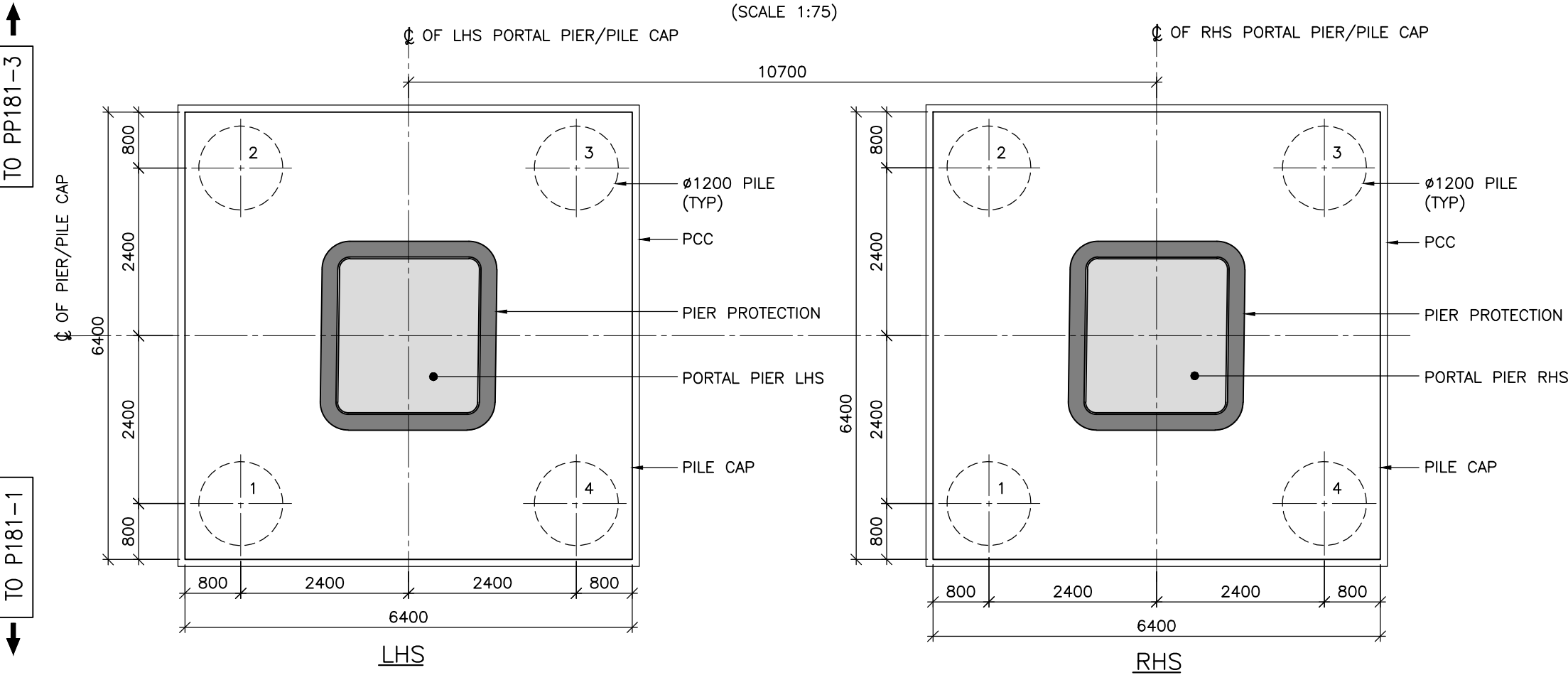


CROSS SECTION
(SCALE 1:75)



PLAN OF PILE CAP
(SCALE 1:75)

TABLE OF LEVELS, WORKING LOADS & CAPACITIES:

PIER NO.	PROPOSED BSRP RAIL CR-2 TRACK LEVEL (m)	PORTAL BEAM TOP LEVEL (m)	PORTAL BEAM BOTTOM LEVEL (m)	ORIGINAL GROUND LEVEL LHS (m)	ORIGINAL GROUND LEVEL RHS (m)	PILE CAP TOP LEVEL FOR LHS PIER (m)	PILE CAP TOP LEVEL FOR RHS PIER (m)	PILE CUT-OFF LHS (m)	PILE CAP BOTTOM LEVEL (m)	PILE TERMINATION LEVEL (m)	PILE LENGTH (m)	APPLICABLE BORE HOLE FOR DESIGN	WORKING LOAD ON PILE (TONNES)		REFERENCE BOREHOLE FOR PILE CAPACITY
													VERTICAL	HORIZONTAL	
PP181-2	919.963	918.793	916.993	906.695	906.847	906.195	906.195	904.470	904.395	871.395	33.000	BH-100	300	15	BH-104 (LATERAL) BH-178 (VERTICAL)

PILE LENGTH HAVE BEEN PROVIDED W.R.T. LETTER NO. 2656. VERTICAL LOAD IS LESS THAN 600MT. WHICH IS FOUND SAFE AS PER BOREHOLE BH-178.

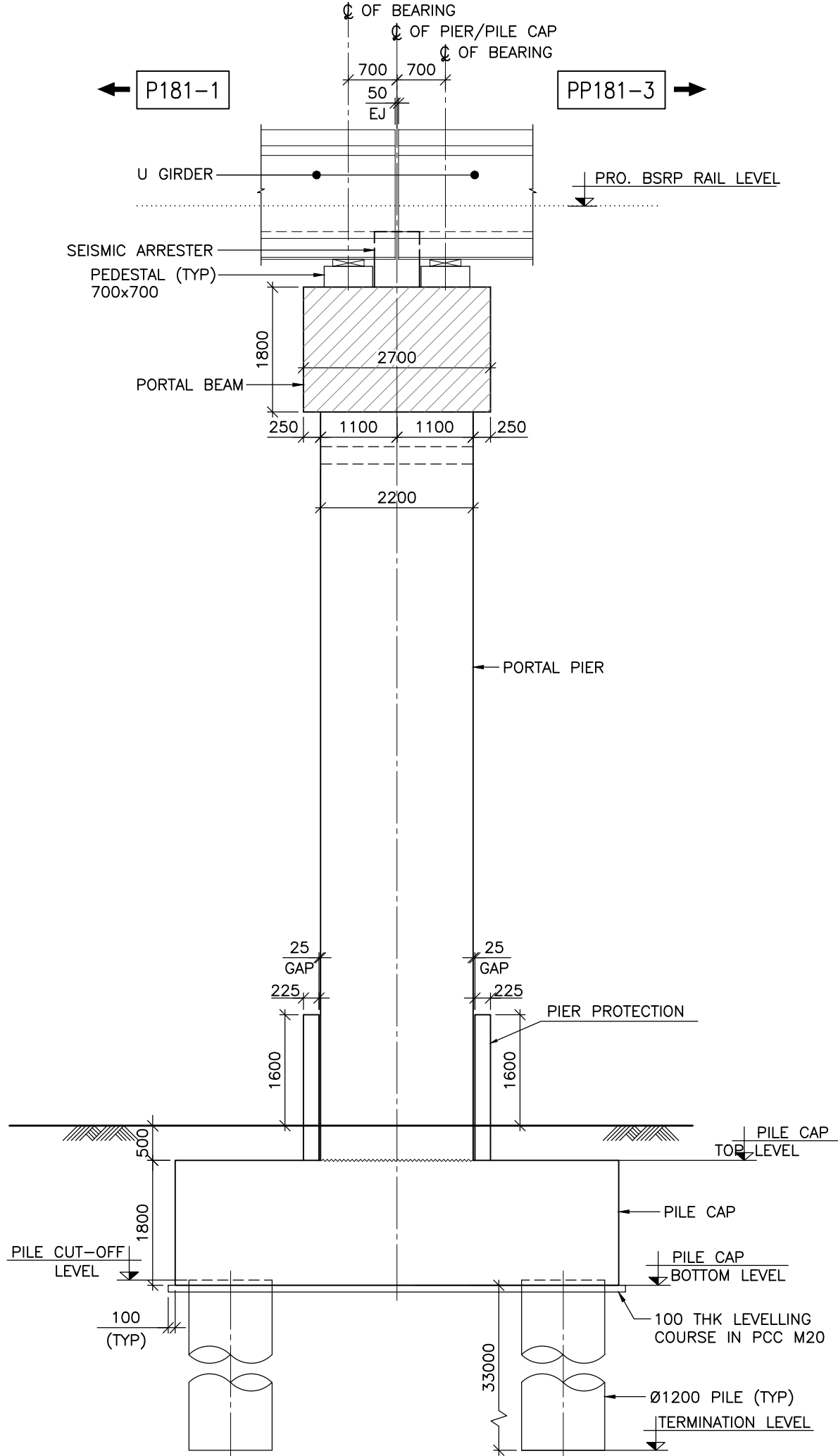
SAFE LATERAL CAPACITY OF PILE IS RELATED TO TEST PILE AT BH-104 WHICH FOUND SAFE LATERAL LOAD OF 43.47MT

PP181-2-LHS PIER & PILE CO-ORDINATES:

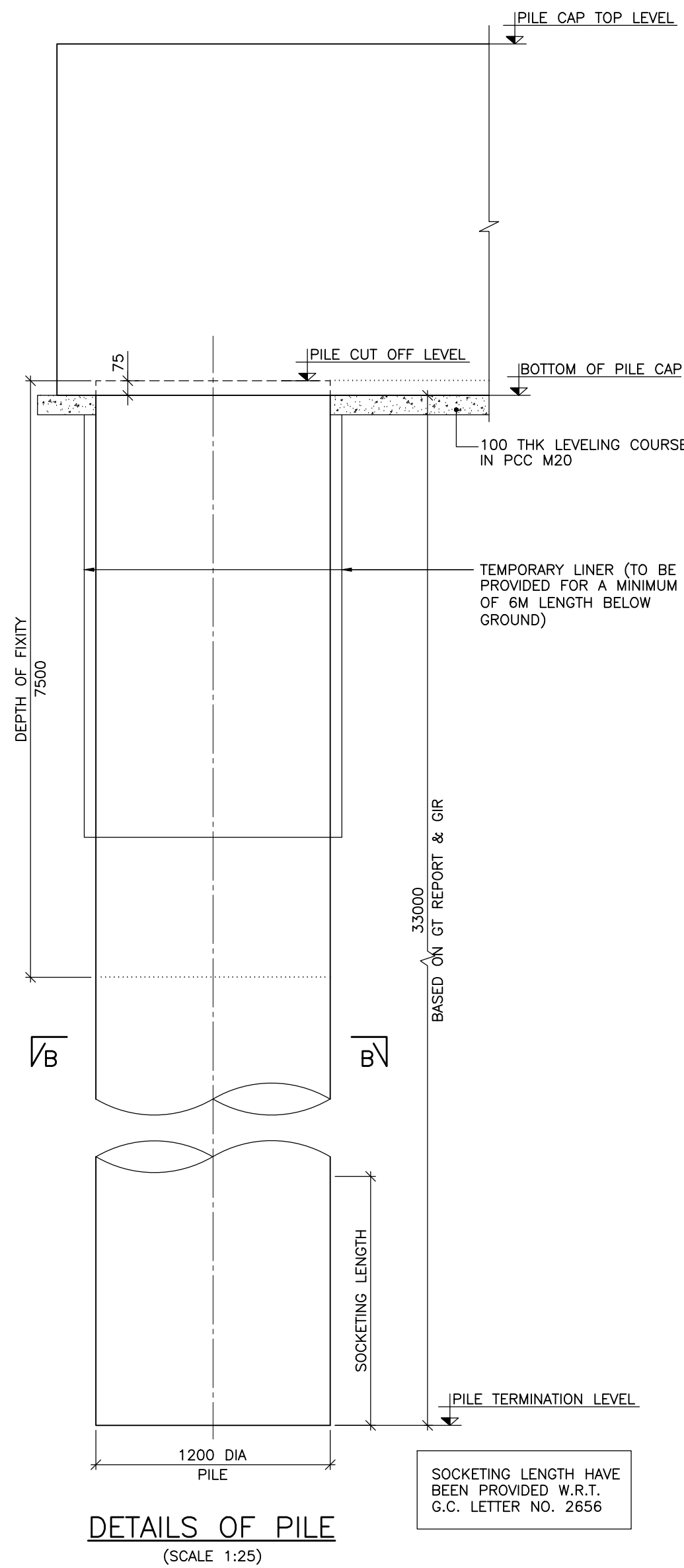
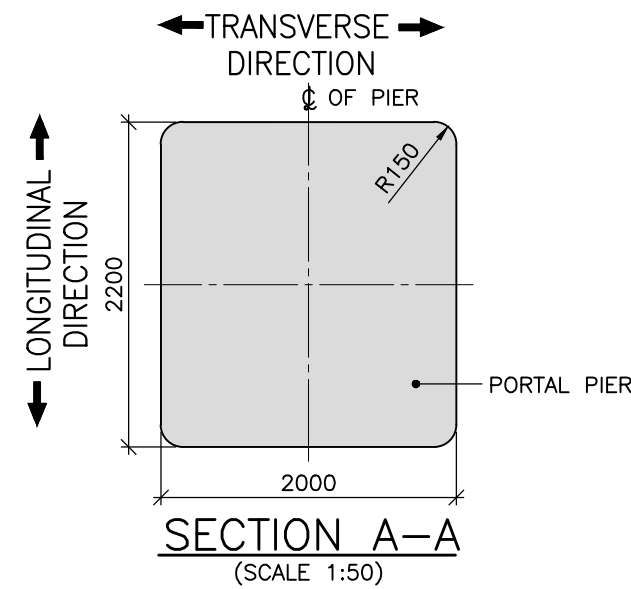
CENTRE LOCATIONS	EASTING	NORTHING
PIER	776757.670	1441929.081
PILE 1	776781.041	1441929.477
PILE 2	776758.066	1441925.710
PILE 3	776754.299	1441928.686
PILE 4	776757.275	1441932.452

PP181-2-RHS PIER & PILE CO-ORDINATES:

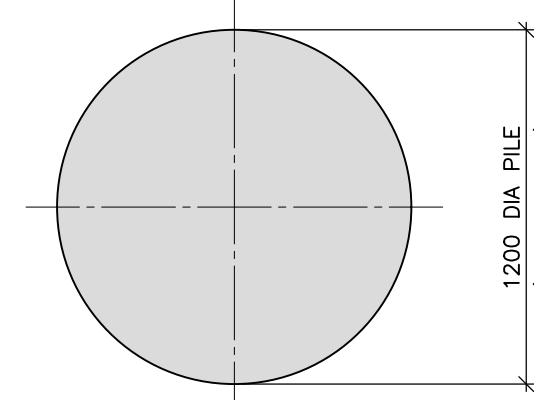
CENTRE LOCATIONS	EASTING	NORTHING
PIER	776749.274	1441935.714
PILE 1	776752.641	1441936.112
PILE 2	776749.669	1441932.342
PILE 3	776745.903	1441935.318
PILE 4	776748.878	1441939.084



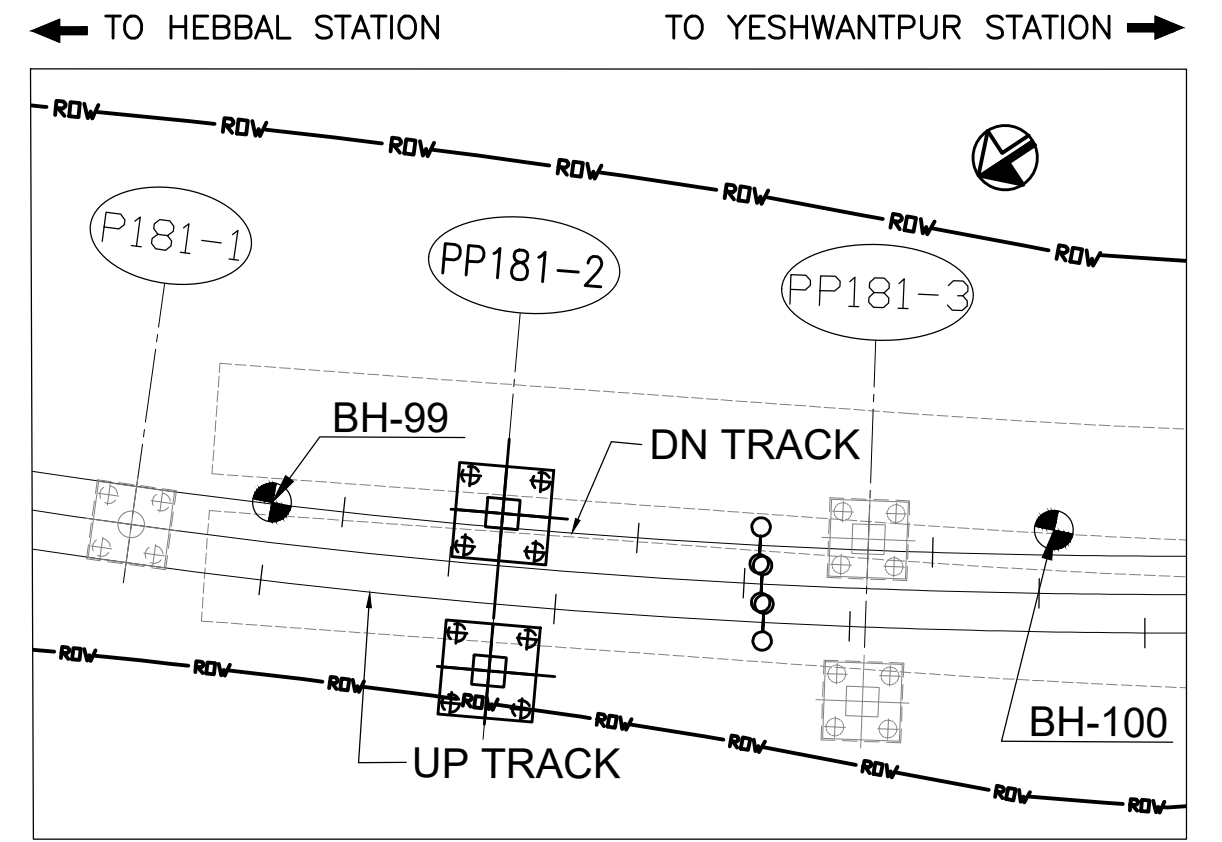
VIEW 'X'
(SCALE 1:75)



DETAILS OF PILE
(SCALE 1:25)



SECTION B-B
(SCALE 1:25)



KEY PLAN
(SCALE=1:500)

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METER, UNLESS OTHERWISE SPECIFIED.
- DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH GENERAL ARRANGEMENT DRAWINGS AND RAIL ALIGNMENT DRAWINGS.
- SEISMIC ZONE: II
- IF ANY AMBIGUITY IS FOUND IN DRAWINGS OR AT SITE, THE SAME SHALL BE BROUGHT TO DESIGNER'S/ ENGINEER'S NOTICE BEFORE EXECUTION.
- REINFORCEMENT STEEL SHALL BE HYSD BARS OF GRADE Fe 500 CONFORMING TO IS:1786-2008
- GRADE OF CONCRETE SHALL BE AS FOLLOWS:
LEVELLING COURSE : PCC M20
PILE : RCC M35
PILE CAP : RCC M35
PORTAL PIER : RCC M50
PORTAL BEAM : RCC M50
- CLEAR COVER TO ALL REINFORCEMENT SHALL BE:
PILE : 75 mm
PILE CAP : 75 mm
PIER : 50 mm
PORTAL BEAM : 40 mm
- BORING AND CONCRETING OF PILE SHALL BE CARRIED OUT AS PER TECHNICAL SPECIFICATIONS AND METHOD STATEMENT.
- PILE COORDINATES SHOULD BE CHECKED AND CONFIRMED AT SITE BEFORE CASTING OF PILES.
- THE NOMINAL MAXIMUM SIZE OF AGGREGATE TO BE USED SHALL BE 20mm.
- PILE TOP SHOULD PROJECT 75mm INTO PILECAP.
- CONTRACTOR TO ENSURE THAT AT CUT-OFF LEVEL THE CONCRETE IS SOUND AND THE MATRIX HAS NO HONEYCOMBING OR OTHER DEFECTS.
- THE METHOD OF BORING AND INSTALLATION FOR WORKING PILE SHALL BE SAME AS PER THE TEST PILE.
- IN CASE OF ANY DEVIATION IS OBSERVED DURING THE PILE BORING OPERATION, THE SAME SHOULD BE BROUGHT TO THE NOTICE OF DESIGNER AND ENGINEER FOR NECESSARY ACTION/ AMENDMENTS BEFORE EXECUTION.
- TEMPORARY LINER SHALL BE FOLLOWED AT SITE, HOWEVER IF ANY DIFFICULTY ARISES IN EXECUTION, PERMANENT LINER SHALL BE PROVIDED BE AS PER ENGINEER'S RECOMMENDATION.
- ANCHORAGE LENGTH, LAP LENGTH, BAR SPACING'S AND OTHER REINFORCEMENT REQUIREMENT SHALL COMPLY WITH SPECIFICATIONS GIVEN IN IRS-CBC CLAUSE 15.9.6.6.
- DEVELOPMENT LENGTH SHALL BE AS GIVEN BELOW :








GRADE OF CONCRETE	M35	M50
DEVELOPMENT LENGTH	45Ø	41Ø
LAP LENGTH	65Ø	58Ø

WHERE Ø IS THE DIA. OF BAR.
- NOT MORE THAN 50% OF THE BAR SHALL BE LAPPED AT ANY LOCATION.
- THE PILE CAPACITIES HAVE BEEN WORKED OUT AS PER BORE LOG DATA. DISCREPANCY IF ANY SHALL BE INFORMED TO THE ENGINEER.
- ANY SHIFTING IN PILE AT SITE, SHALL BE BROUGHT TO THE NOTICE OF DDC.
- IF ANY CHANGE IN PILE LOAD TEST AND PILE CAPACITY CHANGES, THE ADDITION PILES WILL BE ADDED SO THAT EACH PILE REACTION WILL BE WITHIN THE PILE CAPACITY REACTION
- THE GL'S & RAIL LEVELS SHOWN IN TABLE SHALL BE VERIFIED FROM GENERAL ARRANGEMENT DRAWINGS BEFORE EXECUTION AT SITE.
- REFER SEPARATE DRAWING FOR DRAINAGE DETAILS.

REFERENCE DRAWINGS:

- 022077-BSRP-CR2-C-VD-GEN-10-2007 TO 2015...GENERAL ARRANGEMENT DRAWING FOR VIADUCT PORTION FOR CH. 13+563.903km TO CH. 16+461.903km
- 022077-BSRP-CR2-C-VD-0-20-1656...REINFORCEMENT DETAILS OF PIER, PILE & PILE CAP FOR PORTAL PIER PP181-2
- 022077-BSRP-CR2-C-VD-0-20-1657...DIMENSION DETAILS OF PORTAL BEAM FOR PORTAL PIER PP181-2
- 022077-BSRP-CR2-C-VD-0-20-1762...REINFORCEMENT DETAILS OF PORTAL BEAM FOR PORTAL PIER PP181-2
- 022077-BSRP-CR2-C-VD-GEN-20-5000...GENERAL NOTES
- 022077-BSRP-CR2-C-VD-GEN-10-1652...DIMENSIONAL & REINFORCEMENT DETAIL OF PIER PROTECTION
- 022077-BSRP-CR2-C-VD-GEN-10-1739...TYPICAL DETAIL OF EARTHING BAR
- 022077-BSRP-CR2-C-VD-GEN-30-1738...TYPICAL DETAIL OF DRAINAGE SCHEME AT PORTAL PIER LOCATION
- 022077-BSRP-CR2-C-VD-GEN-10-1657 & 022077-BSRP-CR2-C-VD-GEN-10-1658INTERFACE DETAILS DRAWING.

GOOD FOR CONSTRUCTION

NOTES:				LEGEND:	
					— BEARING
					— JACKING POSITION
					— CAST IN SITU PORTION
REV/	DATE	BRIEF DESCRIPTION	CONTRACTOR :		The responsibility of completeness, integrity and respect of design analysis and drawing rests with Design & Build Contractor.
			 TRANSPORTATION INFRASTRUCTURE IC EDRC-SPECIAL BRIDGES		
			DETAILED DESIGN CONSULTANT (DDC) :		
			 STUP Consultants Pvt. Ltd. 20/2, 4th Floor, Kilmeera Road, Bangalore 560052 www.stupconsultants.com Email: bangalore@stupconsultants.com		
			PROOF CONSULTANT (PC) :		
			 Indian Institute of Technology Madras IT P.O., Chennai 600 036 INDIA		
C	28.02.2025	REVISED AS PER GC'S LETTER NO. 3953 & FOR CONSTRUCTION	 L&T CONSTRUCTION EDRC-SPECIAL BRIDGES - TIG		SIGN
C	09.01.2025	REVISED AS PER GC'S LETTER NO. 3475			DATE 28.02.2025
B	03.10.2024	REVISED AS PER GC'S LETTER NO. 1910			NAME BHP
A	20.03.2024	FOR APPROVAL			PREPARED BY

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METER, UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH GENERAL ARRANGEMENT DRAWINGS AND RAIL ALIGNMENT DRAWINGS.
4. FOR GENERAL NOTES REFER SHEET 1 OF 2.



NOTES :						<div>LEGEND : ● — BEARING ⊗ — JACKING POSITION ▨ — CAST IN SITU PORTION</div>							REFERENCE DRAWINGS : 1. 022077-BSRP-CR2-C-V0-0-30-1655 (SHEET 1 OF 2) _DIMENSION DETAILS OF FOUNDATION AND SUBSTRUCTURE FOR PORTAL PIER PP181-2_								REFERENCE DOCUMENTS : 1. DDC-BSPRP-CR2-EV-DGN-GEN-30-1714 _DESIGN NOTE OF PIER, PILE CAP & PILE FOR PORTAL PIER PP181-2 TO PP181-4_ 2. DDC-BSPRP-CR2-EV-DGN-GEN-20-1785 _DESIGN NOTE OF PORTAL BEAM FOR PORTAL PIER PP181-2 TO PP181-4_									<div>KEY PLAN KANAKANAGAR STATION JALAHALLI STATION HERBAL STATION BENNEKANAGUR STATION MATHIKKERE STATION YESHWANTHUR STATION</div>					STATION BOX KEY PLAN																																							
REV		DATE		BRIEF DESCRIPTION		CONTRACTOR : TRANSPORTATION INFRASTRUCTURE IC EDRC-SPECIAL BRIDGES				QUALITY ASSURANCE The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance of Contract provisions in respect of design analysis and drawing rests with Design & Build Contractor.				GENERAL CONSULTANTS <table border="1"><thead><tr><th colspan="2"></th><th colspan="2">CHECKED & APPROVED</th></tr><tr><th></th><th></th><th>NAME</th><th>SIGN</th></tr></thead><tbody><tr><td>CIVIL/GAD</td><td></td><td></td><td></td></tr><tr><td>CIVIL/STRUCTURAL</td><td></td><td></td><td></td></tr><tr><td>CIVIL/GEOTECH</td><td></td><td></td><td></td></tr></tbody></table>						CHECKED & APPROVED				NAME	SIGN	CIVIL/GAD				CIVIL/STRUCTURAL				CIVIL/GEOTECH				COUNTER SIGN <table border="1"><thead><tr><th colspan="2"></th><th colspan="2">PROJECT DIRECTOR</th></tr><tr><th></th><th></th><th>NAME</th><th>SIGN</th></tr></thead><tbody><tr><td>CIVIL/GAD</td><td></td><td></td><td></td></tr><tr><td>CIVIL/ALIGNMENT</td><td></td><td></td><td></td></tr><tr><td>CIVIL/STRUCTURAL</td><td></td><td></td><td></td></tr><tr><td>GWC/CIVIL/DESIGN</td><td></td><td></td><td></td></tr></tbody></table>						PROJECT DIRECTOR				NAME	SIGN	CIVIL/GAD				CIVIL/ALIGNMENT				CIVIL/STRUCTURAL				GWC/CIVIL/DESIGN				EMPLOYER : RAIL INFRASTRUCTURE DEVELOPMENT COMPANY (KARNATAKA) LIMITED GENERAL CONSULTANTS : AECOM-EGIS-WSP				PROJECT : BENGALURU SUBURBAN RAILWAY PROJECT (BSRP) K-RIDE CORRIDOR - 2 DRAWING TITLE : DIMENSION DETAILS OF FOUNDATION AND SUBSTRUCTURE FOR PORTAL PIER PP181-2 (SHEET 2 OF 2)				
		CHECKED & APPROVED																																																																								
		NAME	SIGN																																																																							
CIVIL/GAD																																																																										
CIVIL/STRUCTURAL																																																																										
CIVIL/GEOTECH																																																																										
		PROJECT DIRECTOR																																																																								
		NAME	SIGN																																																																							
CIVIL/GAD																																																																										
CIVIL/ALIGNMENT																																																																										
CIVIL/STRUCTURAL																																																																										
GWC/CIVIL/DESIGN																																																																										
O 28.02.022 REVISD AS PER GC'S LETTER NO. 3953 & FOR CONSTRUCTION						DETAILED DESIGN CONSULTANT (DDC) : STUP Consultants Pvt. Ltd. E-20, 2nd Floor, Bangalore-560025 Tel: 082266 26000 Email: stupaec@stupaec.com				PROOF CONSULTANT (PC) : Indian Institute of Technology Madras IIT P.O., Chennai 600 036 INDIA								DRAWING NO. : O22077-BSRP-CR2-C-V0-0-30-1655 (SHEET 2 OF 2)				REVISION : 0		DWG STATUS : D																																																		
C 09.01.2025 REVISD AS PER GC'S LETTER NO. 3475						L&T CONSTRUCTION EDRC-SPECIAL BRIDGES - TRC												SCALE : AS SHOWN				DATE : 20/03/2024		PRELIMINARY DWG (P), DEFINITIVE DWG (D), CONSTRUCTION DWG (C), ASUILT DWG (B), SHOP DWG (B), MANUFACTURED DWG (M), SHEET DWG (A), K																																																		
B 03.10.2024 REVISD AS PER GC'S LETTER NO. 1910																																																																										
A 20.03.2024 FOR APPROVAL																																																																										