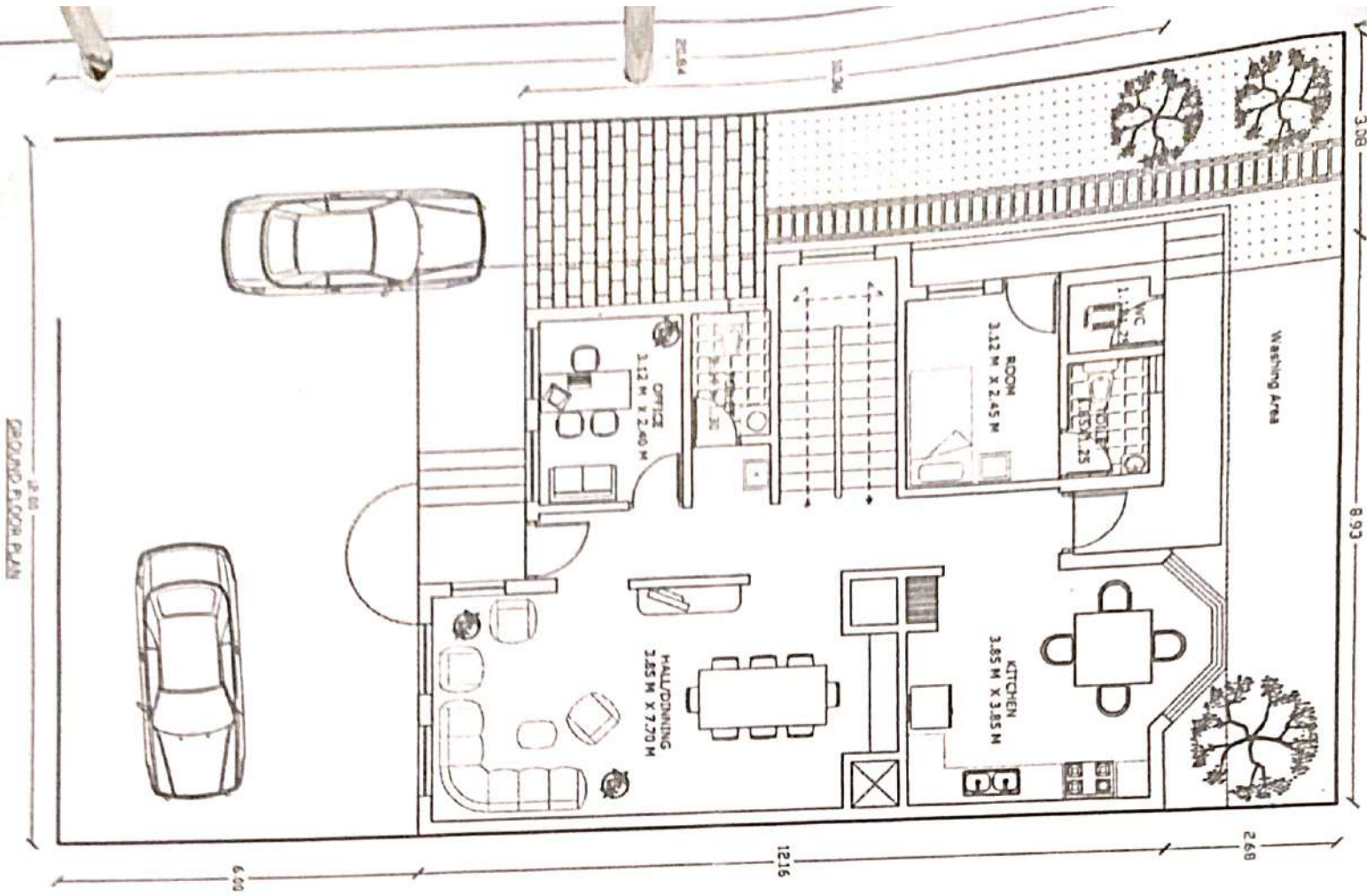
KEY PLAN

Barantang Side Abutment Schematics



Port Blair Side Abutment Schematics





Area Statement

Ground Floor = 111.19 Sqm
 First Floor = 127.51 Sqm
 Total Area = 238.62 Sqm

NAME OF PROJECT ::	
CONTENT :: FLOOR PLAN GROUND AND FIRST	
USER DEPARTMENT ::	
CLIENT ::	
14, ALUR Building, Central Suburb, Chennai Chennai 600 034, Tamil Nadu, India Tel: +91 84 688 8779 Email: eleven@elevenarch.com www.elevenarch.com	
DWG NO. :	SECTION BY :
PROJECT NO. :	DATE :
DRAWN BY :	CHECK BY :
DATE :	SCALE :