L&T – IHI CONSORTIUM

CONTRACT AGREEMENT

between

MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

and

L&T-IHI CONSORTIUM

(M/s LARSEN & TOUBRO LIMITED & M/s IHI INFRASTRUCTURE SYSTEMS CO. Ltd.)

MUMBAI TRANS HARBOUR LINK PROJECT (MTHL)

PACKAGE-1

"Procurement of Mumbai Trans Harbour Link Project (Package-1),Construction of a 10.380 km Long Bridge Section (CH 0+000 – CH 10+380) across the Mumbai Bay including Sewri Interchange"

(JICA LOAN: Mumbai Trans-Harbour Link Project (I) ID-P255)

MADE ON 26TH DECEMBER 2017

VOLUME - XIII of XVII

PAGES 7109 TO 7344

Package-1 L&T- IHI Consortium

Index

OK

Package - I

Volume - XIII

Volume No.	Contents	Page No.
Volume-XIII	The Contractor's Proposal Volume-5	

L&T-IHI CONSORTIUM CHENNAI (INDIA)

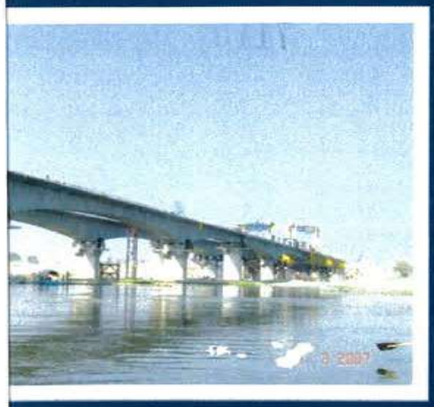
7109

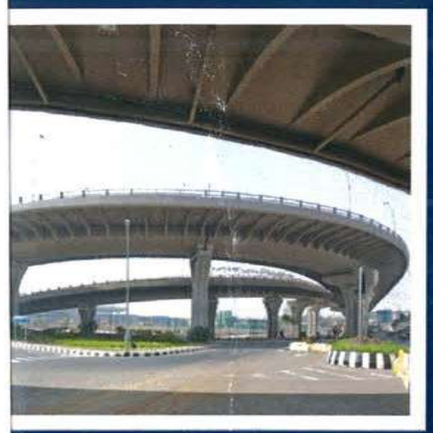
TECHNICAL BID ORIGINAL

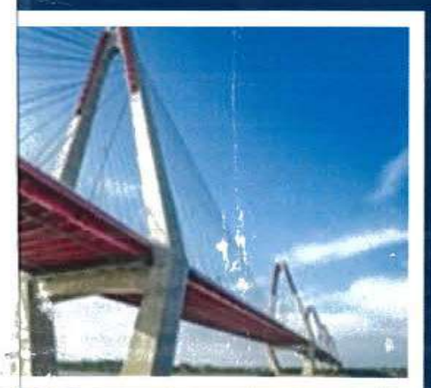
VOLUME V

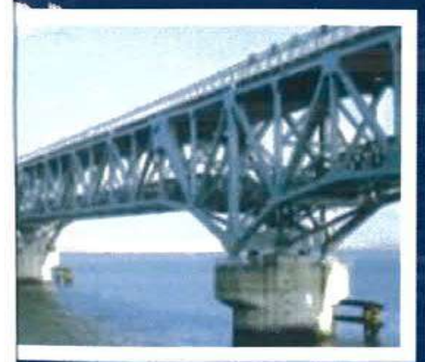
TEDNER SUBMISSION TO

MMRDA









Package-1 (Construction of a 10.380 km long bridge section (CH 0+000– CH 10+380) across the Mumbai Bay and Sewri Interchange of Mumbai Trans Harbour Link Project

IFB No.: MMRDA/ENG1/000752

L&T-IHI

July 2017

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MMRDA
Mumbai Metropolitan Region Development Authority

MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE-1)
CH 0+000 TO CH 10+380

TENDER DRAWING SUBMISSIONS
JULY 2017

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7113 1740

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7114

7117

1742

LIST OF CONTENTS:

SL.NO	DRAWING.NO	TITLE	REV.NO.	DATE
1	MTHL-CO-C-P1-GN-ST-0005	General Notes	A	14/07/2017
2	MTHL-CO-C-P1-LV-NM-0012	Location Plan Inetrchanges on Land - Sewri	A	14/07/2017
3	MTHL-CO-C-P1-LV-NM-0021	Location Plan - Bridges	A	14/07/2017
4	MTHL-CO-C-P1-LV-GA-0031	Longitudinal profile and sections embankments - Sewri	A	14/07/2017
5	MTHL-CO-C-P1-LV-GA-0035	Sewri Interchange - Foundations	A	14/07/2017
6	MTHL-CO-C-P1-LV-GA-0036	Sewri Interchange - Substructure Schedule (Sheet 1 of 2)	A	14/07/2017
7	MTHL-CO-C-P1-LV-GA-0037	Sewri Interchange - Substructure Schedule (Sheet 2 of 2)	A	14/07/2017
8	MTHL-CO-C-P1-LV-GA-0041	General Arrangement and Dimensions Ramps Sewri, 1 of 8, Ramp A (1/2)	A	14/07/2017
9	MTHL-CO-C-P1-LV-GA-0042	General Arrangement and Dimensions Ramps Sewri, 2 of 8, Ramp A (2/2)	A	14/07/2017
10	MTHL-CO-C-P1-LV-GA-0043	General Arrangement and Dimensions Ramps Sewri, 3 of 8, Ramp B (1/2)	A	14/07/2017
11	MTHL-CO-C-P1-LV-GA-0044	General Arrangement and Dimensions Ramps Sewri, 4 of 8, Ramp B (2/2)	A	14/07/2017
12	MTHL-CO-C-P1-LV-GA-0045	General Arrangement and Dimensions Ramps Sewri, 5 of 8, Ramp C1	A	14/07/2017
13	MTHL-CO-C-P1-LV-GA-0046	General Arrangement and Dimensions Ramps Sewri, 6 of 8, Ramp C2	A	14/07/2017
14	MTHL-CO-C-P1-LV-GA-0047	General Arrangement and Dimensions Ramps Sewri, 7 of 8, Ramp E	A	14/07/2017
15	MTHL-CO-C-P1-LV-GA-0048	General Arrangement and Dimensions Ramps Sewri, 8 of 8, Ramp F	A	14/07/2017
16	MTHL-CO-C-P1-LV-GA-0049	Typical details for Ramp - Sewri	A	14/07/2017
17	MTHL-CO-C-P1-LV-GA-0050	Land Viaduct - General Arrangement	A	14/07/2017
18	MTHL-CO-C-P1-MV-GA-0051	Marine Viaduct - General Arrangement 1 of 12	A	14/07/2017
19	MTHL-CO-C-P1-MV-GA-0052	Marine Viaduct - General Arrangement 2 of 12	A	14/07/2017
20	MTHL-CO-C-P1-MV-GA-0053	Marine Viaduct - General Arrangement 3 of 12	A	14/07/2017
21	MTHL-CO-C-P1-MV-GA-0054	Marine Viaduct - General Arrangement 4 of 12	A	14/07/2017
22	MTHL-CO-C-P1-MV-GA-0055	Marine Viaduct - General Arrangement 5 of 12	A	14/07/2017
23	MTHL-CO-C-P1-MV-GA-0056	Marine Viaduct - General Arrangement 6 of 12	A	14/07/2017
24	MTHL-CO-C-P1-MV-GA-0057	Marine Viaduct - General Arrangement 7 of 12	A	14/07/2017
25	MTHL-CO-C-P1-MV-GA-0058	Marine Viaduct - General Arrangement 8 of 12	A	14/07/2017
26	MTHL-CO-C-P1-MV-GA-0059	Marine Viaduct - General Arrangement 9 of 12	A	14/07/2017
27	MTHL-CO-C-P1-MV-GA-0060	Marine Viaduct - General Arrangement 10 of 12	A	14/07/2017
28	MTHL-CO-C-P1-MV-GA-0061	Marine Viaduct - General Arrangement 11 of 12	A	14/07/2017
29	MTHL-CO-C-P1-MV-GA-0062	Marine Viaduct - General Arrangement 12 of 12	A	14/07/2017
30	MTHL-CO-C-P1-MV-GA-0101	Marine Viaduct- Typical Expansion section plan, elevation and section	A	14/07/2018
31	MTHL-CO-C-P1-MV-GA-0121	Concrete Dimensions at Rescue Areas, Ch. 8+000	A	14/07/2017
32	MTHL-CO-C-P1-MV-GA-0131	Concrete Dimensions at Chainage 0+495 to 1+155, 1 of 4	A	14/07/2017
33	MTHL-CO-C-P1-MV-GA-0132	Concrete Dimensions at Chainage 0+495 to 1+155, 2 of 4	A	14/07/2017
34	MTHL-CO-C-P1-MV-GA-0133	Concrete Dimensions at Chainage 0+495 to 1+155, 3 of 4	A	14/07/2017
35	MTHL-CO-C-P1-MV-GA-0134	Concrete Dimensions at Chainage 0+495 to 1+155, 4 of 4	A	14/07/2017

SL.NO	DRAWING.NO	TITLE	REV.NO.	DATE
36	MTHL-CO-C-P1-MV-GA-0151	Marine Viaduct -Substructure schedule P1	A	14/07/2017
37	MTHL-CO-C-P1-MV-GA-0181	Marine Viaduct - Foundation Type 1	A	14/07/2017
38	MTHL-CO-C-P1-MV-GA-0182	Marine Viaduct - Foundation Type 2	A	14/07/2017
39	MTHL-CO-C-P1-LV-GA-0193	Land Viaduct - Foundation Type 5	A	14/07/2017
40	MTHL-CO-C-P1-MV-FB-0161	Marine Viaduct - Pier type 1 and 2	A	14/07/2018
41	MTHL-CO-C-P1-MS-FB-0401	Bridge Furniture - Concrete Bridges General Layout	A	14/07/2017
42	MTHL-CO-C-P1-SB-FB-0201	Steel Bridges - Girder General Arrangement Cross-section	A	14/07/2017
43	MTHL-CO-C-P1-SB-GA-0211	Steel Bridge P1-OS01-NS/SS - Girder Arrangement, Plan, Elevation	A	14/07/2017
44	MTHL-CO-C-P1-SB-GA-0215	Steel Bridge P1-OS02-NS/SS - Girder Arrangement, Plan, Elevation	A	14/07/2017
45	MTHL-CO-C-P1-SB-GA-0219	Steel Bridge P1-OS03-NS/SS - Girder Arrangement, Plan, Elevation	A	14/07/2017
46	MTHL-CO-C-P1-SB-GA-0223	Steel Bridge P1-OS04-NS/SS - Girder Arrangement, Plan, Elevation	A	14/07/2017
47	MTHL-CO-C-P1-SB-FB-0251	Steel Bridges - Girder Longitudinal Steel	A	14/07/2017
48	MTHL-CO-C-P1-SB-FB-0261	Steel Bridges - Girder Diaphragm Type T 1 of 2	A	14/07/2017
49	MTHL-CO-C-P1-SB-FB-0262	Steel Bridges - Girder Diaphragm Type T 2 of 2	A	14/07/2017
50	MTHL-CO-C-P1-SB-FB-0265	Steel Bridges - Girder Diaphragm Type P	A	14/07/2017
51	MTHL-CO-C-P1-SB-FB-0269	Steel Bridges - Girder Diaphragm Type B	A	14/07/2017
52	MTHL-CO-C-P1-SB-FB-0273	Steel Bridges - Girder Diaphragm Type I	A	14/07/2017
53	MTHL-CO-C-P1-SB-FB-0275	Steel Bridges - Girder Typical details	A	14/07/2017
54	MTHL-CO-C-P1-SB-FB-0278	Steel Bridges - Girder Bolted Connection 1 of 2	A	14/07/2017
55	MTHL-CO-C-P1-SB-FB-0279	Steel Bridges - Girder Bolted Connection 2 of 2	A	14/07/2017
56	MTHL-CO-C-P1-SB-CQ-1101	Construction Sequence - Girder, Steel Bridges	A	14/07/2017
57	MTHL-CO-C-P1-SB-FB-0171	Steel Bridge - Pier Type 3	A	14/07/2017
58	MTHL-CO-C-P1-SB-FB-0172	Steel Bridge - Pier Type 4	A	14/07/2017
59	MTHL-CO-C-P1-SB-GA-0191	Steel Bridge - Foundation Type 3	A	14/07/2017
60	MTHL-CO-C-P1-SB-GA-0192	Steel Bridge - Foundation Type 4	A	14/07/2017
61	MTHL-CO-C-P1-MS-FB-0301	Steel Bridges - Bearings and Expansion Joints 1 of 3	A	14/07/2017
62	MTHL-CO-C-P1-MS-FB-0402	Bridge Furniture - Steel Bridges General Layout	A	14/07/2017
63	MTHL-CO-C-P1-MS-FB-0404	Bridge Surfacing	A	14/07/2017
64	MTHL-CO-C-P1-MS-FB-0501	Draingae Systems , Principle Flow Diagram	A	14/07/2017
65	MTHL-CO-C-P1-SB-GA-0702	Access Facilities - Steel Bridges - General	A	14/07/2017
66	MTHL-CO-C-P1-SB-GA-0703	Access Facilities - Steel Bridges - Inspection gantries	A	14/07/2017
67	MTHL-CO-C-P1-SB-GA-0200	Provisions - Aerodynamic stability (If required)	A	14/07/2018

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REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT : MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : LIST OF CONTENTS

SCALE N/A

DRAWING No M T H L – CO – C – P 1 – G N – S T – 0 0 0 1

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 1 REV. A

PROJECTION

1. GENERAL

1.1 UNLESS OTHERWISE NOTED, ALL LEVELS ARE IN METERS (CHART DATUM).
1.2 UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN MILLIMETERS.
1.3 ALL ANGLES ARE IN DEGREES (0° - 360°) UNLESS OTHERWISE NOTED.
1.4 DIMENSIONS ARE NOT TO BE SCALED BY MEASURING ON DRAWING.
1.5 ABBREVIATIONS:

CD	CHART DATUM
CJ	CONSTRUCTION JOINT
CHS	CIRCULAR HOLLOW SECTION
℄	CENTER LINE
EGL	EXISTING GROUND LEVEL
(E)	EXPANSION JOINT
FGL	FINISHED GROUND LEVEL
FRL	FINISHED ROAD LEVEL
ID	INTERNAL DIAMETER
HTL	HIGHEST HIGH TIDE LEVEL
LP	LAND PIER
MP	MARINE PIER
MSL	MEAN SEA LEVEL
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
PL	PLATE
PSC	PRESTRESSED CEMENT CONCRETE
RCC	REINFORCED CEMENT CONCRETE
RRL	ROAD REFERENCE LINE
THK	THICKNESS
SOP	SETTING OUT POINT
SOL	SETTING OUT LINE
U.N.O	UNLESS NOTED OTHERWISE
WPG	WORK POINT GIRDER

1.6 SEISMIC: RESPONSE SPECTRUM ACCORDING TO IRC:6-2014 (Z = 0.16g.)
1.7 DESIGN LIFE : 100 YEARS.
1.8 THE FOLLOWING TRAFFIC LOADS (MOST SEVERE) ARE CONSIDERED.
(i) ONE, TWO, THREE AND FOUR LANE OF CLASS A.
(ii) ONE LANE OF 70R AND TWO LANE OF CLASS A.
(iii) TWO LANE OF 70R LOAD.
(iv) SPECIAL VEHICLE.
1.9 CONGESTION FACTOR ACCORDING TO IRC:6-2017)
1.10 80 MM THICK WEARING COURSE SHALL BE PROVIDED COMPRISING OF 40 MM THICK ASPHALTIC CONCRETE AND 40 MM THICK ASPHALT AS PER SECTION 500 OF MORTH SPECIFICATION FOR ROAD AND BRIDGE WORKS, FIFTH REVISION 2013.

2. SETTING OUT

2.1 THE BASIC SETTING OUT FOR THE BRIDGE IS THE GLOBAL COORDINATES INDICATED BY EASTINGS (E) AND NORTHINGS (N) TO UTM45 REFERENCE FRAME.
2.2 CHAINAGES ARE MEASURED HORIZONTALLY ALONG THE FRL LINE.

3. CONSTRUCTION GEOMETRY AND TOLERANCES

3.1 THE VERTICAL ALIGNMENT OF THE BRIDGE IN THE REFERENCE CONDITION SHALL BE AS SHOWN ON DRAWINGS WITHIN THE FOLLOWING TOLERANCE:

CRITERIA	TOLERANCE ON VERTICAL ALIGNMENT
LOCAL IRREGULARITIES OVER A LENGTH OF 8.0 M	+/- 15 MM
GLOBAL POSITION OF BRIDGE DECK	+/- (20 MM + X/1500), WHERE X IS THE DISTANCE TO NEAREST FIXED SUPPORT IN METERS

3.2 HORIZONTAL POSITION OF PIERS AND SUPERSTRUCTURE IN RELATION TO SYSTEM LINES +/- 20 MM.
3.3 TOLERANCES FOR BEARINGS AND EXPANSION JOINT SHALL BE AS DEFINED IN THE RESPECTIVE SPECIFICATIONS.
3.4 FOR BARRIER AND RAILINGS THE MAXIMUM ALLOWABLE DEVIATION FROM VERTICAL SHALL BE 0.1%. ALL CONTOUR LINES, WHICH DETERMINE THE APPEARANCE OF RAILING MEMBERS AND EDGE BEAMS, SHALL BE CONSTRUCTED WITH SUCH ACCURACY THAT VISIBLE DISFIGURING DEVIATIONS FROM THE CORRECT SHAPE DO NOT OCCUR. THE DEVIATIONS SHALL BE SMOOTH AND EVEN WITH ANGULAR BENDS NOT EXCEEDING 0.2%.

4. CONCRETE

4.1 CONCRETE SHALL BE HIGH PERFORMANCE CONCRETE (HPC)
4.2 THE CONCRETE STRENGTH CLASSES SHALL BE AS LISTED IN TABLE BELOW, UNLESS OTHERWISE NOTED.

ELEMENT	CONCRETE STRENGTH CLASS, f_{ck} (CUBE) (MPa)
BLINDING CONCRETE	M 15
PILES	M 45
PILE CAPS	M 45
PIERS	M 50
SUPERSTRUCTURE	M 60

THE CUBE STRENGTH f_{ck} IS DETERMINED AT 28 DAYS IN ACCORDANCE WITH IRC:112-2011. THE ASSOCIATED MECHANICAL CHARACTERISTICS SHALL BE AS DEFINED IN IRC:112-2011.

4.3 UNLESS OTHERWISE INDICATED ON THE DRAWINGS THE COVER TO ANY REINFORCEMENT AND POST-TENSIONING DUCTS SHALL BE AS LISTED BELOW. THE COVER SHALL BE MAINTAINED AT GROOVES AND ARCHITECTURAL FEATURES.

ELEMENT	LEVEL	EXPOSURE CATEGORY (IRC)	MINIMUM CONCRETE COVER FOR DURABILITY	MAXIMUM CRACK WIDTH	NOMINAL CONCRETE COVER FOR CRACK WIDTH
			[mm]	[mm]	[mm]
PILES	BELOW LEVEL -0.50m CD	SEVERE	75	0.3	30
	FROM LEVEL -0.50m TO +10.5m CD	EXTREME		0.2	
	FROM LEVEL +10.5m CD TO UNDERSIDE OF PILE BENT CROSS HEAD	VERY SEVERE	50		
PILE CAPS	-	EXTREME	75		
PILE BENT CROSS HEAD	FROM +10.5m CD UPWARDS	VERY SEVERE	50		
PIER COLUMNS	BELOW LEVEL +10.5m CD	EXTREME	75		
	FROM LEVEL +10.5m CD UPWARDS	VERY SEVERE	50		
PRESTRESSED CONCRETE DECKS	-	SEVERE	45	0.3	

4.4 CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON DRAWINGS SHALL BE SUBJECT TO REVIEW BY THE DESIGNER.
4.5 UNLESS OTHERWISE INDICATED ON THE DRAWINGS ALL EXTERNAL CORNERS SHALL HAVE 20 x 20 MM CHAMFERS.
4.6 THE MAXIMUM SIZE OF AGGREGATE THAT ARE TO BE USED IN RCC AND PSC WORK IS 20 MM.

5. STEEL REINFORCEMENT

5.1 STEEL REINFORCEMENT IN GENERAL SHALL BE CORROSION RESISTANT (CRS) WITH GRADE HYSD Fe 500D PROPERTIES CONFORMING TO IS:1786 UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
5.2 BAR DIAMETERS TO BE USED ARE 10 MM, 12 MM, 16 MM, 20 MM, 25 MM, 32 MM AND 36 MM.
5.3 ALL REINFORCEMENT SHALL BE BENT IN ACCORDANCE WITH IRC:112. THE MINIMUM BENDING DIAMETER IS 4 TIMES THE BAR DIAMETER FOR BARS WITH A DIAMETER UP TO 16 MM. FOR BARS WITH A DIAMETER ABOVE 16 MM, THE MINIMUM BENDING DIAMETER IS 7 TIMES THE BAR DIAMETER.
5.4 NOTATION FOR REINFORCEMENT BARS:

22x45T20-c/150-PY109 FF

NUMBER OF GROUPS
NUMBER OF BARS IN A GROUP
TYPE OF STEEL
BAR SIZE DIAMETER
BAR SPACING
BAR LOCATION
BAR MARK
LOCATION (OPTIONAL)
T1 = TOP LAYER NO. 1
B1 = BOTTOM LAYER NO.1
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE

BAR SPACING INDICATED ON THE DRAWINGS SHALL BE PERPENDICULAR TO BARS, UNLESS OTHERWISE INDICATED.
SUFFIX:

AP	ALTERNATELY PLACED
AS	ALTERNATELY STAGGERED
LV	LENGTH VARIES
BB	BUNDLED BARS

5.5 LAPS OTHER THAN THOSE INDICATED ON THE DRAWINGS SHALL BE MADE ONLY WITH THE APPROVAL OF THE DESIGNER.
5.6 SPACERS ARE TO BE PROVIDED BETWEEN ADJACENT LAYERS OF PARALLEL REINFORCEMENT. THE DIAMETER OF SPACERS SHALL BE THE SAME AS THAT OF THE SMALLEST BAR IN THE LAYERS BUT SHALL BE NOT LESS THAN 25 MM. SPACERS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 60 x DIAMETER OF THE SMALLEST BAR.
5.7 MINIMUM ANCHORAGE AND LAP LENGTHS SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE, UNLESS OTHERWISE SHOWN ON DRAWINGS.

FAVORABLE BOND CONDITION, CONCRETE -M35, REINFORCEMENT - Fe 500D

LAP LENGTH [MM]					ANCHORAGE LENGTH [MM]
DIAMETER [MM]	x1.0 [A]	x1.15 [B]	x1.4 [C]	x1.5 [D]	
10	375	450	525	575	375
12	450	525	650	675	450
16	600	700	850	900	600
20	725	850	1025	1100	725
25	900	1050	1275	1350	900
32	1175	1375	1650	NA	1175
36	1300	1500	1825	NA	1300

FAVORABLE BOND CONDITION, CONCRETE -M45, REINFORCEMENT - Fe 550D

LAP LENGTH [MM]					ANCHORAGE LENGTH [MM]
DIAMETER [MM]	x1.0 [A]	x1.15 [B]	x1.4 [C]	x1.5 [D]	
10	350	425	500	525	350
12	425	500	600	650	425
16	575	675	825	875	575
20	700	825	1000	1050	700
25	875	1025	1225	1325	875
32	1125	1300	1575	NA	1125
36	1275	1475	1800	NA	1275

FAVORABLE BOND CONDITION, CONCRETE -M50, REINFORCEMENT - Fe 500D

LAP LENGTH [MM]					ANCHORAGE LENGTH [MM]
DIAMETER [MM]	x1.0 [A]	x1.15 [B]	x1.4 [C]	x1.5 [D]	
10	300	350	425	450	300
12	350	425	500	525	350
16	475	550	675	725	475
20	600	700	850	900	600
25	725	850	1025	1100	725
32	950	1100	1350	NA	950
36	1050	1225	1475	NA	1050

FAVORABLE BOND CONDITION, CONCRETE -M60 / M75, REINFORCEMENT - Fe 500D

LAP LENGTH [MM]					ANCHORAGE LENGTH [MM]
DIAMETER [MM]	x1.0 [A]	x1.15 [B]	x1.4 [C]	x1.5 [D]	
10	250	300	350	375	250
12	300	350	425	450	300
16	400	475	575	600	400
20	500	575	700	750	500
25	625	725	875	950	625
32	800	925	1125	NA	800

FOR UNFAVORABLE BOND CONDITION, THE ABOVE VALUES SHALL BE INCREASED BY MULTIPLYING A FACTOR OF 1.43

A < 25% PERCENTAGE OF LAPPED BARS RELATIVE TO TOTAL CROSS SECTIONAL AREA.
B 33% PERCENTAGE OF LAPPED BARS RELATIVE TO TOTAL CROSS SECTIONAL AREA.
C 50% PERCENTAGE OF LAPPED BARS RELATIVE TO TOTAL CROSS SECTIONAL AREA.
D > 50% PERCENTAGE OF LAPPED BARS RELATIVE TO TOTAL CROSS SECTIONAL AREA.

5.9 COUPLERS SHALL BE THREADED TENSION COUPLERS CLASS H CONFORMING TO ALL TESTS AND SPECIFICATIONS FOLLOWING IS 16172:2014.

6. PRESTRESSING

6.1 PRESTRESSING STRAND TENDONS:
PRE-STRESSING STRAND FOR INTERNAL TENDONS SHALL BE EPOXY COATED (FLOW-FILL TYPE).
PRE-STRESSSING STRANDS FOR EXTERNAL TENDONS SHALL BE GREASED AND SHEATHED.
ASSUMED:

NOMINAL DIAMETER	15.2 MM
NOMINAL AREA	140 MM²
TENSILE STRENGTH, f_{pk}	1860 MPa
MINIMUM BREAKING LOAD Pn	260.4 kN
INITIAL PRESTRESSING, $f_{p.ini}$	0.75 X f_{pk} (UNLESS OTHERWISE NOTED)
ELASTIC MODULUS	195000 MPa
FRICTION COEFFICIENT:	
INTERNAL TENDONS	μ = 0.17 / RADIAN
EXTERNAL TENDONS	μ = 0.17 / RADIAN
WOBBLE COEFFICIENT:	
INTERNAL TENDONS	k = 0.002 RADIAN / M
EXTERNAL TENDONS	k = 0
WEDGE PULL-IN	6 MM OR AS DEFINED BY SUPPLIER

ANCHORS SHALL BE APPROVED IN ACCORDANCE WITH IRC:112-2011 SECTION 13. THE REAR OF THE ANCHOR SHALL BE PROVIDED WITH A M10 TAPPED HOLE AT LEAST 15 MM DEEP TO ALLOW FOR AN ANCHOR SHALL BE PROVIDED WITH A M10 TAPPED HOLE AT LEAST 15 MM DEEP TO ALLOW FOR AN ELECTRICAL EARTHING CONNECTION WITHIN THE CONCRETE. MIN WALL THICKNESS ACCORDING TO EMPLOYERS REQUIREMENTS, CL. 3.3.2.3.5. CEMENT GROUT SHALL BE INJECTED AFTER TENDON TENSIONING.

6.2 PRESTRESSING BARS:
PRESTRESSING BARS TO BE IN ACCORDANCE WITH IRC:112-2011 AND IS 2090
BE USED ARE 40 MM, 50 MM AND 75 MM.THE FOLLOWING PROPERTIES ARE ASSUMED (BASED ON TWO OR MORE STRESSING CYCLE):

TENSILE STRENGTH, f_{pk}	980 MPa
MINIMUM 0.1% PROOF STRESS, $f_{p0.1k}$	784 MPa
INITIAL PRESTRESSING, $f_{p.ini}$	0.90 X $f_{p0.1k}$ (UNLESS OTHERWISE NOTED)
MINIMUM ELONGATION	10%
ELASTIC MODULUS	170000 MPa
FRICTION COEFFICIENT:	μ = 0.65 / RADIAN
WOBBLE COEFFICIENT:	k = 0.0025 RADIAN / M
DRAW-IN:	
50 MM BAR	0.7 MM
75 MM BAR	1.0 MM
DUCTS PRESSING BARS	CORRUGATED STEEL DUCTS

7. CONSTRUCTION JOINTS

7.1 PROPER TREATMENT OF CONSTRUCTION JOINTS IS TO BE MADE AS PER RELEVANT CODE OR MORTH SPECIFICATION FOR ROAD AND BRIDGE WORKS, FIFTH REVISION 2013.

8. STEEL WORK

8.1 THE MATERIAL SPECIFICATIONS SHALL BE AS PER JAPAN ROAD ASSOCIATION DOCUMENT 'SPECIFICATIONS FOR HIGHWAY BRIDGES - PART I - COMMON - CHAPTER 3 - MATERIALS' (MARCH 2002).
THE FOLLOWING STEEL TYPES SHALL BE USED U.N.O. ON THE STRUCTURAL DRAWINGS:
DECK PLATE, DECK PLATE LONGITUDINAL STIFFENERS, WEB PLATE, BOTTOM FLANGE, BOTTOM FLANGE LONGITUDINAL STIFFENERS, SPLICE PLATES: SM570.
DECK PLATE TRANSVERSE STIFFENERS, BOTTOM FLANGE TRANSVERSE STIFFENERS TRANSVERSE TRUSS TUBULAR MEMBERS, PLATE DIAPHRAGMS GUSSET PLATES: SM490Y.
HORIZONTAL (LONGITUDINAL) AND VERTICAL (TRANSVERSE) WEB STIFFENERS: SM400.
FILLER PLATES FOR BOLTED CONNECTIONS: SS400.
OTHER ITEMS NOT DEFINED ABOVE: SM490Y.
PLATES SHALL BE IN ACCORDANCE WITH JIS G 3106.
TROUGH STIFFENERS SHALL BE IN ACCORDANCE WITH JSS II 08-1983.
CIRCULAR HOLLOW SECTIONS SHALL BE IN ACCORDANCE WITH JIS G3444.
8.2 DIMENSIONS OF FILLET WELDS ARE THROAT THICKNESS.
8.3 WELDS NOT SPECIFIED ON THE DRAWINGS SHALL BE FULL PENETRATION BUTT WELDS.
8.4 ALL FILLET WELDS SHALL BE 6 MM THROAT THICKNESS AND CONTINUOUS UNLESS OTHERWISE NOTED.
8.5 BOLTS SHALL BE IN ACCORDANCE WITH JSS II 09-1981 FOR BOLT TYPE S10T (ROUND BOLT HEAD) AND IN ACCORDANCE WITH JIS B 1186 FOR BOLT TYPE F10T (HEXAGONAL BOLT HEAD) ALL BOLTED CONNECTIONS ARE HIGH STRENGTH FRICTION GRIP CONNECTIONS WITH A FRICTION COEFFICIENT OF μ=0.4. M22 BOLTS SHALL BE APPLIED U.N.O.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT : MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : GENERAL NOTES

SCALE AS SHOWN

DRAWING No M T H L – CO – C – P 1 – G N – S T – 0 0 0 5

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

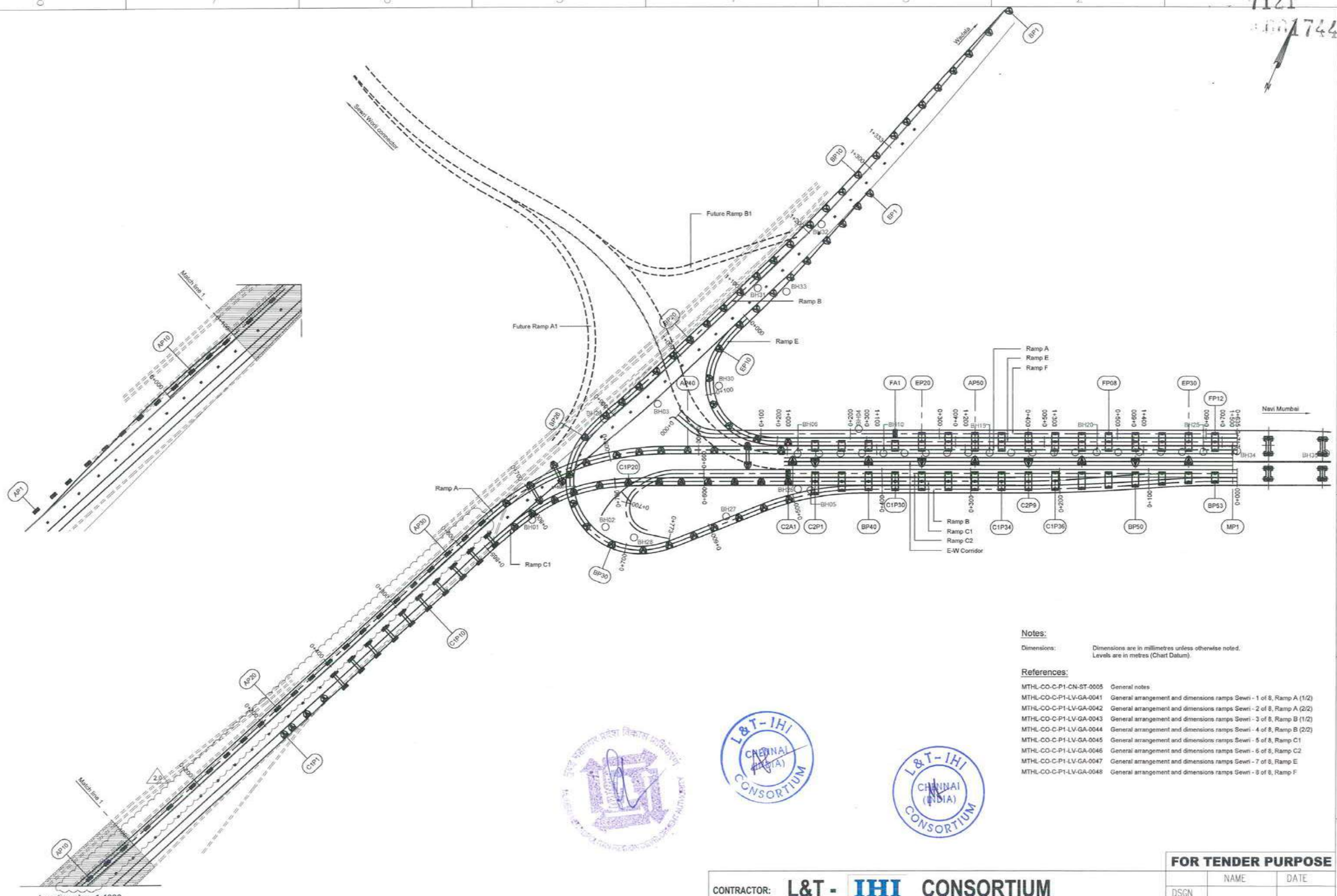
FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 1 REV. A

PROJECTION

7121
1744



Location plan, 1:4000

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted.
Levels are in metres (Chart Datum).

References:

MTHL-CO-C-P1-CN-ST-0005	General notes
MTHL-CO-C-P1-LV-GA-0041	General arrangement and dimensions ramps Sewri - 1 of 8, Ramp A (1/2)
MTHL-CO-C-P1-LV-GA-0042	General arrangement and dimensions ramps Sewri - 2 of 8, Ramp A (2/2)
MTHL-CO-C-P1-LV-GA-0043	General arrangement and dimensions ramps Sewri - 3 of 8, Ramp B (1/2)
MTHL-CO-C-P1-LV-GA-0044	General arrangement and dimensions ramps Sewri - 4 of 8, Ramp B (2/2)
MTHL-CO-C-P1-LV-GA-0045	General arrangement and dimensions ramps Sewri - 5 of 8, Ramp C1
MTHL-CO-C-P1-LV-GA-0046	General arrangement and dimensions ramps Sewri - 6 of 8, Ramp C2
MTHL-CO-C-P1-LV-GA-0047	General arrangement and dimensions ramps Sewri - 7 of 8, Ramp E
MTHL-CO-C-P1-LV-GA-0048	General arrangement and dimensions ramps Sewri - 8 of 8, Ramp F

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JULY 2017

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: LOCATION PLAN INTERCHANGE ON LAND - SEWRI

SCALE AS SHOWN

DRAWING No M T H L – CO – C – P 1 – L V – N M – 0 0 1 2

SHEET 1 OF 1 REV. A

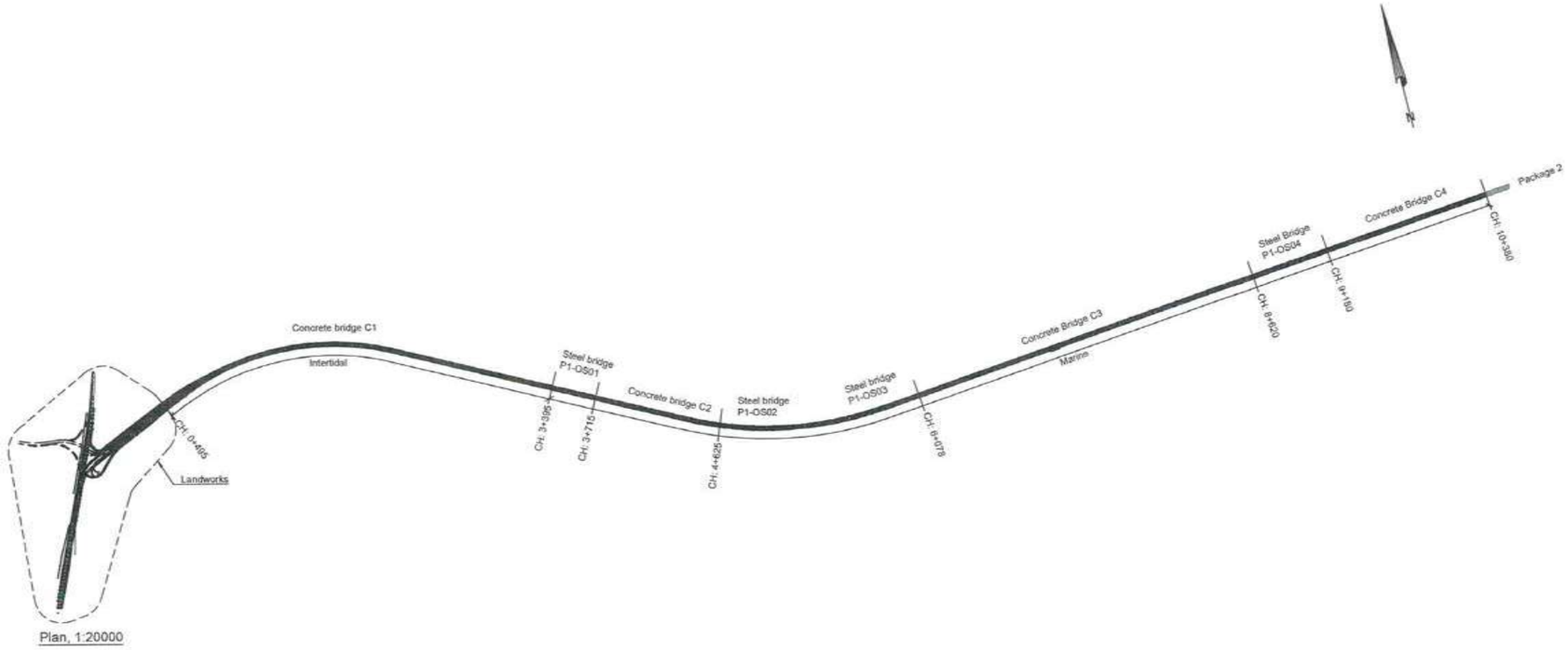
RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

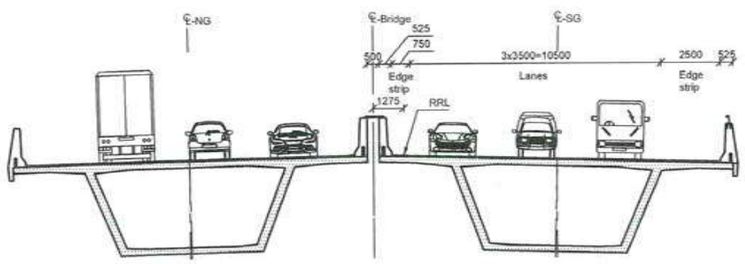
7122

7123

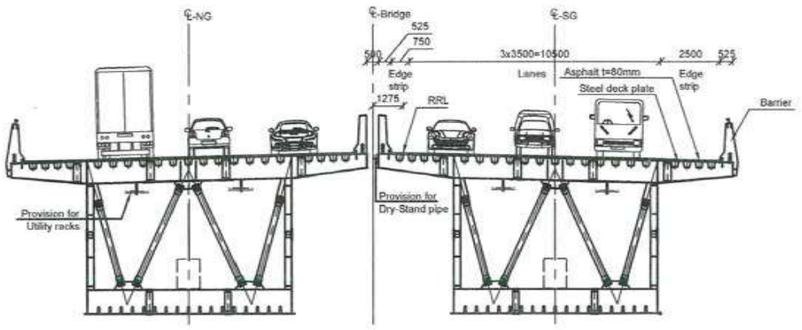
1745



Plan, 1:20000



Bridge deck, concrete girder, 1:250
Looking East.
For general information, see bridge deck, concrete girder



Steel box girder, Cross section 1:250
Looking East.
For general information, see steel bridges girder general arrangement cross section.

FOR TENDER PURPOSE

CONTRACTOR: L&T - IHI CONSORTIUM

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

TITLE: LOCATION PLAN BRIDGES

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M V – N M – 0 0 2 1

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

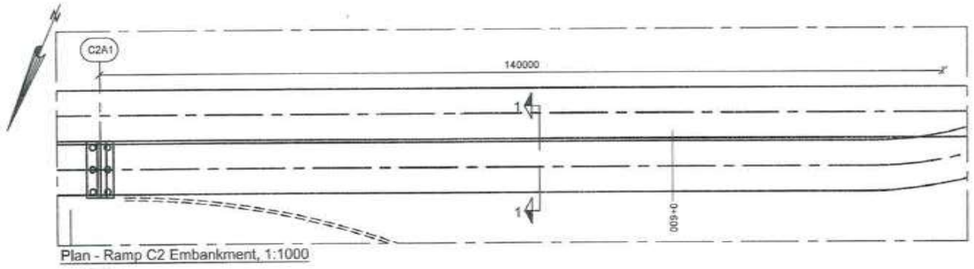
SHEET 1 OF 1 REV. A

PROJECTION

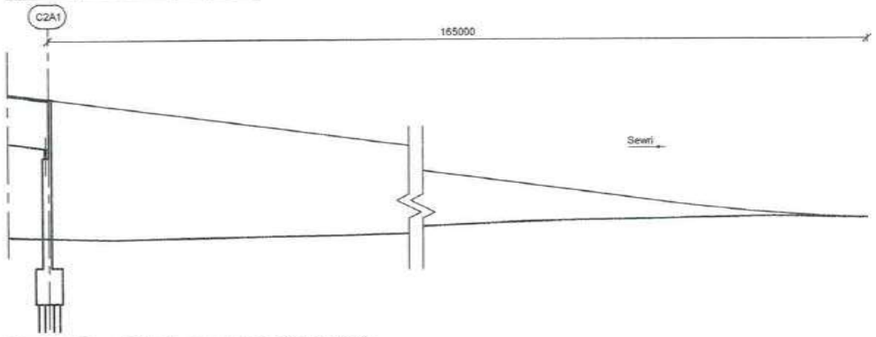
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7124

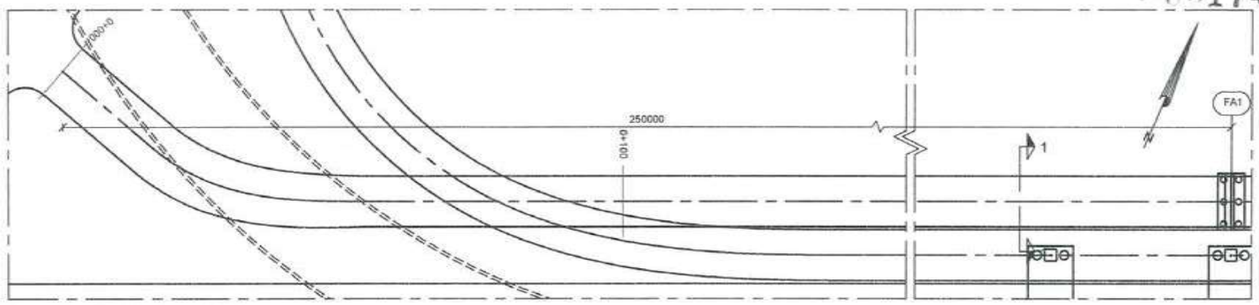
71251746



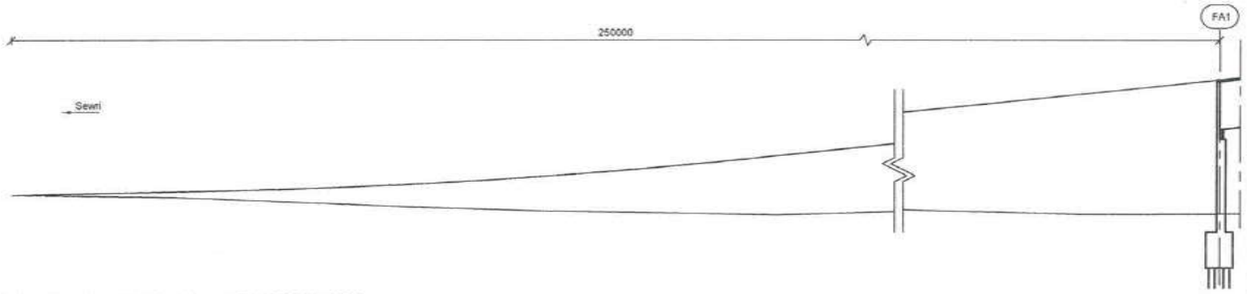
Plan - Ramp C2 Embankment, 1:1000



Elevation - Ramp C2 Embankment, H=1:1000, V=1:250



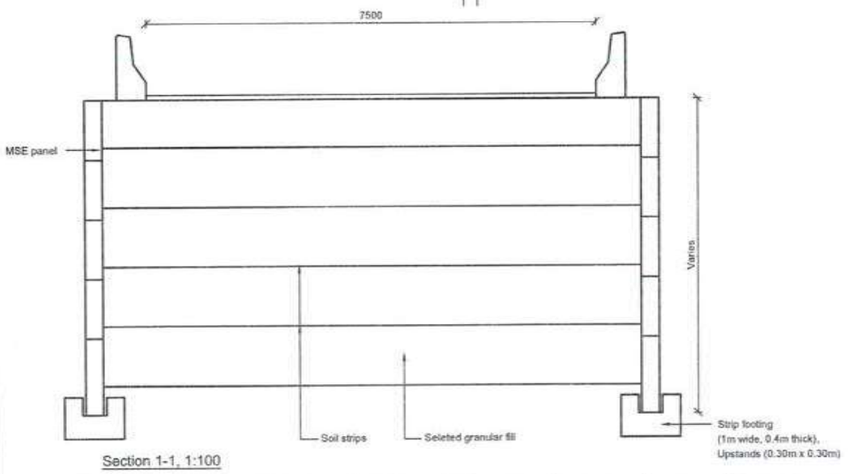
Plan - Ramp F Embankment, 1:1000



Elevation - Ramp F Embankment, H=1:1000, V=1:250

Chainage	0+605.00	0+670.00
Road level (Road reference line, RRL)	11.236	6.714
Existing ground level	5.935	6.711
Vertical alignment (Road reference line, RRL)	L = 341.495 G =-3.300%	L = 45.000 R = 1385.550 m
Horizontal alignment	L = 633.20 m	R = -64 m L = 42.10 m

Chainage	0+000.40	0+250.40
Road level (Road reference line, RRL)	6.695	11.512
Existing ground level	6.692	5.911
Vertical alignment (Road reference line, RRL)	L = 35.078 G =0.500%	L = 89.844 Rq = 4297 m	L = 405.236 G =2.591%
Horizontal alignment	L = 19.67 m	R = -34 m L = 10.62 m	A = 30 L = 26.67 m	L = 578.43 m



Section 1-1, 1:100

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted.
Levels are in metres (Chart Datum).

References:

MTHL-CO-C-P1-CN-ST-0005 General notes
MTHL-CO-C-P1-LV-NM-0012 Location plan interchange on land - Sewri
MTHL-CO-C-P1-LV-GA-0046 General arrangement & dimensions ramps Sewri - 6 of 8, Ramp C2
MTHL-CO-C-P1-LV-GA-0048 General arrangement & dimensions ramps Sewri - 8 of 8, Ramp F

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: LONGITUDINAL PROFILE AND SECTIONS EMBANKMENTS SEWRI

SCALE: AS SHOWN

DRAWING No MTHL-CO-C-P1-LV-GA-0031

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

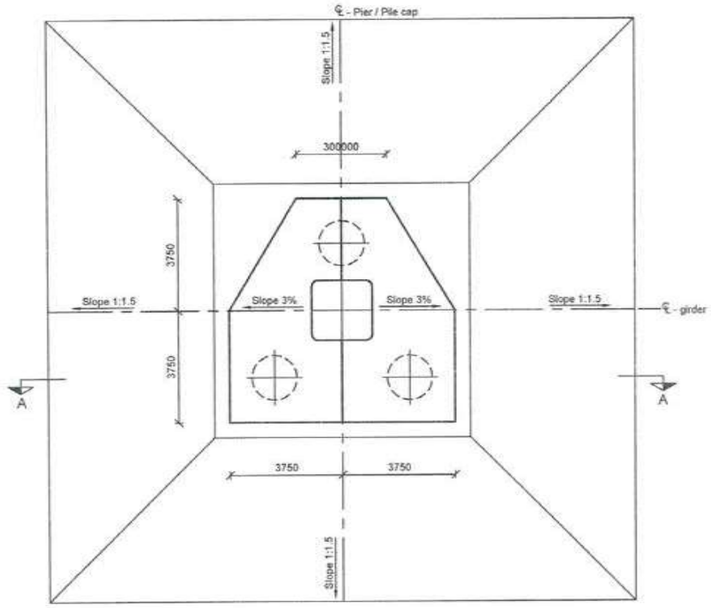
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JULY 2017

SHEET 1 OF 1 REV. A

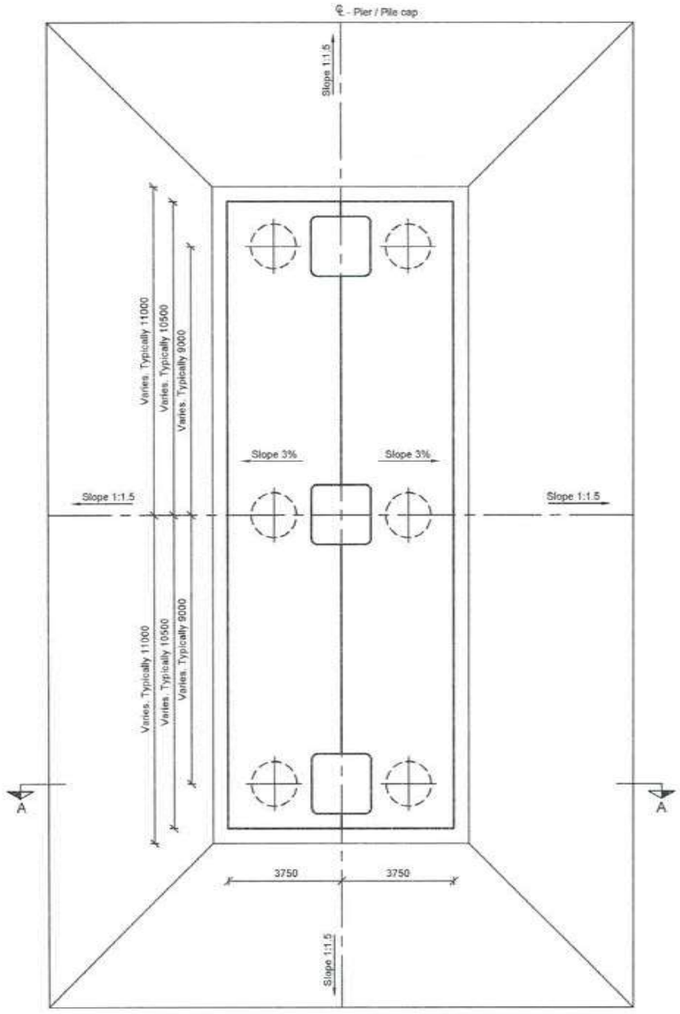
PROJECTION

7127

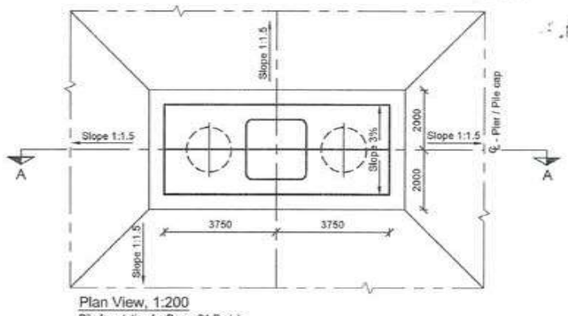
1747



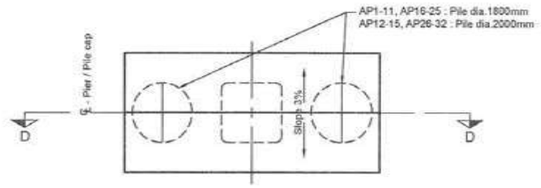
Plan View, 1:200
Pile foundation for single foundation



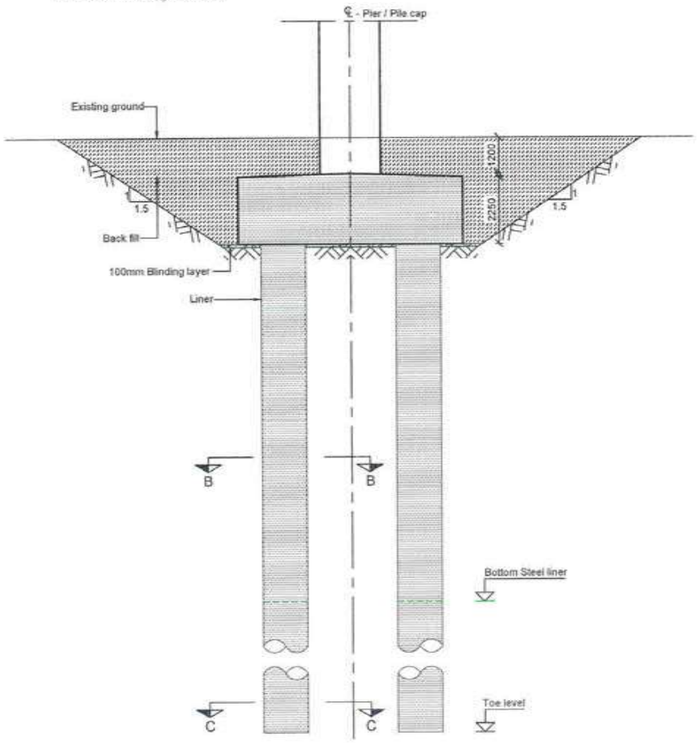
Plan View, 1:200
Pile foundation for combined foundation. Foundation size to be adjusted with number of pier stems supported (2 No. or 3 No.).



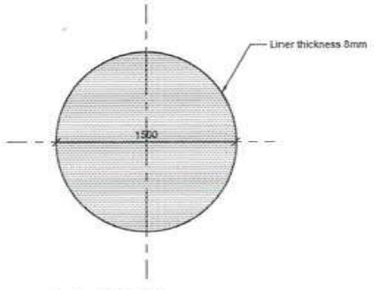
Plan View, 1:200
Pile foundation for Ramp C1 Portals



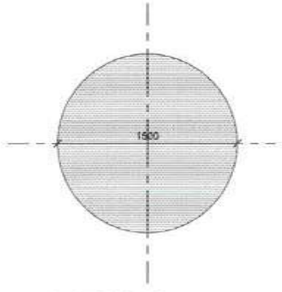
Plan View, 1:200
Pile foundation for Ramp A, pier AP1 to AP32



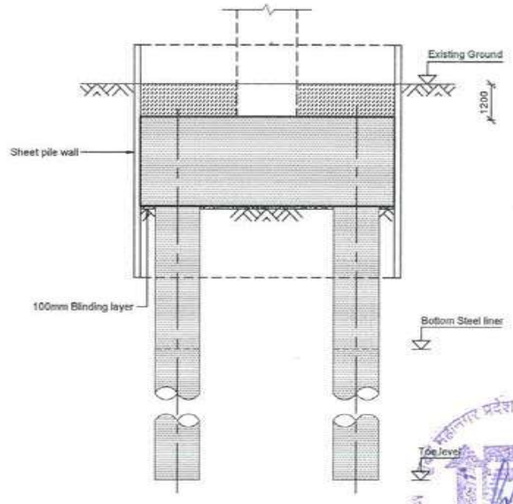
Section A-A, 1:200



Section B-B, 1:50



Section C-C, 1:50



Section D-D, 1:200
Pile foundation for Ramp A, pier AP1 to AP32

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

- In-situ concrete
- Blinding
- Back fill

References:

MTHL-CO-C-P1-CN-ST-0005	General notes
MTHL-CO-C-P1-LV-NM-0012	Location plan interchange on land - Sewri
MTHL-CO-C-P1-LV-GA-0036	Sewri Interchange - Substructure Schedule (Sheet 1 of 2)
MTHL-CO-C-P1-LV-GA-0037	Sewri Interchange - Substructure Schedule (Sheet 2 of 2)

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: SEWRI INTERCHANGE - FOUNDATIONS

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – L V – G A – 0 0 3 5

SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7129

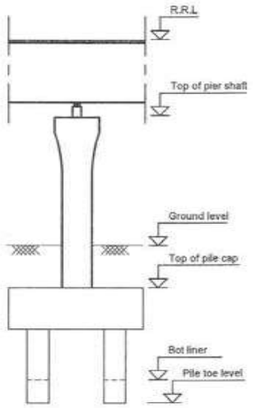
1748

Ramp A

PIER NUMBER	CHAINAGE	Type: Foundation	Type: Pier	Type: Connection	Level in m CD: RRL	Level in m CD: Top Pier Shaft	Level in m CD: Top of Pile Cap	Level in m CD: Ground Level	Level in m CD: Bot Liner	Level in m CD: Pile toe Level	Closest borehole(s) used for design
	m				m	m	m	m	m	m	
AP1	-197.2	2-pile solution	Pier	End pier	18.2	15.6	5.4	6.6	-8.3	-9.5	BH01
AP2	-171.2	2-pile solution	Pier	continuous	18.2	15.6	5.4	6.6	-8.3	-9.5	BH01
AP3	-148.2	2-pile solution	Pier	continuous	18.2	15.6	5.4	6.6	-8.3	-9.5	BH01
AP4	-118.2	2-pile solution	Pier	continuous	18.2	15.6	5.4	6.6	-8.3	-9.5	BH01
AP5	-92.2	2-pile solution	Pier	continuous	18.2	15.6	5.4	6.6	-8.3	-9.5	BH01
AP6	-66.2	2-pile solution	Pier	continuous	18.2	15.6	5.4	6.6	-8.3	-9.5	BH01
AP7	-40.2	2-pile solution	Pier	continuous	18.2	15.6	5.4	6.6	-8.3	-9.5	BH01
AP8	-14.2	2-pile solution	Pier	continuous	18.2	15.6	5.4	6.6	-8.3	-9.5	BH01
AP9	11.8	2-pile solution	Pier	continuous	18.2	15.6	5.4	6.6	-8.3	-9.5	BH01
AP10	37.8	2-pile solution	Pier	MJ+Bearing	18.2	15.7	5.4	6.6	-8.3	-9.5	BH01
AP11	63.8	2-pile solution	Pier	continuous	18.3	15.7	5.4	6.6	-8.3	-9.5	BH01
AP12	88.8	2-pile solution	Pier	continuous	18.6	16.0	5.4	6.6	-8.3	-14.0	BH01
AP13	123.8	2-pile solution	Pier	continuous	19.3	16.8	5.4	6.6	-8.3	-14.0	BH01
AP14	158.8	2-pile solution	Pier	continuous	20.2	17.6	5.4	6.6	-8.3	-14.0	BH01
AP15	193.8	2-pile solution	Pier	continuous	21.1	18.5	5.4	6.6	-8.3	-14.0	BH01
AP16	219.8	2-pile solution	Pier	continuous	21.7	19.1	5.5	6.7	-8.2	-9.3	BH01
AP17	245.8	2-pile solution	Pier	continuous	22.3	19.8	5.6	6.8	-8.1	-9.3	BH01
AP18	271.8	2-pile solution	Pier	continuous	23.0	20.4	5.5	6.7	-8.2	-9.3	BH01
AP19	297.8	2-pile solution	Pier	MJ+Bearing	23.6	21.0	5.4	6.6	-8.3	-9.5	BH01
AP20	323.8	2-pile solution	Pier	continuous	24.3	21.7	5.1	6.3	-8.6	-9.7	BH01
AP21	349.8	2-pile solution	Pier	continuous	24.9	22.3	4.9	6.1	-8.8	-10.0	BH01
AP22	375.8	2-pile solution	Pier	continuous	25.5	23.0	4.7	5.9	-8.9	-10.1	BH01
AP23	401.8	2-pile solution	Pier	continuous	26.2	23.6	4.7	5.9	-9.0	-10.1	BH01
AP24	427.8	2-pile solution	Pier	continuous	26.8	24.3	4.9	6.1	-8.8	-10.0	BH01
AP25	453.8	2-pile solution	Pier	continuous	27.5	24.9	4.9	6.1	-8.7	-9.9	BH01
AP26	479.8	2-pile solution	Pier	continuous	28.1	25.5	4.8	6.0	-8.9	-14.6	BH01
AP27	505.8	2-pile solution	Pier	continuous	28.8	26.2	4.7	5.9	-9.0	-14.6	BH01
AP28	531.8	2-pile solution	Pier	continuous	29.4	26.8	4.7	5.9	-9.0	-14.6	BH01
AP29	557.8	2-pile solution	Pier	MJ+Bearing	30.0	27.5	4.8	6.0	-8.9	-14.6	BH01
AP30	583.8	2-pile solution	Pier	continuous	30.7	28.1	4.9	6.1	-8.8	-14.5	BH01
AP31	609.8	2-pile solution	Pier	continuous	31.3	28.7	4.9	6.1	-8.8	-14.4	BH01
AP32	635.8	2-pile solution	Pier	continuous	31.9	29.4	4.9	6.1	-8.8	-14.5	BH01
AP33	670.8	3-pile solution	Pier	continuous	32.7	30.1	4.8	6.0	-9.0	-14.6	BH01
AP34	704.8	3-pile solution	Portal	continuous	33.3	30.8	4.8	6.0	-9.0	-14.6	BH01
AP35	738.8	3-pile solution	Portal	continuous	34.0	31.4	4.8	6.0	-8.9	-14.6	BH01
AP36	772.8	3-pile solution	Pier	continuous	34.5	31.9	4.8	6.0	-8.9	-14.6	BH01
AP37	807.8	3-pile solution	Pier	continuous	35.0	32.4	4.8	6.0	-9.0	-14.6	BH01
AP38	832.8	3-pile solution	Pier	MJ+Bearing	35.4	32.8	4.8	6.0	-5.6	-20.2	BH03
AP39	857.8	3-pile solution	Pier	continuous	35.8	33.3	4.8	6.0	-5.6	-20.1	BH03
AP40	887.8	3-pile solution	Pier	continuous	36.3	33.7	4.8	6.0	-5.5	-20.1	BH03
AP41	917.8	3-pile solution	Pier	continuous	36.7	34.1	5.2	6.4	-5.2	-19.7	BH03
AP42	955.8	3-pile solution	Portal - monolithic	continuous	36.4	34.3	4.8	6.0	-5.5	-20.1	BH03
AP43	993.8	3-pile solution	Pier	continuous	35.2	32.6	4.7	5.9	-7.0	-16.7	BH05
AP44	1030.8	Combined	Pier	continuous	33.9	31.3	4.9	6.1	-15.7	-23.5	BH07
AP45	1060.8	Combined	Pier	MJ+Bearing	32.8	30.2	4.9	6.1	-8.0	-12.0	BH08
AP46	1090.8	Combined	Pier	continuous	31.7	29.1	4.7	5.9	-12.6	-18.2	BH09
AP47	1120.8	Combined	Pier	continuous	30.6	28.1	4.7	5.9	-9.7	-16.7	BH10
AP48	1150.8	Combined	Pier	continuous	29.6	27.0	4.8	6.0	-14.1	-17.7	BH12
AP49	1180.8	Combined	Pier	continuous	28.5	25.9	4.9	6.1	-6.5	-14.5	BH13
AP50	1210.8	Combined	Pier	continuous	27.4	24.8	4.9	6.1	-6.5	-15.5	BH14
AP51	1240.8	Combined	Pier	continuous	26.3	23.8	4.9	6.1	-8.0	-15.6	BH15
AP52	1270.8	Combined	Pier	MJ+Bearing	25.3	22.7	4.8	6.0	-11.3	-23.6	BH17
AP53	1300.8	Combined	Pier	continuous	24.2	21.6	4.8	6.0	-8.1	-31.1	BH18
AP54	1330.8	Combined	Pier	continuous	23.1	20.5	4.8	6.0	-11.0	-16.1	BH19
AP55	1360.8	Combined	Pier	continuous	22.0	19.5	4.8	6.0	-20.0	-25.1	BH20
AP56	1390.8	Combined	Pier	continuous	21.0	18.4	4.8	6.0	-8.6	-12.6	BH22
AP57	1420.8	Combined	Pier	continuous	20.3	17.7	4.8	6.0	-7.1	-14.1	BH23
AP58	1450.8	Combined	Pier	continuous	20.2	17.6	4.8	6.0	-11.1	-18.2	BH24
AP59	1480.8	Combined	Pier	continuous	20.3	17.7	4.8	6.0	-14.0	-22.1	BH25
MP1	1500.8			MJ+Bearing							

Ramp B

PIER NUMBER	CHAINAGE	Type: Foundation	Type: Pier	Type: Connection	Level in m CD: RRL	Level in m CD: Top Pier Shaft	Level in m CD: Top of Pile Cap	Level in m CD: Ground Level	Level in m CD: Bot Liner	Level in m CD: Pile toe	Closest borehole(s) used for design
	m				m	m	m	m	m	m	
MP1	5.0			MJ+Bearing							
BP53	25.0	Combined	Pier	continuous	20.0	17.5	4.8	6.0	-14.0	-22.1	BH25
BP52	55.0	Combined	Pier	continuous	19.9	17.4	4.8	6.0	-11.1	-18.1	BH24
BP51	85.0	Combined	Pier	continuous	19.8	17.3	4.8	6.0	-7.1	-14.1	BH23
BP50	115.0	Combined	Pier	continuous	19.7	17.2	4.8	6.0	-8.6	-12.6	BH22
BP49	145.0	Combined	Pier	continuous	19.6	17.1	4.8	6.0	-20.1	-25.1	BH20
BP48	175.0	Combined	Pier	continuous	19.7	17.1	4.8	6.0	-11.1	-16.1	BH19
BP47	205.0	Combined	Pier	continuous	19.9	17.4	4.8	6.0	-8.1	-31.1	BH18
BP46	235.0	Combined	Pier	continuous	20.3	17.7	4.8	6.0	-11.3	-23.6	BH17
BP45	265.0	Combined	Pier	continuous	20.6	18.0	4.8	6.0	-8.1	-15.6	BH15
BP44	295.0	Combined	Pier	MJ+Bearing	20.9	18.3	4.8	6.0	-8.6	-15.6	BH14
BP43	325.0	Combined	Pier	continuous	21.2	18.6	4.8	6.0	-8.6	-14.6	BH13
BP42	355.0	Combined	Pier	continuous	21.5	18.9	4.8	6.0	-14.1	-17.6	BH12
BP41	385.0	Combined	Pier	continuous	21.8	19.2	4.8	6.0	-9.7	-16.6	BH10
BP40	415.0	Combined	Pier	continuous	22.1	19.5	4.8	6.0	-12.6	-18.1	BH09
BP39	445.0	Combined	Pier	continuous	22.4	19.9	4.8	6.0	-8.1	-12.1	BH08
BP38	475.0	Combined	Pier	continuous	22.8	20.2	4.8	6.0	-14.1	-20.6	BH05
BP37	505.0	3-pile solution	Pier	continuous	23.1	20.5	4.8	6.0	-5.2	-12.1	BH26
BP36	535.0	3-pile solution	Pier	MJ+Bearing	23.4	20.8	4.8	6.0	-9.1	-13.6	BH27
BP35	565.0	3-pile solution	Pier	continuous	23.7	21.1	4.8	6.0	-9.1	-13.6	BH27
BP34	595.0	3-pile solution	Pier	continuous	24.0	21.4	4.8	6.0	-9.1	-13.6	BH27
BP33	620.0	3-pile solution	Pier	continuous	24.3	21.7	4.8	6.0	-9.1	-13.6	BH27
BP32	650.0	3-pile solution	Pier	continuous	24.6	22.0	4.8	6.0	-9.1	-16.6	BH28
BP31	680.0	3-pile solution	Pier	continuous	24.9	22.3	4.8	6.0	-9.1	-16.6	BH28
BP30	715.0	3-pile solution	Pier	continuous	25.2	22.7	4.8	6.0	-11.9	-17.1	BH02
BP29	750.0	3-pile solution	Pier	continuous	25.6	23.0	4.8	6.0	-11.9	-17.1	BH02
BP28	780.0	3-pile solution	Pier	MJ+Bearing	25.9	23.3	4.8	6.0	-11.9	-17.1	BH02
BP27	813.0	3-pile solution	Pier	continuous	26.2	23.7	4.8	6.0	-0.1	-8.6	BH29
BP26	859.0	3-pile solution	Pier	continuous	26.0	23.4	4.8	6.0	-0.1	-8.6	BH29
BP25	893.0	3-pile solution	Pier	MJ+Bearing	25.1	22.5	4.8	6.0	-0.1	-8.6	BH29
BP24	915.0	3-pile solution	Pier	continuous	24.4	21.9	4.8	6.0	-0.1	-4.6	BH29
BP23	941.0	3-pile solution	Pier	continuous	23.7	21.1	4.8	6.0	-0.1	-4.6	BH29
BP22	967.0	3-pile solution	Pier	continuous	22.9	20.3	4.8	6.0	-0.1	-4.6	BH29
BP21	993.0	3-pile solution	Pier	continuous	22.1	19.5	4.8	6.0	2.4	-2.6	BH31
BP20	1019.0	3-pile solution	Pier	continuous	21.3	18.7	4.8	6.0	2.4	-2.6	BH31
BP19	1045.0	3-pile solution	Pier	continuous	20.5	17.9	4.8	6.0	2.4	-2.6	BH31
BP18	1071.0	3-pile solution	Pier	continuous	19.7	17.1	4.8	6.0	2.4	-2.6	BH31
BP17	1097.0	3-pile solution	Pier	continuous	19.0	16.4	4.8	6.0	2.4	-2.6	BH31
BP16	1123.0	3-pile solution	Pier	continuous	18.5	15.9	4.8	6.0	2.4	-2.6	BH31
BP15	1149.0	3-pile solution	Pier	continuous	18.2	15.7	4.8	6.0	2.4	-5.6	BH31
BP14	1175.0	3-pile solution	Pier	MJ+Bearing	18.2	15.6	4.8	6.0	-6.6	-17.6	BH32
BP13	1206.0	3-pile solution	Pier	continuous	18.1	15.5	4.8	6.0	-6.6	-10.1	BH32
BP12	1232.0	3-pile solution	Pier	continuous	18.0	15.4	4.8	6.0	-6.6	-10.1	BH32
BP11	1258.0	3-pile solution	Pier	continuous	17.9	15.4	4.8	6.0	-6.6	-10.1	BH32
BP10	1284.0	3-pile solution	Pier	continuous	17.9	15.3	4.8	6.0	-6.6	-10.1	BH32
BP9	1314.0	3-pile solution	Pier	continuous	17.9	15.3	4.8	6.0	-6.6	-10.1	BH32
BP8	1344.0	3-pile solution	Pier	continuous	17.9	15.3	4.8	6.0	-6.6	-10.1	BH32
BP7	1365.0	3-pile solution	Pier	continuous	17.9	15.3	4.8	6.0	-6.6	-10.1	BH32
BP6	1391.0	3-pile solution	Pier	continuous	17.9	15.3	4.8	6.0	-6.6	-10.1	BH32
BP5	1417.0	3-pile solution	Pier	continuous	17.9	15.3	4.8	6.0	-6.6	-10.1	BH32
BP4	1443.0	3-pile solution	Pier	continuous	17.9	15.3	4.8	6.0	-6.6	-10.1	BH32
BP3	1469.0	3-pile solution	Pier	continuous	17.9	15.3	4.8	6.0	-6.6	-17.6	BH32
BP2	1502.0	3-pile solution	Pier	continuous	17.9	15.3	4.8	6.0	-6.6	-17.6	BH32
BP1	1535.0	3-pile solution	Pier	End Pier	17.9	15.3	4.8	6.0	-6.6	-17.6	BH32



Schematic illustration

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Geotechnical: Geotechnical parameters based on the overall stratigraphy in the area.

Ground levels, and related foundation and pile levels, are according to the plan and profile drawings received in the Employer's Requirements from MMRDA, since using the ground levels of the boreholes will produce ground levels below both mean sea level (MSL) and highest high tide level (HHTL). This means that bore hole logs have been translated upwards to match the ground levels of said plan and profile drawings.

Abbreviations: R.R.L. Road reference line. MJ Movement joint

References:

MTHL-CO-C-P1-LV-NM-0012 Sewri, Location plan interchange
MTHL-CO-C-P1-LV-GA-0035 Ramps Sewri, Foundation Details
MTHL-CO-C-P1-LV-GA-0041 Ramp-A Sewri, General arrangement 1 of 2
MTHL-CO-C-P1-LV-GA-0042 Ramp-A Sewri, General arrangement 2 of 2
MTHL-CO-C-P1-LV-GA-0043 Ramp-B Sewri, General arrangement 1 of 2
MTHL-CO-C-P1-LV-GA-0044 Ramp-B Sewri, General arrangement 2 of 2
MTHL-CO-C-P1-LV-GA-0045 Ramp-C1 Sewri, General arrangement
MTHL-CO-C-P1-LV-GA-0046 Ramp-C2 Sewri, General arrangement
MTHL-CO-C-P1-LV-GA-0047 Ramp-E Sewri, General arrangement
MTHL-CO-C-P1-LV-GA-0048 Ramp-F Sewri, General arrangement

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: Sewri Interchange - Substructure Schedule (Sheet 1 of 2)

SCALE N/A

DRAWING No MTHL-CO-C-P1-LV-GA-0036

SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7131

1749

Ramp C1

PIER NUMBER	CHAINAGE	Type: Foundation	Type: Connection	Level in m CD: RRL	Top Pier Shaft	Top of Pile Cap	Ground Level	Pile toe	Closest borehole(s) used for design
	m			m	m	m	m	m	
C2P9	265.7	Combined	MJ+Bearing	Ref. C2P9					
C1P34	295.7	Combined	continuous	19.4	16.6	4.8	6.0	-26.6	BH16
C1P33	325.7	Combined	continuous	19.3	16.7	4.8	6.0	-15.6	BH14
C1P32	355.7	Combined	continuous	19.2	16.6	4.8	6.0	-14.6	BH13
C1P31	385.7	Combined	continuous	19.1	16.5	4.8	6.0	-17.6	BH12
C1P30	415.7	Combined	continuous	19.0	16.4	4.8	6.0	-19.6	BH11
C1P29	445.7	Combined	continuous	18.9	16.3	4.8	6.0	-16.6	BH10
C1P28	475.7	Combined	continuous	18.8	16.2	4.8	6.0	-20.6	BH05
C1P27	505.7	Combined	continuous	18.7	16.1	4.8	6.0	-20.6	BH05
C1P26	535.7	3-pile solution	MJ+Bearing	18.6	16.0	4.8	6.0	-12.1	BH26
C1P25	565.7	3-pile solution	continuous	18.5	15.9	4.8	6.0	-12.1	BH26
C1P24	595.7	3-pile solution	continuous	18.4	15.8	4.8	6.0	-13.6	BH27
C1P23	625.7	3-pile solution	continuous	18.3	15.7	4.8	6.0	-13.6	BH27
C1P22	655.7	3-pile solution	continuous	18.2	15.6	4.8	6.0	-15.1	BH03
C1P21	680.7	3-pile solution	continuous	18.1	15.5	4.8	6.0	-20.1	BH03
C1P20	715.7	3-pile solution	continuous	18.0	15.4	4.8	6.0	-20.1	BH03
C1P19	747.7	3-pile solution	continuous	17.9	15.3	4.8	6.0	-20.1	BH03
C1P18	777.7	3-pile solution	MJ+Bearing	17.8	15.2	4.8	6.0	-14.6	BH01
C1P17	800.7	3-pile solution	continuous	17.7	15.1	4.8	6.0	-10.1	BH01
C1P16	830.7	3-pile solution	continuous	17.7	15.1	4.8	6.0	-10.1	BH01
C1P15	856.7	3-pile solution	continuous	17.8	15.2	4.8	6.0	-10.1	BH01
C1P14	885.7	2-pile solution	MJ+Bearing	17.8	15.2	4.8	6.0	-10.0	BH01
C1P13	911.7	2-pile solution	continuous	17.8	15.2	4.8	6.0	-10.0	BH01
C1P12	937.7	2-pile solution	continuous	17.8	15.2	4.8	6.0	-10.0	BH01
C1P11	963.7	2-pile solution	continuous	17.8	15.2	4.8	6.0	-10.0	BH01
C1P10	989.7	2-pile solution	continuous	17.8	15.2	4.8	6.0	-10.0	BH01
C1P9	1015.7	2-pile solution	continuous	17.8	15.2	4.8	6.0	-10.0	BH01
C1P8	1041.7	2-pile solution	continuous	17.8	15.2	4.8	6.0	-10.0	BH01
C1P7	1067.7	2-pile solution	continuous	17.8	15.2	4.8	6.0	-10.0	BH01
C1P6	1093.7	2-pile solution	continuous	17.8	15.2	4.8	6.0	-10.0	BH01
C1P5	1119.7	2-pile solution	continuous	17.8	15.2	4.8	6.0	-10.0	BH01
C1P4	1145.7	3-pile solution	continuous	17.8	15.2	4.8	6.0	-10.1	BH01
C1P3	1171.7	3-pile solution	continuous	17.8	15.2	4.8	6.0	-10.1	BH01
C1P2	1193.7	3-pile solution	continuous	17.8	15.2	4.8	6.0	-10.1	BH01
C1P1	1205.7	3-pile solution	End Pier	17.8	15.2	4.8	6.0	-10.1	BH01

Ramp C2

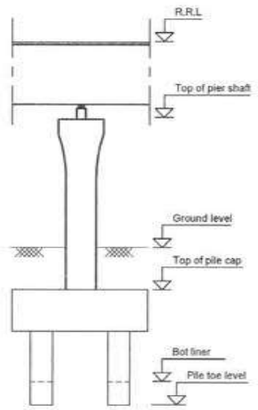
PIER NUMBER	CHAINAGE	Type: Foundation	Type: Connection	Level in m CD: RRL	Top Pier Shaft	Top of Pile Cap	Ground Level	Pile toe	Closest borehole(s) used for design
	m			m	m	m	m	m	
MP1	0+005.00		MJ+Bearing						
C2P16	0+025.000	Combined	continuous	20.3	17.7	4.8	6.0	-22.1	BH25
C2P15	0+055.000	Combined	continuous	20.2	17.6	4.8	6.0	-18.2	BH24
C2P14	0+085.000	Combined	continuous	20.1	17.5	4.8	6.0	-14.1	BH23
C2P13	0+115.000	Combined	continuous	20.0	17.4	4.8	6.0	-12.6	BH22
C2P12	0+145.000	Combined	continuous	19.9	17.3	4.8	6.0	-25.1	BH20
C2P11	0+175.000	Combined	continuous	19.8	17.2	4.8	6.0	-16.1	BH19
C2P10	0+205.000	Combined	continuous	19.7	17.1	4.8	6.0	-31.1	BH18
C2P9	0+235.000	Combined	MJ+Bearing	19.6	17.0	4.8	6.0	-23.6	BH17
C2P8	0+265.000	Combined	continuous	19.3	16.8	4.9	6.1	-26.6	BH16
C2P7	0+295.000	Combined	continuous	18.7	16.1	4.9	6.1	-15.5	BH14
C2P6	0+325.000	Combined	continuous	17.7	15.1	4.9	6.1	-14.5	BH13
C2P5	0+355.000	Combined	continuous	16.7	14.1	4.8	6.0	-17.6	BH12
C2P4	0+385.000	Combined	continuous	15.7	13.1	4.7	5.9	-19.7	BH11
C2P3	0+415.000	Combined	continuous	14.7	12.1	4.7	5.9	-16.7	BH10
C2P2	0+445.000	Combined	continuous	13.7	11.2	4.9	6.1	-20.5	BH05
C2P1	0+475.000	Combined	continuous	12.7	10.2	4.9	6.1	-20.5	BH05
C2A1	0+505.000	Abutment	MJ+Bearing	11.8	9.0	4.7	5.9	-12.1	BH26

Ramp E

PIER NUMBER	CHAINAGE	Type: Foundation	Type: Connection	Level in m CD: RRL	Top Pier Shaft	Top of Pile Cap	Ground Level	Pile toe	Closest borehole(s) used for design
	m			m	m	m	m	m	
EP1	-140.2	3-pile solution	Bridge end	18.3	15.7	5.4	6.6	-9.5	BH32
EP2	-120.2	3-pile solution	continuous	18.3	15.7	5.4	6.6	-9.5	BH32
EP3	-94.2	3-pile solution	continuous	18.3	15.7	5.4	6.6	-9.5	BH32
EP4	-68.2	3-pile solution	continuous	18.3	15.7	5.4	6.6	-17.0	BH32
EP5	-36.2	3-pile solution	continuous	18.3	15.7	5.4	6.6	-17.0	BH32
EP6	-10.2	3-pile solution	continuous	18.3	15.7	5.4	6.6	-6.5	BH33
EP7	15.9	3-pile solution	continuous	18.3	15.7	5.4	6.6	-6.5	BH33
EP8	41.9	3-pile solution	MJ+Bearing	18.2	15.7	5.4	6.6	-6.5	BH33
EP9	67.9	3-pile solution	continuous	18.2	15.6	5.4	6.6	-17.0	BH33
EP10	103.4	3-pile solution	continuous	18.1	15.6	5.4	6.6	-15.5	BH30
EP11	138.9	3-pile solution	continuous	18.2	15.6	5.4	6.6	-15.5	BH30
EP12	168.9	3-pile solution	continuous	18.3	15.7	5.4	6.6	-3.0	BH30
EP13	198.9	3-pile solution	continuous	18.4	15.8	5.4	6.6	-15.5	BH30
EP14	233.4	3-pile solution	continuous	18.5	15.9	5.3	6.5	-16.1	BH06
EP15	267.9	3-pile solution	continuous	18.6	16.0	5.0	6.2	-16.4	BH06
EP16	297.9	combined	MJ+Bearing	18.7	16.1	4.8	6.0	-23.6	BH07
EP17	327.9	combined	continuous	18.8	16.2	4.7	5.9	-12.2	BH08
EP18	357.9	combined	continuous	18.9	16.3	4.9	6.1	-18.1	BH09
EP19	387.9	combined	continuous	19.0	16.4	5.0	6.2	-16.5	BH10
EP20	417.9	combined	continuous	19.1	16.5	4.8	6.0	-17.6	BH12
EP21	447.9	combined	continuous	19.2	16.6	4.7	5.9	-14.7	BH13
EP22	477.9	combined	continuous	19.3	16.7	4.7	5.9	-15.7	BH14
EP23	507.9	combined	MJ+bearing	19.4	16.8	4.8	6.0	-15.6	BH15
EP24	537.9	combined	continuous	19.5	16.9	4.9	6.1	-23.5	BH17
EP25	567.9	combined	continuous	19.6	17.0	4.9	6.1	-31.0	BH18
EP26	597.9	combined	continuous	19.7	17.1	4.8	6.0	-16.1	BH19
EP27	627.9	combined	continuous	19.8	17.2	5.8	7.0	-24.1	BH20
EP28	657.9	combined	continuous	19.9	17.3	4.8	6.0	-12.6	BH22
EP29	687.9	combined	continuous	20.0	17.4	4.8	6.0	-14.1	BH23
EP30	717.9	combined	continuous	20.0	17.4	4.8	6.0	-18.1	BH24
EP31	747.9	combined	continuous	20.0	17.4	4.8	6.0	-22.1	BH25
MP1	767.9		MJ+Bearing						

Ramp F

PIER NUMBER	CHAINAGE	Type: Foundation	Type: Connection	Level in m CD: RRL	Top Pier Shaft	Top of Pile Cap	Ground Level	Pile toe	Closest borehole(s) used for design
	m			m	m	m	m	m	
FA1	250.4	Abutment	MJ+Bearing	11.5	8.9	4.7	5.9	-16.6	BH10
FP1	280.4	combined	continuous	12.3	9.7	4.7	5.9	-17.7	BH12
FP2	310.4	combined	continuous	13.1	10.5	4.9	6.1	-14.6	BH13
FP3	340.4	combined	continuous	13.8	11.3	4.9	6.1	-15.5	BH14
FP4	370.4	combined	continuous	14.6	12.0	4.9	6.1	-15.5	BH15
FP5	400.4	combined	MJ+Bearing	15.4	12.8	4.8	6.0	-23.6	BH17
FP6	430.4	combined	continuous	16.2	13.6	4.8	6.0	-31.1	BH18
FP7	460.4	combined	continuous	17.0	14.4	4.8	6.0	-16.1	BH19
FP8	490.4	combined	continuous	17.7	15.2	4.8	6.0	-25.1	BH20
FP9	520.4	combined	continuous	18.5	15.9	4.8	6.0	-12.6	BH22
FP10	550.4	combined	continuous	19.2	16.6	4.8	6.0	-14.1	BH23
FP11	580.4	combined	continuous	19.7	17.1	4.8	6.0	-18.2	BH24
FP12	610.4	combined	continuous	19.8	17.2	4.8	6.0	-22.1	BH25
MP1	630.4		MJ+Bearing						



Schematic illustration

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Geotechnical: Geotechnical parameters based on the overall stratigraphy in the area.

Ground levels, and related foundation and pile levels, are according to the plan and profile drawings received in the Employer's Requirements from MMRDA, since using the ground levels of the boreholes will produce ground levels below both mean sea level (MSL) and highest high tide level (HHTL). This means that bore hole logs have been translated upwards to match the ground levels of said plan and profile drawings.

Abbreviations: R.R.L. Road reference line. MJ Movement joint

References:

MTHL-CO-C-P1-LV-NM-0012 Sewri, Location plan interchange
MTHL-CO-C-P1-LV-GA-0035 Ramps Sewri, Foundation Details
MTHL-CO-C-P1-LV-GA-0041 Ramp-A Sewri, General arrangement 1 of 2
MTHL-CO-C-P1-LV-GA-0042 Ramp-A Sewri, General arrangement 2 of 2
MTHL-CO-C-P1-LV-GA-0043 Ramp-B Sewri, General arrangement 1 of 2
MTHL-CO-C-P1-LV-GA-0044 Ramp-B Sewri, General arrangement 2 of 2
MTHL-CO-C-P1-LV-GA-0045 Ramp-C1 Sewri, General arrangement
MTHL-CO-C-P1-LV-GA-0046 Ramp-C2 Sewri, General arrangement
MTHL-CO-C-P1-LV-GA-0047 Ramp-E Sewri, General arrangement
MTHL-CO-C-P1-LV-GA-0048 Ramp-F Sewri, General arrangement

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: Sewri Interchange - Substructure Schedule (Sheet 2 of 2)

SCALE N/A

DRAWING No M T H L – CO – C – P 1 – L V – G A – 0 0 3 7

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

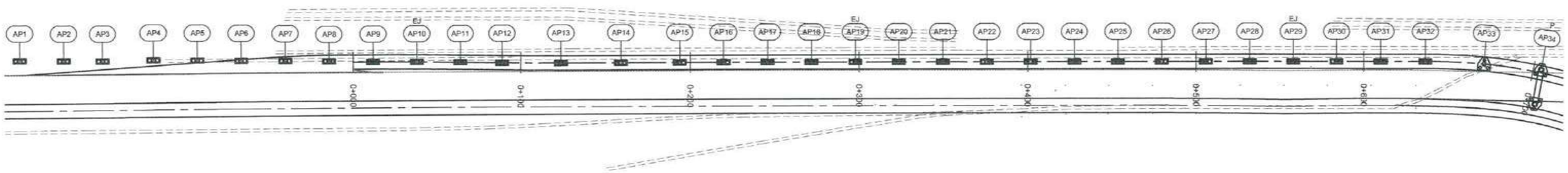
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

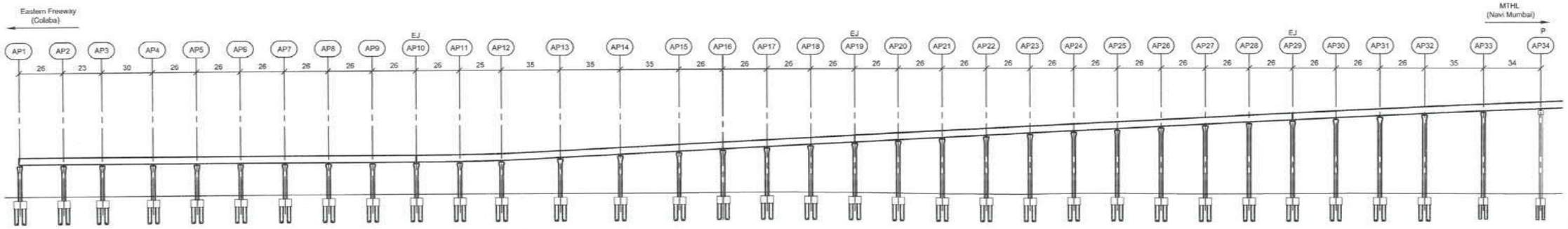
PROJECTION

7133

1750



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	-0+197.20	-0+171.20	-0+146.20	-0+119.20	-0+092.20	-0+069.20	-0+040.20	-0+014.20	0+000.00	0+011.80	0+037.80	0+063.80	0+088.80	0+123.80	0+158.80	0+183.80	0+219.80	0+245.80	0+271.80	0+297.80	0+323.80	0+349.80	0+375.80	0+401.80	0+427.80	0+453.80	0+479.80	0+505.80	0+531.78	0+557.80	0+583.80	0+609.80	0+635.80	0+670.80	0+704.80
Road level (Road reference line, RRL)									18.223	18.226	18.234	18.265	18.566	19.343	20.205	21.067	21.707	22.348	22.988	23.628	24.269	24.909	25.549	26.190	26.830	27.470	28.111	28.751	29.391	30.032	30.672	31.312	31.941	32.704	33.345
Existing ground level									6.590	6.590	6.590	6.590	6.590	6.590	6.590	6.590	6.713	6.786	6.705	6.589	6.301	6.078	5.946	5.909	6.091	6.160	5.988	5.901	5.919	5.971	6.075	6.097	6.068	6.008	5.980
Vertical alignment (Road reference line, RRL)	Data not available in tender drawing								L = 49.246 G = 0.036%		L = 50.000 R = 2465.373 m												L = 510.231 G = 2.463%											L = 100.000 R = 11842.353 m	
Horizontal alignment									L = 14.08 m		R = 3000 m L = 55.49 m		L = 4.73 m	R = -3000 m L = 60.84 m									L = 505.34 m											R = 304 m L = 223.59 m	

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

EJ Expansion Joint

P Portal location

References:

MTHL-CO-C-P1-CN-ST-0005 General notes

MTHL-CO-C-P1-LV-GA-0042 General Arrangement and Dimesion Ramps Sewri - 2 of 8, Ramp A (2/2)

MTHL-CO-C-P1-LV-GA-0049 Typical Details of Ramps Sewri

MTHL-CO-C-P1-LV-NM-0012 Location Plan Interchange on Land - Sewri

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: GENERAL ARRANGEMENT & DIMENSIONS RAMPS SEWRI 1 of 8, RAMP A (1/2)

SCALE AS SHOWN

DRAWING No M T H L – CO – C – P 1 – L V – G A – 0 0 4 1

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

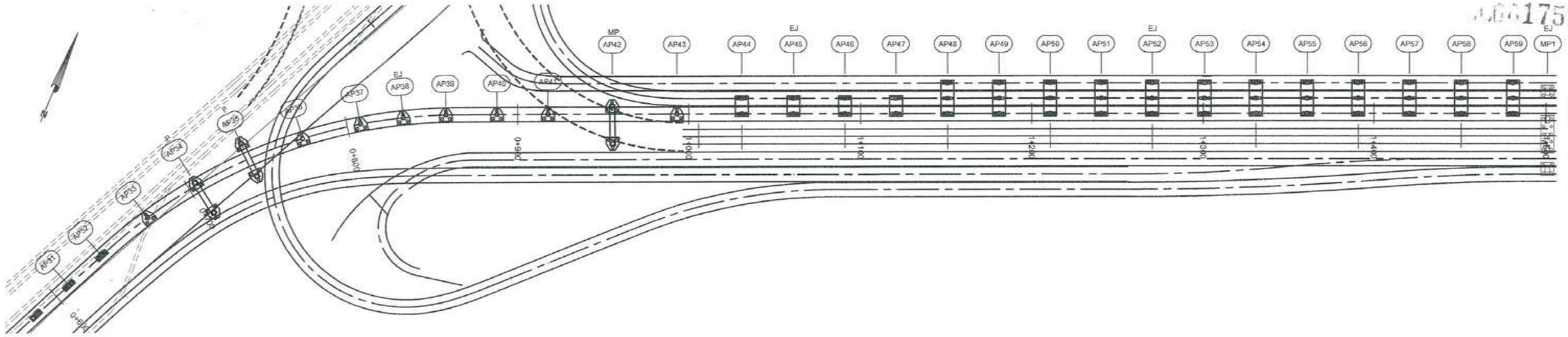
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JULY 2017

SHEET 1 OF 1 REV. A

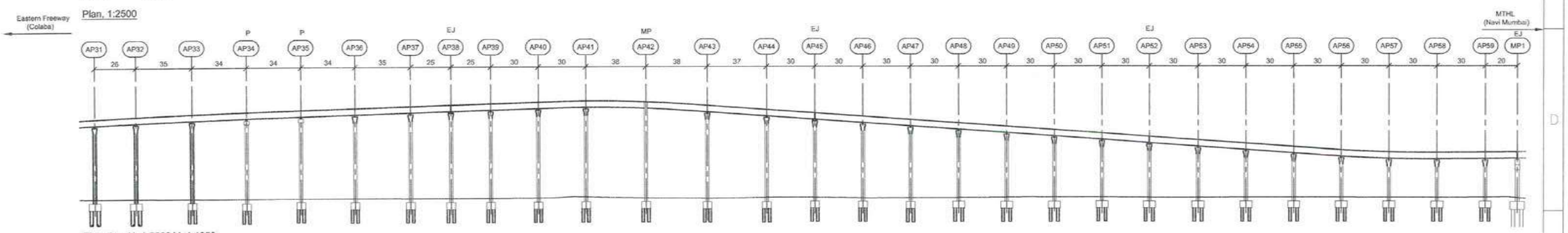
PROJECTION

7135

1751



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	0+609.80	0+635.80	0+670.80	0+704.80	0+738.80	0+772.80	0+797.80	0+832.80	0+857.80	0+887.80	0+917.80	0+955.80	0+993.80	1+030.80	1+060.80	1+090.80	1+120.80	1+150.80	1+180.80	1+210.80	1+240.80	1+270.80	1+300.80	1+330.80	1+360.80	1+390.80	1+420.80	1+450.80	1+480.80	1+500.80
Road level (Road reference line, RRL)	31.312	31.941	32.704	33.345	34.000	34.454	35.021	35.425	35.830	36.316	35.687	36.372	35.188	33.863	32.788	31.715	30.640	29.566	28.492	27.418	26.343	25.269	24.195	23.120	22.046	20.995	20.328	20.165	20.266	20.335
Existing ground level	6.097	6.068	6.008	5.980	6.022	6.021	5.990	5.953	5.967	6.048	6.363	6.037	5.866	6.110	6.113	5.918	5.913	5.952	6.063	6.096	6.061	6.009	5.976	6.014	6.027	6.012	5.971	5.958	6.027	5.804
Vertical alignment (Road reference line, RRL)	L = 510.231 G =2.463%	L = 100.000 R = 11842.353 m	L = 179.657 G =1.618%	L = 80.000 R = 1538.854 m	L = 402.466 G =-3.581%	L = 70.000 R = 1784.891 m	L = 54.200 G =0.341%																							
Horizontal alignment	L = 505.34 m	R = 304 m L = 223.59 m	L = 641.72 m																											

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

EJ	Expansion Joint
P	Portal location
MP	Portal location Monolithic connection

References:

MTHL-CO-C-P1-CN-ST-0005	General notes
MTHL-CO-C-P1-LV-GA-0041	General Arrangement and Dimesion Ramps Sewri - 1 of 8, Ramp A (1/2)
MTHL-CO-C-P1-LV-GA-0049	Typical Details of Ramps Sewri
MTHL-CO-C-P1-LV-NM-0012	Location Plan Interchange on Land - Sewri

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: GENERAL ARRANGEMENT & DIMENSIONS RAMPS SEWRI 2 of 8, RAMP A (2/2)

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – L V – G A – 0 0 4 2

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

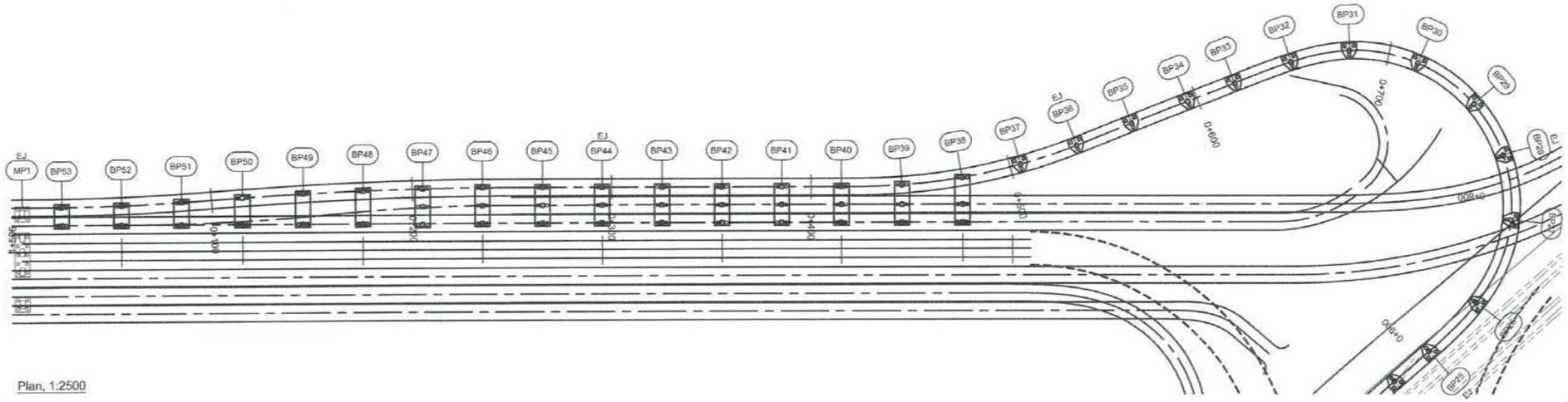
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JULY 2017

SHEET 1 OF 1 REV. A

PROJECTION

7137

1752

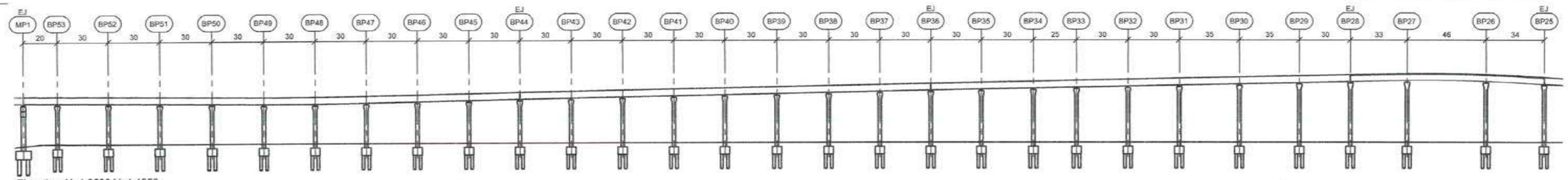


Plan, 1:2500

MTHL
(Navi Mumbai)

Eastern Freeway
(Colaba)

Steel composite girder



Elevation, H=1:2500 V=1:1250

Chainage	0+000.00	0+005.01	0+025.01	0+055.01	0+085.01	0+115.01	0+145.01	0+175.01	0+205.01	0+235.01	0+265.01	0+295.01	0+325.01	0+355.01	0+385.01	0+415.01	0+445.01	0+475.01	0+505.01	0+535.01	0+565.01	0+595.01	0+620.01	0+650.01	0+680.01	0+715.01	0+750.01	0+780.01	0+813.01	0+858.01	0+893.01
Road level (Road reference line, RRL)	20.127	20.110	20.042	19.940	19.838	19.736	19.635	19.876	19.945	20.257	20.568	20.880	21.192	21.503	21.815	22.127	22.438	22.750	23.061	23.373	23.685	23.996	24.256	24.568	24.879	25.243	25.607	25.918	26.241	25.975	26.106
Existing ground level	5.326	5.594	6.043	5.962	5.962	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971
Vertical alignment (Road reference line, RRL)	L = 142.659 G = -0.340%						L = 50.000 R = 3626.835 m						L = 611.531 G = 1.030%																	L = 80.000 R = 1966.267 m	
Horizontal alignment	L = 17.80 m		R = -1000 m L = 77.48 m			R = 2000 m L = 154.96 m				L = 173.21 m						R = -301 m L = 114.02 m				L = 89.17 m		A = 65 L = 54.17 m			R = 78 m L = 183.94 m					A = 65 L = 54.17 m	

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted.
Levels are in metres (Chart Datum).

Legend:

EJ Expansion Joint

References:

MTHL-CO-C-P1-CN-ST-0005 General notes
MTHL-CO-C-P1-LV-GA-0044 General Arrangement and Dimesion Ramps Sewri - 4 of 8, Ramp B (2/2)
MTHL-CO-C-P1-LV-GA-0049 Typical Details of Ramps Sewri
MTHL-CO-C-P1-LV-NM-0012 Location Plan Interchange on Land - Sewri

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: GENERAL ARRANGEMENT & DIMENSIONS RAMPS SEWRI 3 of 8, RAMP B (1/2)

SCALE AS SHOWN

DRAWING No M T H L – CO – C – P 1 – L V – G A – 0 0 4 3

SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

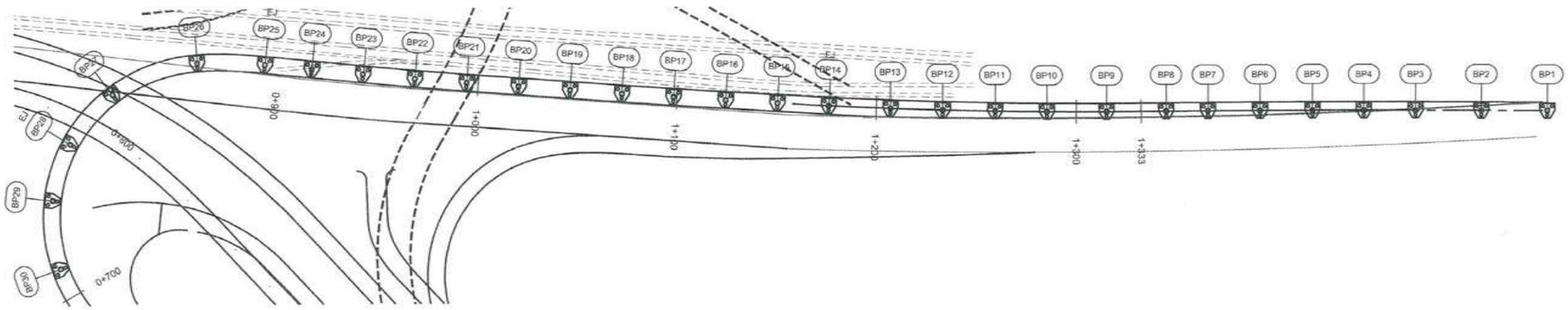
CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

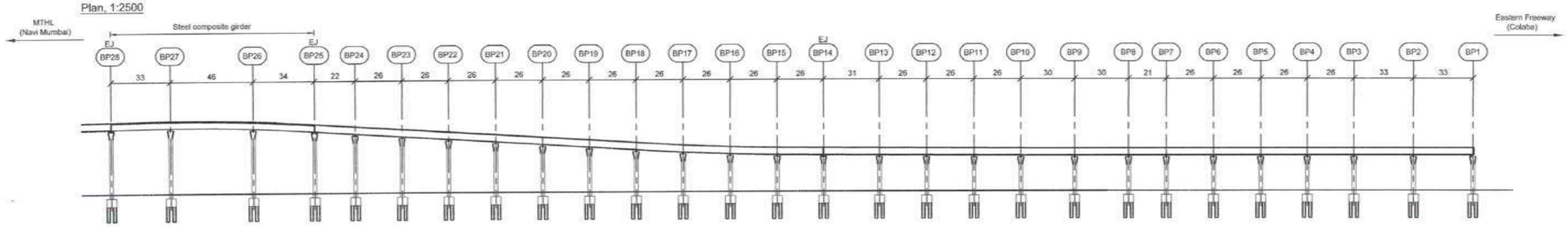
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7139

001753



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	0+786.01	0+813.01	0+859.01	0+893.01	0+915.01	0+941.01	0+967.01	0+993.01	1+019.01	1+045.01	1+071.01	1+097.01	1+123.01	1+149.01	1+175.01	1+206.01	1+232.01	1+258.01	1+284.01	1+314.01	1+344.01	1+365.01	1+381.01	1+417.01	1+443.01	1+469.01	1+502.01	1+535.01
Road level (Road reference line, RRL)	25.918	26.241	25.975	25.106	24.440	23.652	22.884	22.076	21.289	20.501	19.713	18.906	18.503	18.242	18.162	18.082	18.016	17.949	17.883	17.851								
Existing ground level	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971	5.971								
Vertical alignment (Road reference line, RRL)	L = 611.531 G = 1.039%	L = 80.000 R = 1966.287 m	L = 192.531 G = -3.030%										L = 81.232 R = 2928.500 m		L = 138.366 G = -0.256%													
Horizontal alignment	R = 78 m L = 163.94 m		A = 65 L = 54.17 m	L = 27.32 m	R = -2500 m L = 77.43 m		L = 61.10 m		R = -5000 m L = 76.99 m		L = 16.27 m	R = -2500 m L = 174.55 m				Data not available in tender drawing												

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

EJ Expansion Joint

P Portal location

References:

MTHL-CO-C-P1-CN-ST-0005 General notes

MTHL-CO-C-P1-LV-GA-0043 General Arrangement and Dimesion Ramps Sewri - 3 of 8, Ramp B (1/2)

MTHL-CO-C-P1-LV-GA-0049 Typical Details of Ramps Sewri

MTHL-CO-C-P1-LV-NM-0012 Location Plan Interchange on Land - Sewri

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JULY 2017

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: GENERAL ARRANGEMENT & DIMENSIONS RAMPS SEWRI 4 of 8, RAMP B (2/2)

SCALE AS SHOWN

DRAWING No MTHL-CO-C-P1-LV-GA-0044

SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

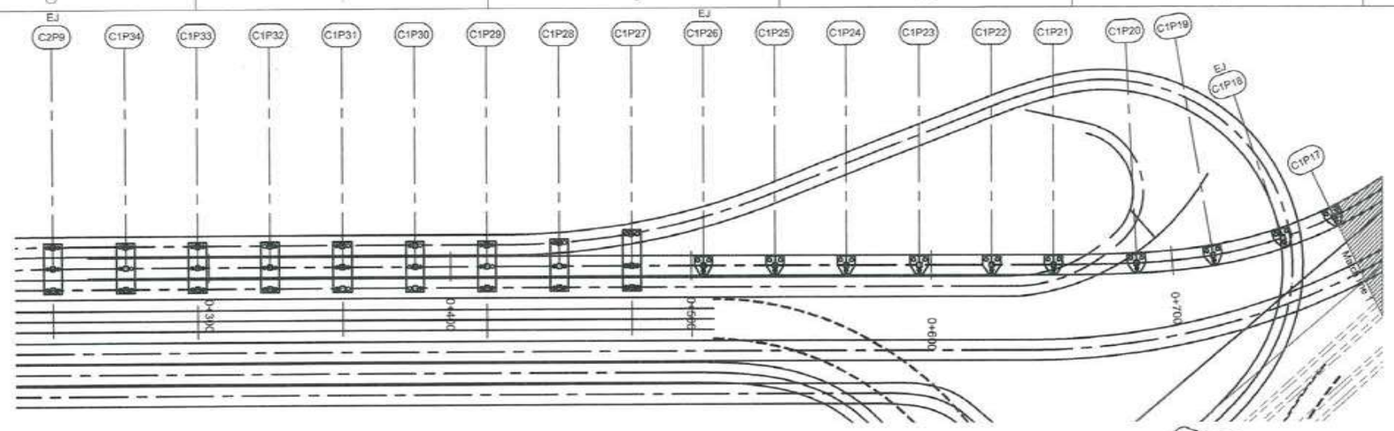
PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

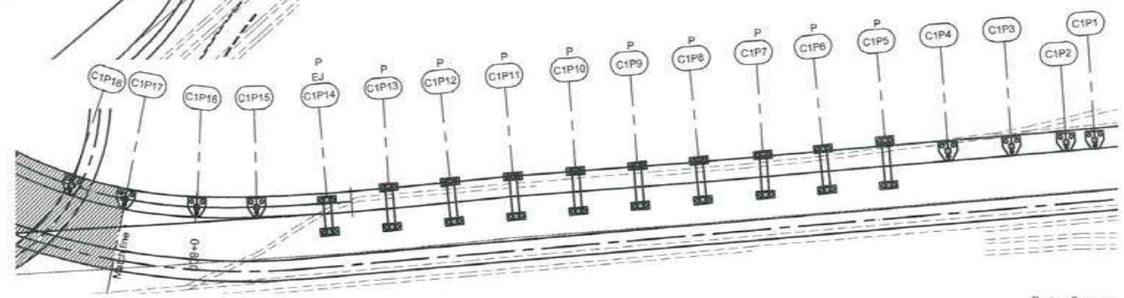
7140

7141

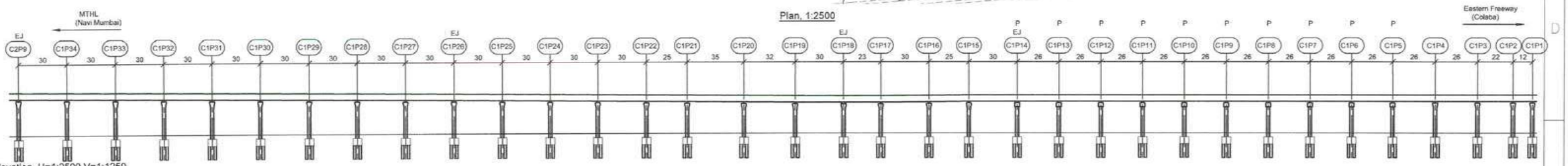
661754



Plan, 1:2500



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	Road level (Road reference line, RRL)	Existing ground level	Vertical alignment (Road reference line, RRL)	Horizontal alignment
0+295.68	19.447	6.022		
0+295.68	19.395	6.022		
0+325.68	19.293	6.022		
0+355.68	19.191	6.022		
0+385.68	19.088	6.022		
0+415.68	18.986	6.022		
0+445.68	18.885	6.022		
0+475.68	18.783	6.022		
0+505.68	18.681	6.022	L = 491.986 G = -0.340%	L = 398.19 m
0+535.68	18.578	6.022		
0+565.68	18.476	6.022		
0+595.68	18.375	6.022		
0+625.68	18.273	6.022		
0+655.68	18.171	6.022		
0+680.68	18.069	6.022		
0+715.68	17.964	6.022		
0+747.68	17.865	6.022	L = 100.000 Rq = 11444 m	A = 120 L = 80.00 m
0+777.68	17.757	6.022		
0+800.68	17.709	6.022		R = -180 m L = 48.25 m
0+830.68	17.725	6.022		
0+856.68	17.810	6.022	L = 17.680 G = 0.534%	A = 120 L = 80.00 m
0+886.68				L = 8.67 m
0+911.68				
0+937.68				
0+963.68				
0+989.68				
1+015.68				
1+041.68				
1+067.68				
1+093.68				
1+119.68				
1+145.68				
1+171.68				
1+193.68				
1+205.68				

L&T-IHI CONSORTIUM CHENNAI (INDIA)

Data not available in tender drawing

L&T-IHI CONSORTIUM CHENNAI (INDIA)

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

EJ Expansion Joint

P Portal location

References:

MTHL-CO-C-P1-CN-ST-0005 General notes

MTHL-CO-C-P1-LV-NM-0012 Location Plan Interchange on Land - Sewri

MTHL-CO-C-P1-LV-GA-0049 Typical Details of Ramps Sewri

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JULY 2017

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: GENERAL ARRANGEMENT & DIMENSIONS RAMPS SEWRI
5 of 8, RAMP C1

SCALE AS SHOWN

DRAWING No M T H L – CO – C – P 1 – L V – G A – 0 0 4 5

SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

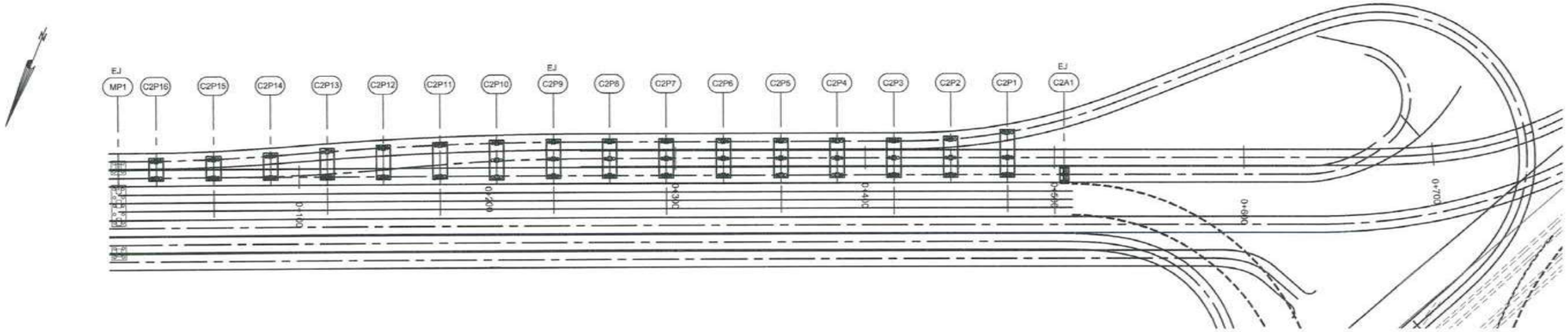
CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

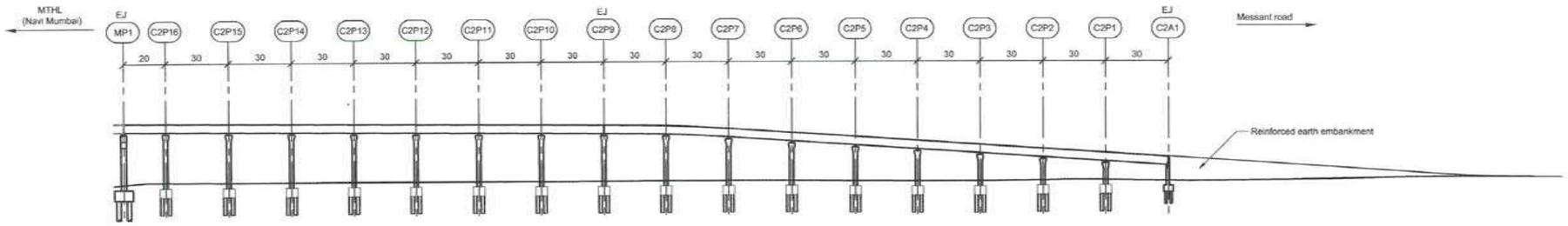
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7143

001755



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	0+000.00 0+005.00	0+025.000	0+055.000	0+085.000	0+115.000	0+145.000	0+175.000	0+205.000	0+235.000	0+265.000	0+295.000	0+325.000	0+355.000	0+385.000	0+415.000	0+445.000	0+475.000	0+505.000
Road level (Road reference line, RRL)	20.352 20.335	20.267	20.165	20.063	19.961	19.859	19.757	19.655	19.553	19.377	18.684	17.694	16.704	15.714	14.724	13.734	12.744	11.754
Existing ground level	5.336 5.571	6.042	5.961	5.964	6.009	6.025	6.020	5.981	6.999	6.054	6.069	6.083	5.983	5.915	5.861	6.080	6.140	5.935
Vertical alignment (Road reference line, RRL)			L = 499.999 G = -0.33%							L = 45.000 R = 1000.352 m							L = 240.695 G = -5.00%	
Horizontal alignment												L = 503.20 m						

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

EJ Expansion Joint

References:

MTHL-CO-C-P1-CN-ST-0005 General notes
MTHL-CO-C-P1-LV-NM-0012 Location Plan Interchange on Land - Sewri
MTHL-CO-C-P1-LV-GA-0031 Longitudinal profile and section embankments Sewri
MTHL-CO-C-P1-LV-GA-0049 Typical Detail for Ramps Sewri

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: GENERAL ARRANGEMENT & DIMENSIONS RAMPS SEWRI
6 of 8, RAMP C2

SCALE AS SHOWN

DRAWING No M T H L – CO – C – P 1 – L V – G A – 0 0 4 6

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

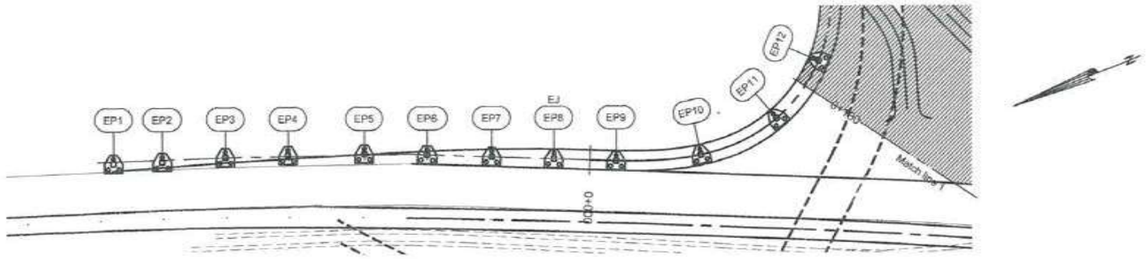
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JULY 2017

SHEET 1 OF 1 REV. A

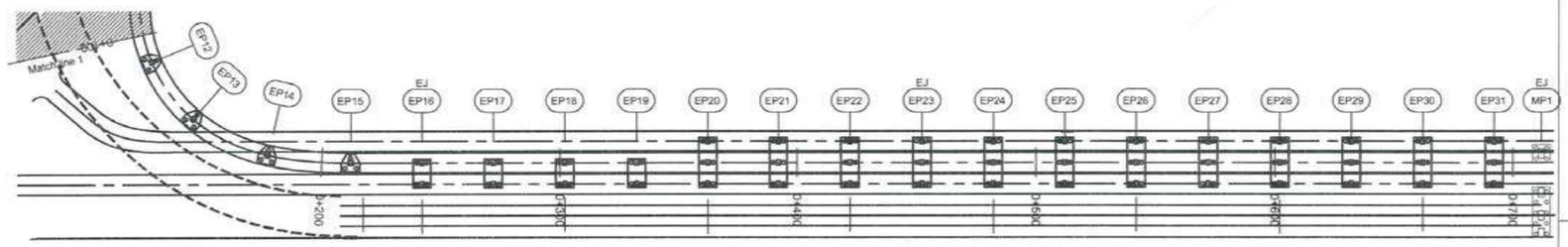
PROJECTION

7145

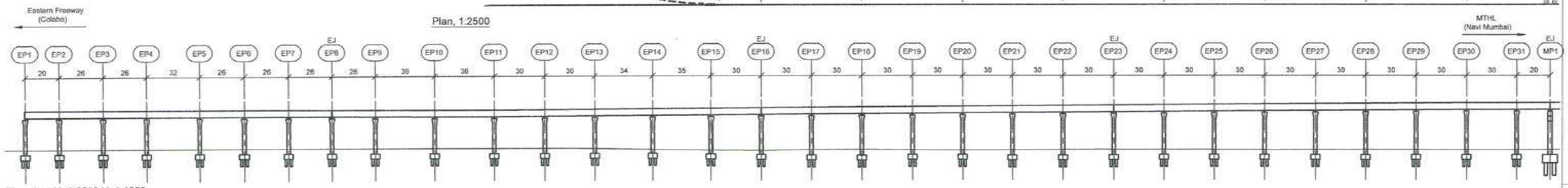
1756



Plan, 1:2500



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	-0+140.146	-0+120.146	-0+094.146	-0+065.146	-0+035.146	-0+010.146	0+015.854	0+041.854	0+067.854	0+103.354	0+138.854	0+168.854	0+198.854	0+233.354	0+267.854	0+297.854	0+327.854	0+357.854	0+387.854	0+417.854	0+447.854	0+477.854	0+507.854	0+537.854	0+567.854	0+597.854	0+627.854	0+657.854	0+687.854	0+717.854	0+747.854	0+767.854
Road level (Road reference line, RRL)	Data not available						18.276	18.238	18.199	18.146	18.163	18.262	18.384	18.482	18.589	18.701	18.803	18.905	19.007	19.109	19.211	19.313	19.415	19.517	19.619	19.721	19.823	19.925	20.027	Data not available		
Existing ground level							6.614	6.614	6.614	6.614	6.614	6.614	6.614	6.531	6.167	6.094	5.989	6.057	6.150	5.988	5.909	5.937	6.033	6.129	6.073	6.025	6.974	6.003	6.030			
Vertical alignment (Road reference line, RRL)							L = 105.235 G = -0.149%				L = 40.000 Rq = 8186 m	L = 571.942 G = 0.340%																				
Horizontal alignment						L = 0.89 m	A = 66 L = 65.00 m		R = -65 m L = 90.12 m			A = 65 L = 65.00 m	L = 496.09 m																			

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

EJ Expansion Joint

References:

MTHL-CO-C-P1-CN-ST-0005 General notes
MTHL-CO-C-P1-LV-NM-0012 Location Plan Interchange on Land - Sewri
MTHL-CO-C-P1-LV-GA-0049 Typical Detail for Ramps Sewri

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JULY 2017

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: GENERAL ARRANGEMENT & DIMENSIONS RAMPS SEWRI
7 of 8, RAMP E

SCALE AS SHOWN

DRAWING No MTHL-CO-C-P1-LV-GA-0047

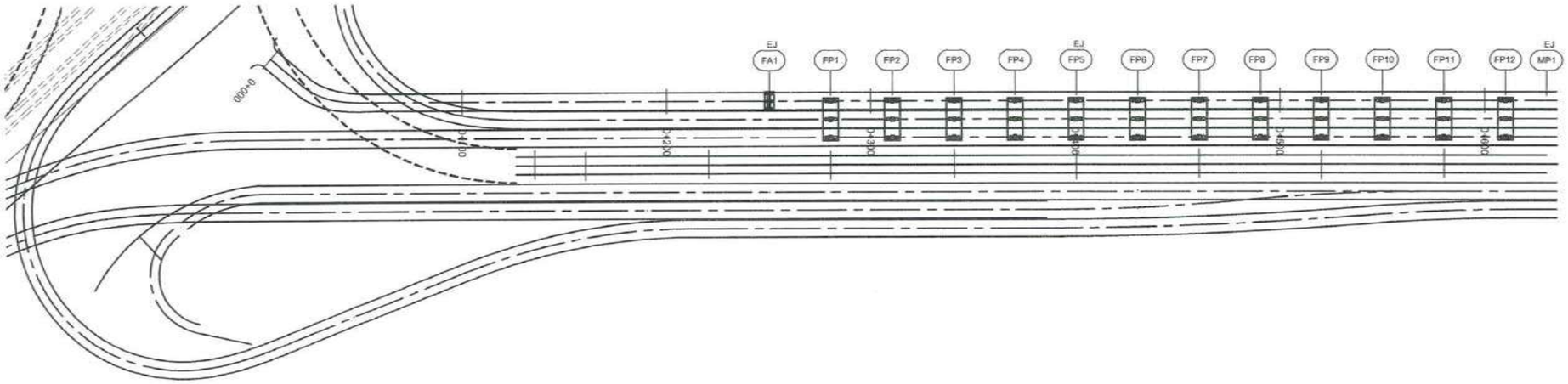
SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

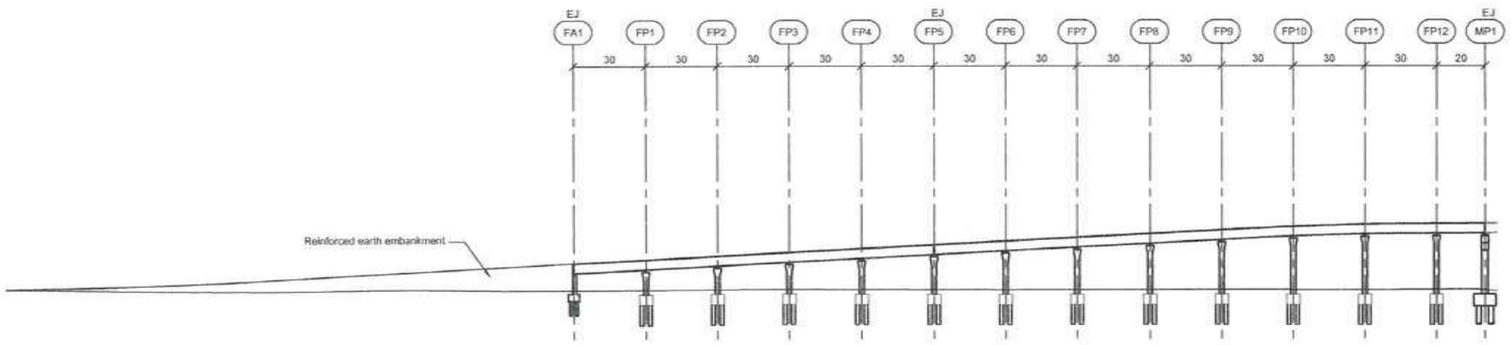
PROJECTION

7147

A001757



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	0+259.40	0+289.40	0+319.40	0+349.40	0+379.40	0+409.40	0+439.40	0+469.40	0+499.40	0+529.40	0+559.40	0+589.40	0+619.40	0+649.40
Road level (Road reference line, RRL)	11.512	12.289	13.067	13.844	14.621	15.398	16.176	16.953	17.730	18.508	19.218	19.654	19.817	19.885
Existing ground level	5.912	5.948	6.052	6.100	6.085	6.014	5.973	6.010	6.029	6.014	5.978	5.987	6.019	5.930
Vertical alignment (Road reference line, RRL)	L = 405.236 G =2.591%										L = 70.000 Rq = 3112 m		L = 35.343 G =0.341%	
Horizontal alignment	L = 578.43 m													

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

EJ Expansion Joint

References:

MTHL-CO-C-P1-CN-ST-0005 General notes
MTHL-CO-C-P1-LV-NM-0012 Location plan interchange on land - Sewri
MTHL-CO-C-P1-LV-GA-0031 Longitudinal profile and section embankment Sewri
MTHL-CO-C-P1-LV-GA-0049 Typical details of ramps Sewri

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: GENERAL ARRANGEMENT & DIMENSIONS RAMPS SEWRI 8 of 8, RAMP F

SCALE AS SHOWN

DRAWING No M T H L – CO – C – P 1 – L V – G A – 0 0 4 8

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JULY 2017

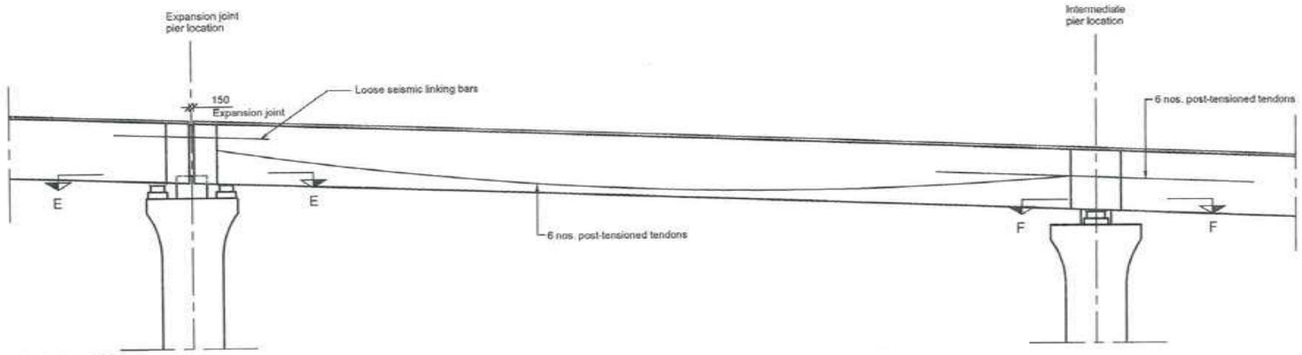
SHEET 1 OF 1 REV. A

PROJECTION

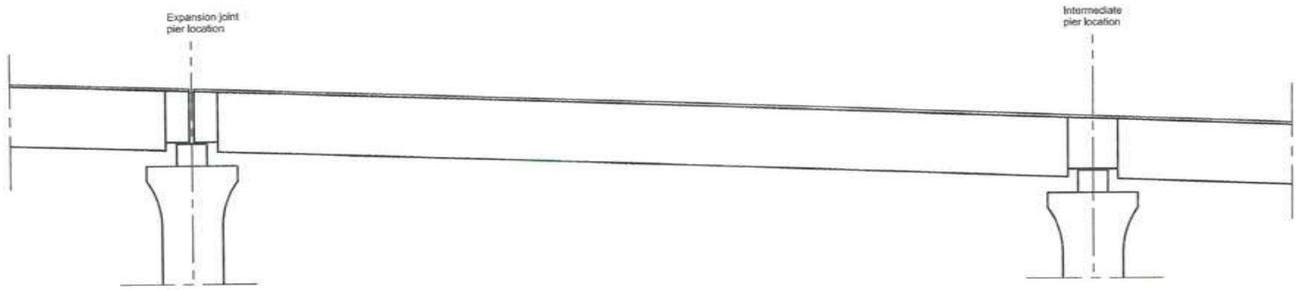
7148

7149

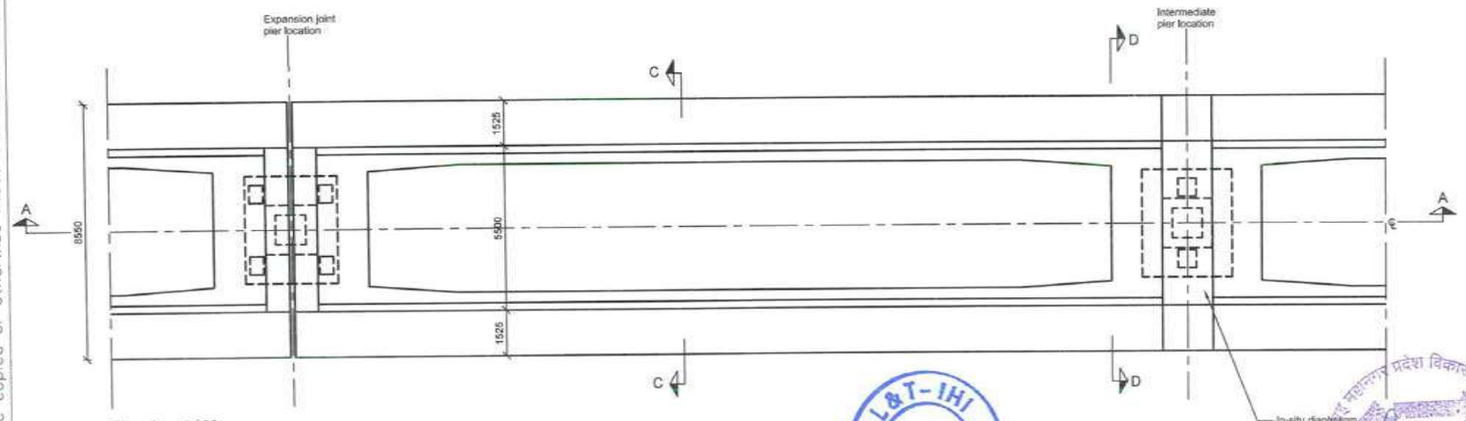
661758



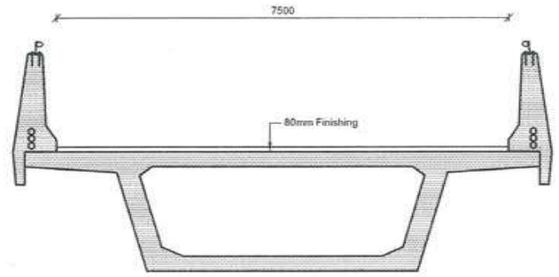
Elevation, 1:200



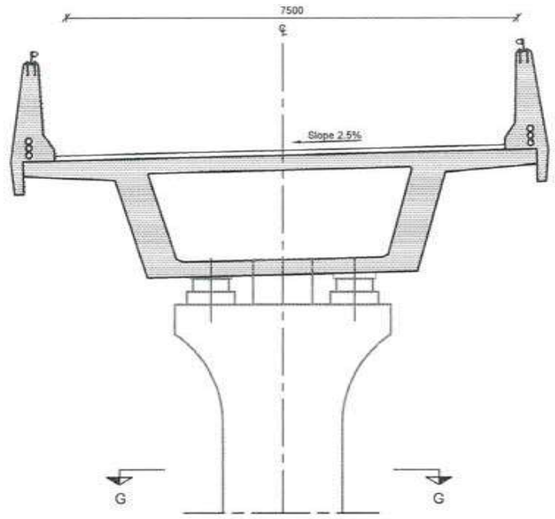
Section A-A, 1:200



Plan view, 1:200

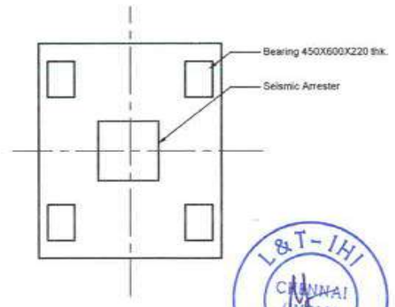


Section C-C, 1:100
(Girder cross slope omitted for illustrative purpose)

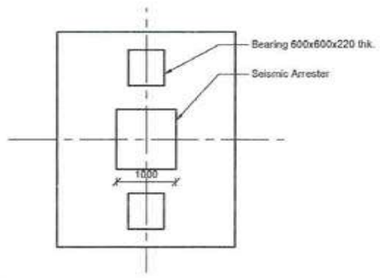


Section D-D, 1:100

Section G-G, 1:100



Section E-E, 1:100



Section F-F, 1:100

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: TYPICAL DETAILS FOR RAMPS SEWRI

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – L V – G A – 0 0 4 9

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

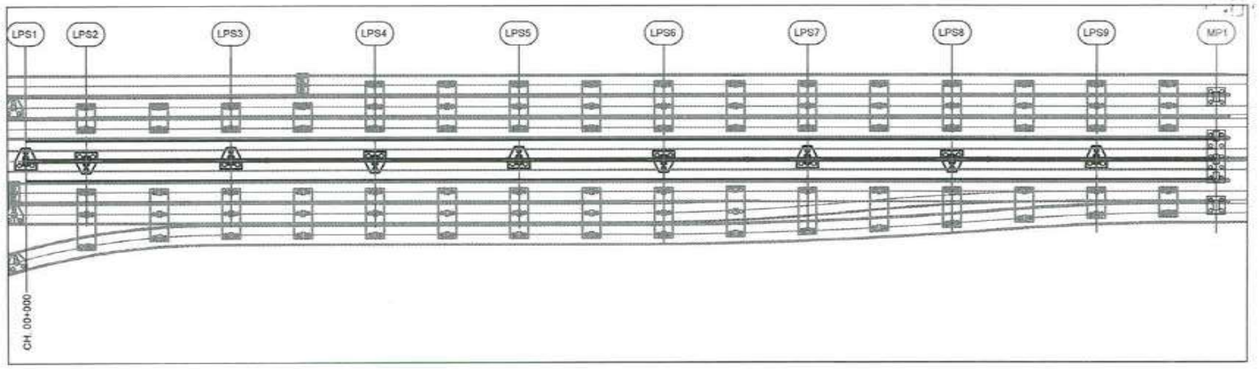
FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

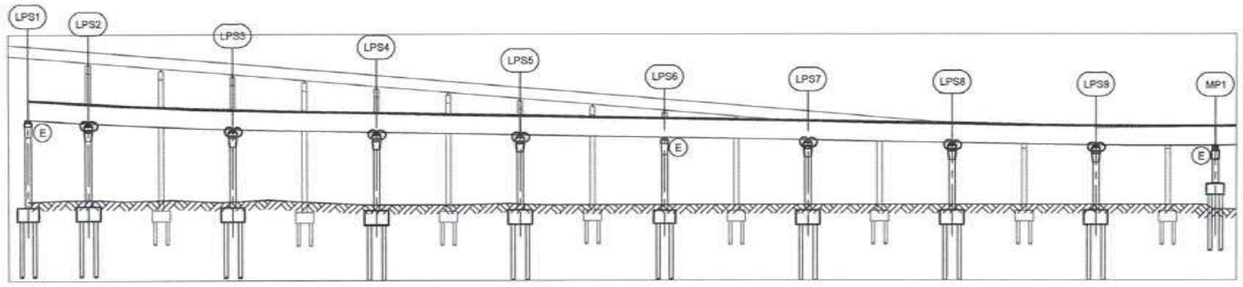
SHEET 1 OF 1 REV. A

PROJECTION

7151



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	0+000.00	0+025.00	0+085.00	0+145.00	0+205.00	0+265.00	0+325.00	0+385.00	0+445.00	0+495.00	
Road level (Road reference line, RRL)	26.074	25.295	23.960	23.355	22.768	22.220	21.653	21.085	20.591	20.522	
Existing ground level	4.697	4.958	4.711	4.000	4.188	4.000	4.000	4.000	4.000	2.995	
Vertical alignment (Road reference line, RRL)	L = 9.997 G = -3.300%		L = 99.953 Rq = 4246 m			L = 307.004 G = -0.946%			L = 99.835 Rq = 6899 m		
Horizontal alignment	L = 558.96 m										
Super elevation schematic	-2.500%										

Notes:

Dimensions: Levels are in metres (Chart datum). Chainage are in metres.

Legend:

LPS	Land pier Sewri
(E)	Expansion joint

L&T-IHI CONSORTIUM CHENNAI (INDIA)

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: LAND VIADUCT GENERAL ARRANGEMENT

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – L V – G A – 0 0 5 0

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

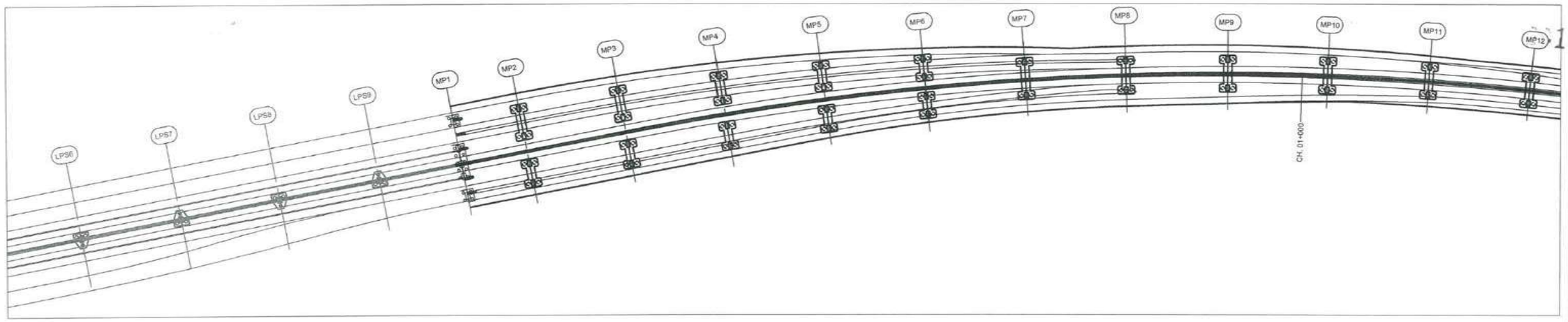
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

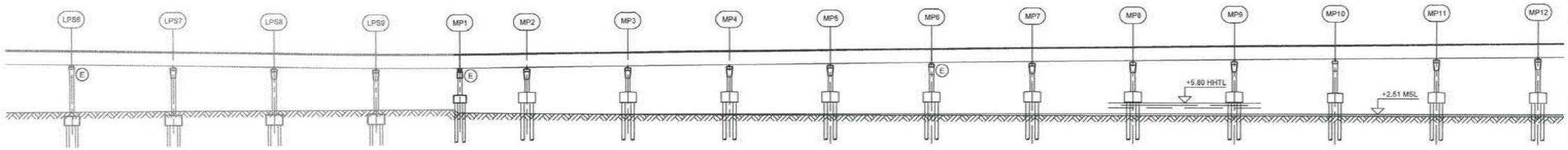
PROJECTION

7153

1780



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	0+495.00	0+535.00	0+595.00	0+655.00	0+715.00	0+775.00	0+835.00	0+895.00	0+955.00	1+015.00	1+075.00	1+135.00
Road level (Road reference line, RRL)	20.522	20.691	20.992	21.292	21.593	21.894	22.194	22.495	22.795	23.096	23.397	23.697
Existing ground level	2.995	2.752	2.395	2.265	2.154	2.083	2.031	1.989	1.968	1.950	1.935	1.917
Vertical alignment (Road reference line, RRL)	L = 307.004 G =-0.946%	L = 99.835 Rq = 6899 m	L = 825.594 G =0.501%									
Horizontal alignment	L = 558.96 m	A = 420 L = 98.00 m	R = 1800 m L = 1504.24 m									
Super elevation schematic	2.500%	0.000%	2.500% 2.500%	3.100%								

Notes:

Dimensions: Levels are in metres (Chart datum). Chainage are in metres.

Legend:

MP	Marine pier
HHTL	Highest high tide level
MSL	Mean sea level
E	Expansion joint

L&T-IHI CHENNAI (INDIA) CONSORTIUM

CONTRACTOR: L&T - IHI CONSORTIUM

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

TITLE: MARINE VIADUCT GENERAL ARRANGEMENT 1 OF 12

SCALE: AS SHOWN

DRAWING No MTHL–CO–C–P1–MV–GA–0051

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

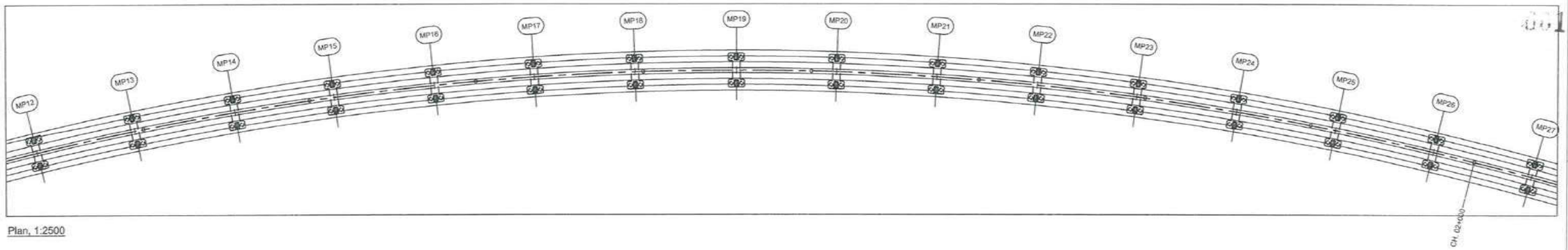
SHEET 1 OF 1 REV. A

PROJECTION

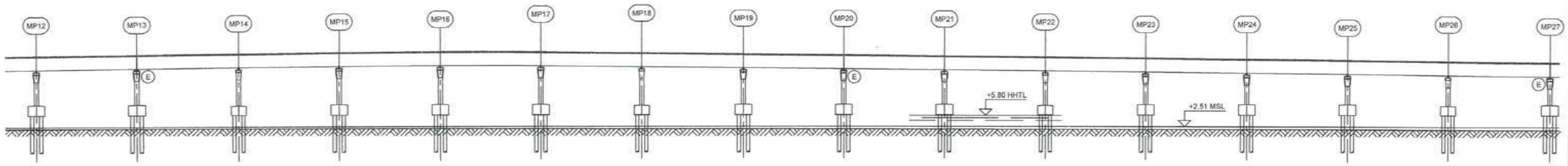
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7155

001761



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	1+135.00	1+195.00	1+255.00	1+315.00	1+375.00	1+435.00	1+495.00	1+555.00	1+615.00	1+675.00	1+735.00	1+795.00	1+855.00	1+915.00	1+975.00	2+035.00
Road level (Road reference line, RRL)	23.697	23.998	24.298	24.599	24.833	24.741	24.446	24.146	23.848	23.548	23.249	22.949	22.649	22.348	22.046	21.746
Existing ground level	1.917	1.899	1.899	1.899	1.882	1.818	1.768	1.775	1.747	1.665	1.633	1.623	1.616	1.597	1.560	1.562
Vertical alignment (Road reference line, RRL)	L = 825.594 G =0.501%				L = 99.987 Rq = 9988 m			L = 1072.905 G =-0.500%								
Horizontal alignment	R = 1800 m L = 1504.24 m															
Super elevation schematic	3.100%															

L&T-IHI CHENNAI (INDIA) CONSORTIUM

Notes:
Dimensions: Levels are in metres (Chart datum). Chainage are in metres.

L&T-IHI CHENNAI (INDIA) CONSORTIUM

Legend:

MP	Marine pier
HHTL	Highest high tide level
MSL	Mean sea level
(E)	Expansion joint

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

PROJECTION

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT GENERAL ARRANGEMENT 2 OF 12

SCALE AS SHOWN

DRAWING No M T H L – CO – C – P 1 – M V – G A – 0 0 5 2

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

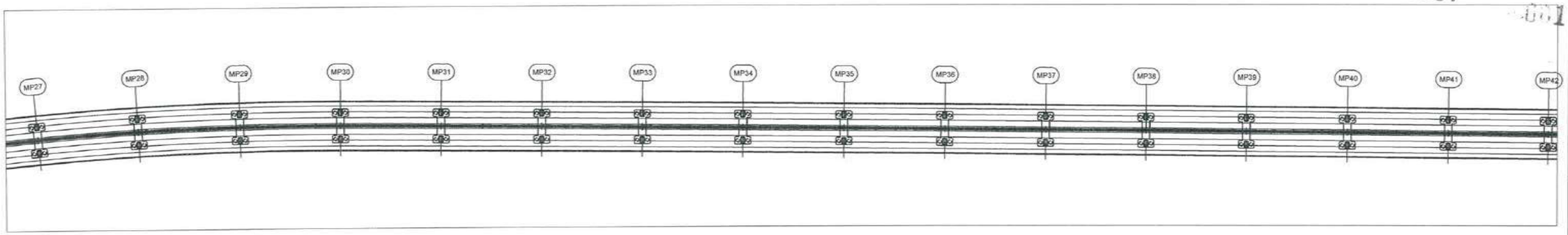
CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

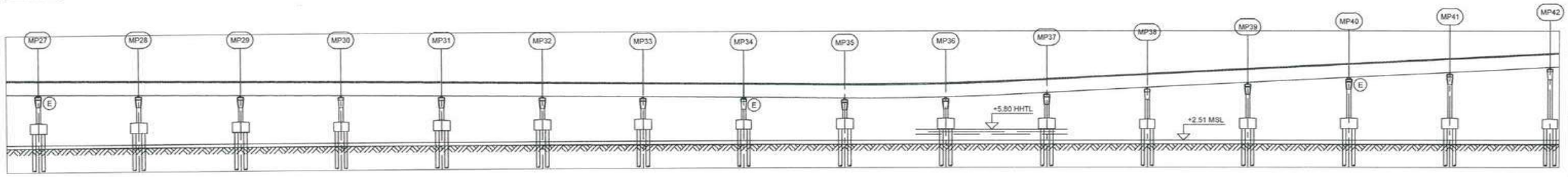
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7157

001762



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	2+035.00	2+095.00	2+155.00	2+215.00	2+275.00	2+335.00	2+395.00	2+455.00	2+515.00	2+575.00	2+635.00	2+695.00	2+755.00	2+815.00	2+875.00	2+935.00
Road level (Road reference line, RRL)	21.746	21.446	21.146	20.846	20.546	20.246	19.946	19.646	19.352	19.641	20.920	22.420	23.920	25.420	26.920	28.420
Existing ground level	1.552	1.558	1.504	1.474	1.482	1.479	1.468	1.396	1.351	1.358	1.348	1.329	1.331	1.216	1.220	1.224
Vertical alignment (Road reference line, RRL)	L = 1072.905 G =-0.500%								L = 126.004 R = 4200.000 m		L = 617.586 G =2.500%					
Horizontal alignment	R = 1800 m L = 1504.24 m			A = 420 L = 98.00 m							L = 2076.19 m					
Super elevation schematic					3.100% 2.500% 2.500%		0.000%		2.500%							

Notes:

Dimensions: Levels are in metres (Chart datum).
Chainage are in metres.

Legend:

MP	Marine pier
HHTL	Highest high tide level
MSL	Mean sea level
(E)	Expansion joint

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

CONTRACTOR: L&T - IHI CONSORTIUM

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

TITLE: MARINE VIADUCT
GENERAL ARRANGEMENT 3 OF 12

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M V – G A – 0 0 5 3

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

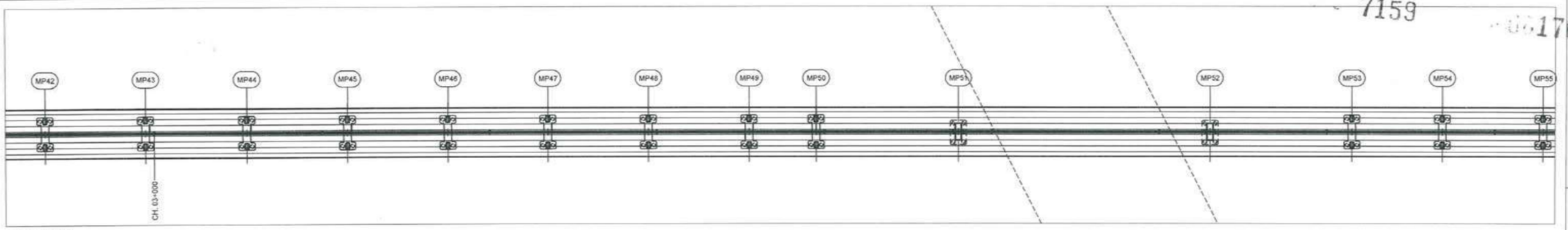
SHEET 1 OF 1 REV. A

PROJECTION

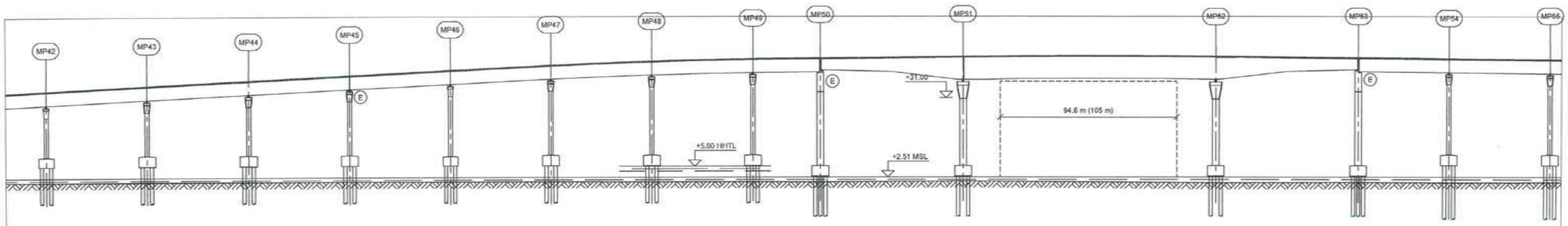
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7159

1763



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	2+935.00	2+995.00	3+055.00	3+115.00	3+175.00	3+235.00	3+295.00	3+355.00	3+395.00	3+480.00	3+630.00	3+715.00	3+768.75	3+828.75
Road level (Road reference line, RRL)	28.420	29.920	31.420	32.920	34.420	35.915	37.113	37.799	38.020	38.445	38.505	38.080	37.811	37.511
Existing ground level	1.224	1.228	1.242	1.241	1.212	1.182	1.151	1.120	1.102	1.335	0.802	0.874	0.811	0.929
Vertical alignment (Road reference line, RRL)	L = 617.586 G =2.500%					L = 139.769 Rq = 6988 m		L = 141.190 G =0.500%		L = 99.850 Rq = 9985 m		L = 510.159 G =-0.500%		
Horizontal alignment	L = 2076.19 m													
Super elevation schematic														

Notes:

Dimensions: Levels are in metres (Chart datum). Chainage are in metres.

Legend:

MP	Marine pier
HHTL	Highest high tide level
MSL	Mean sea level
(E)	Expansion joint

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: **L&T - IHI CONSORTIUM**

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

TITLE: MARINE VIADUCT GENERAL ARRANGEMENT 4 OF 12

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M V – G A – 0 0 5 4

SHEET 1 OF 1 REV. A

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

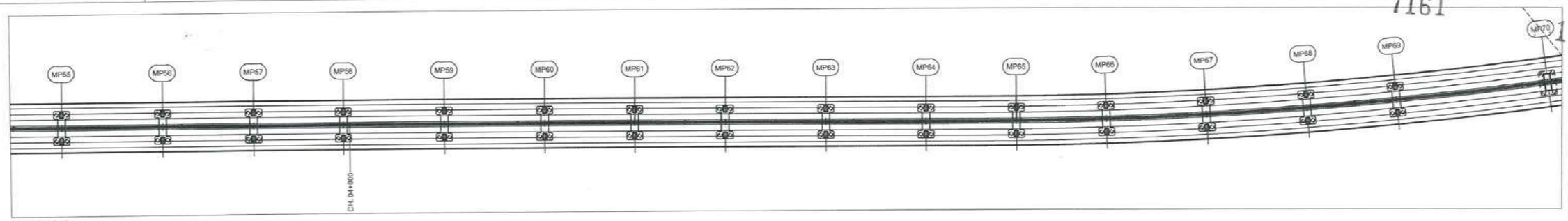
PROJECTION

REV.	DESCRIPTION	DSND	DRWN	CHKD	APPD

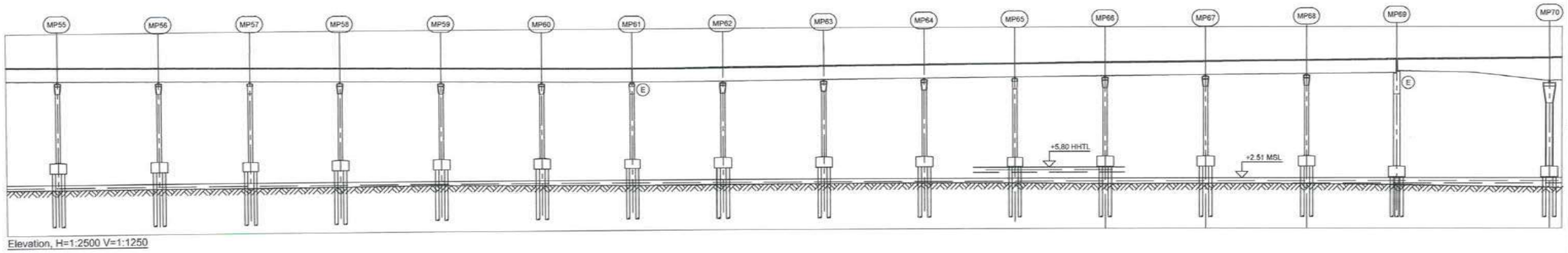
7160

7161

1764



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	3+828.75	3+868.75	3+942.50	3+996.25	4+056.25	4+116.25	4+170.00	4+223.75	4+283.75	4+343.75	4+397.50	4+451.25	4+511.25	4+571.25	4+625.00	4+715.00
Road level (Road reference line, RRL)	37.511	37.211	36.943	32.244	36.374	36.074	35.926	36.064	36.364	36.664	36.933	37.201	37.501	37.801	38.070	38.520
Existing ground level	0.929	1.000	0.999	1.076	1.288	1.097	0.911	1.001	1.063	1.191	1.114	0.721	0.837	0.712	0.409	-0.353

Vertical alignment (Road reference line, RRL): L = 594.169, G = 0.500%; L = 99.831, Rq = 9983 m; L = 594.169, G = 0.500%

Horizontal alignment: L = 2076.19 m; A = 460, L = 84.64 m; R = -2500 m, L = 1355.37 m

Super elevation schematic: 2.500%; 0.000%; 2.500%

Notes:

Dimensions: Levels are in metres (Chart datum). Chainage are in metres.

Legend:

MP	Marine pier
HHTL	Highest high tide level
MSL	Mean sea level
(E)	Expansion joint

L&T-IHI CHENNAI (INDIA) CONSORTIUM

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT GENERAL ARRANGEMENT 5 OF 12

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M V – G A – 0 0 5 5

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

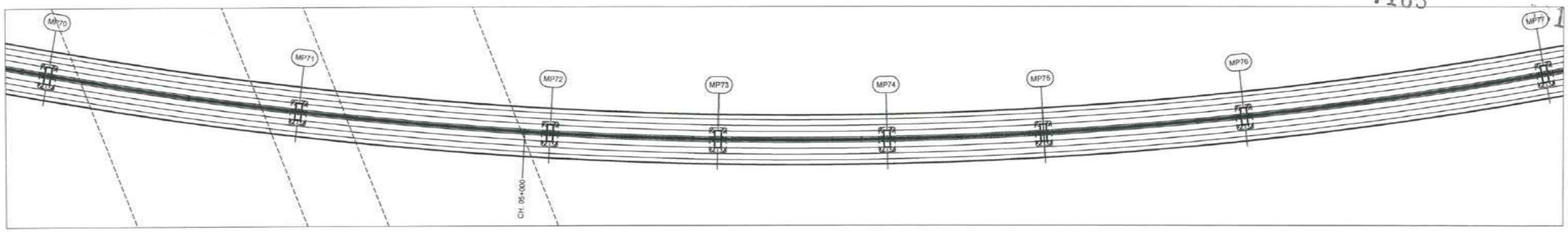
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

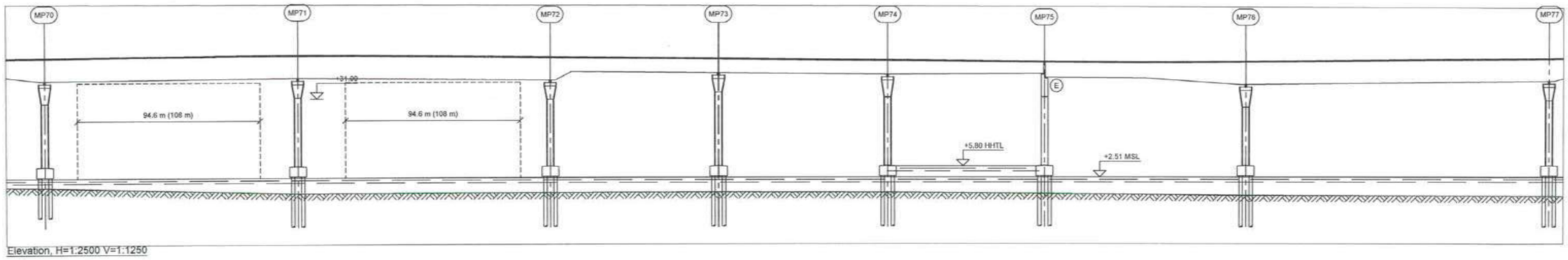
PROJECTION

7163

1765



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	4+715.00	4+885.00	5+015.00	5+115.00	5+215.00	5+308.00	5+428.00	5+609.00
Road level (Road reference line, RRL)	38.520	38.145	38.520	38.020	37.520	37.055	37.035	37.035
Existing ground level	-0.353	-2.236	-2.027	-1.921	-2.019	-2.401	-2.979	-3.225
Vertical alignment (Road reference line, RRL)	L = 594.169 G =0.500%	L = 99.831 Rq = 9983 m	L = 405.158 G =-0.500%			L = 99.852 Rq = 9985 m	L = 325.155 G =0.500%	
Horizontal alignment	R = -2500 m L = 1355.37 m							
Super elevation schematic	2.500%							

Notes:

Dimensions: Levels are in metres (Chart datum). Chainage are in metres.

Legend:

MP	Marine pier
HHTL	Highest high tide level
MSL	Mean sea level
(E)	Expansion joint

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT GENERAL ARRANGEMENT 6 OF 12

SCALE: AS SHOWN

DRAWING No: MTHL – CO – C – P1 – MV – GA – 0056

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

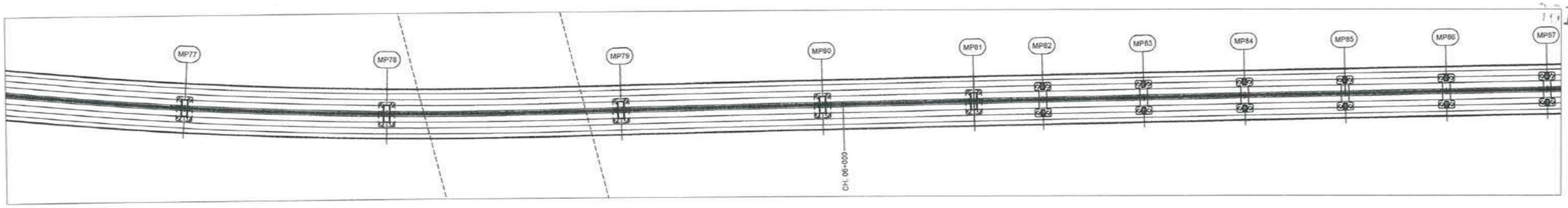
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

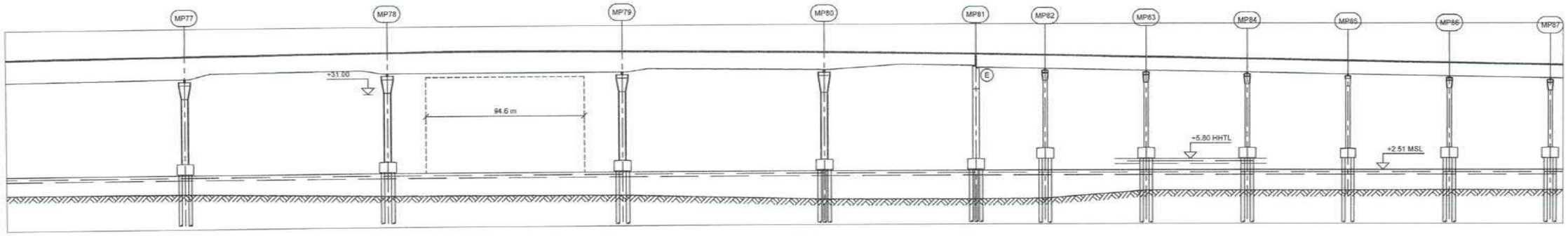
PROJECTION

7165

1766



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	5+608.00	5+728.00	5+868.00	5+988.00	6+078.00	6+119.00	6+179.00	6+239.00	6+299.00	6+359.00	6+419.00
Road level (Road reference line, RRL)	37.935	38.535	38.505	37.904	37.260	36.655	36.255	35.656	35.055	34.455	33.855
Existing ground level	-3.225	-48	-4.475	-6.007	-6.119	-5.924	-3.621	-3.650	-3629	-3.567	-3.592
Vertical alignment (Road reference line, RRL)	L = 325.155 G =0.500%	L = 99.837 R = 9983.750 m	L = 145.163 G =-0.500%	L = 99.837 R = 19969.000 m	L = 1155.016 G =-1.000%						
Horizontal alignment	A = 460 L = 84.64 m	L = 5377.48 m									
Super elevation schematic	2.500%	0.000%	2.500%								

Notes:

Dimensions: Levels are in metres (Chart datum). Chainage are in metres.

Legend:

MP	Marine pier
HHTL	Highest high tide level
MSL	Mean sea level
(E)	Expansion joint

L&T-IHI CONSORTIUM CHENNAI (INDIA)

CONTRACTOR: L&T - IHI CONSORTIUM

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

TITLE: MARINE VIADUCT GENERAL ARRANGEMENT 7 OF 12

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M V – G A – 0 0 5 7

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

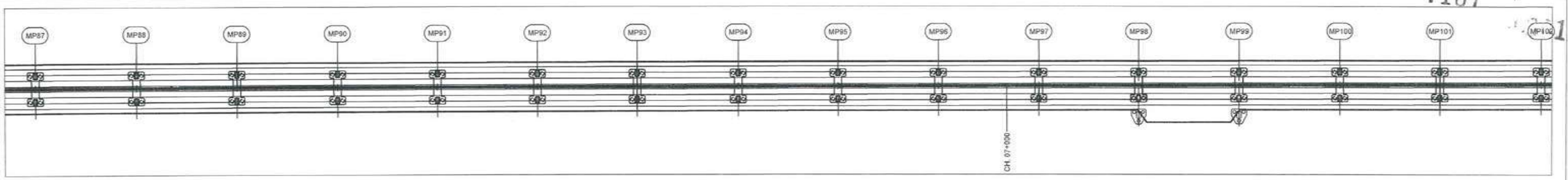
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

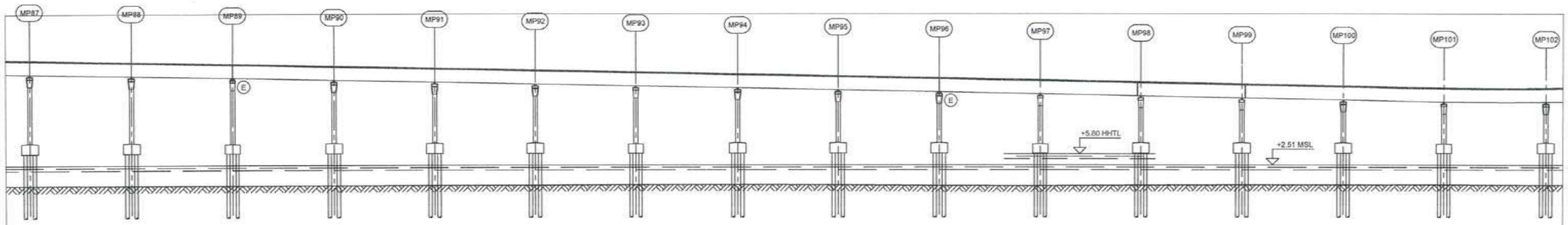
PROJECTION

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7167



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	6+419.00	6+479.00	6+539.00	6+599.00	6+659.00	6+719.00	6+779.00	6+839.00	6+899.00	6+959.00	7+019.00	7+079.00	7+139.00	7+199.00	7+259.00	7+319.00
Road level (Road reference line, RRL)	33.855	33.255	32.655	32.055	31.455	30.855	30.255	29.655	29.055	28.455	27.855	27.255	26.655	26.055	25.477	25.408
Existing ground level	-3.592	-3.650	-3.638	-3.612	-3.586	-3.509	-3.400	-3.412	-3.454	-3.729	-3.760	-3.583	-3.479	-3.440	-3.411	-3.498
Vertical alignment (Road reference line, RRL)	L = 1155.016 G =-1.000%														L = 99.631 Rq = 4982 m	
Horizontal alignment	L = 5377.48 m															
Super elevation schematic																

Notes:

Dimensions: Levels are in metres (Chart datum). Chainage are in metres.

Legend:

MP	Marine pier
HHTL	Highest high tide level
MSL	Mean sea level
(E)	Expansion joint

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT GENERAL ARRANGEMENT 8 OF 12

SCALE: AS SHOWN

DRAWING No: MTHL – CO – C – P1 – MV – GA – 0058

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

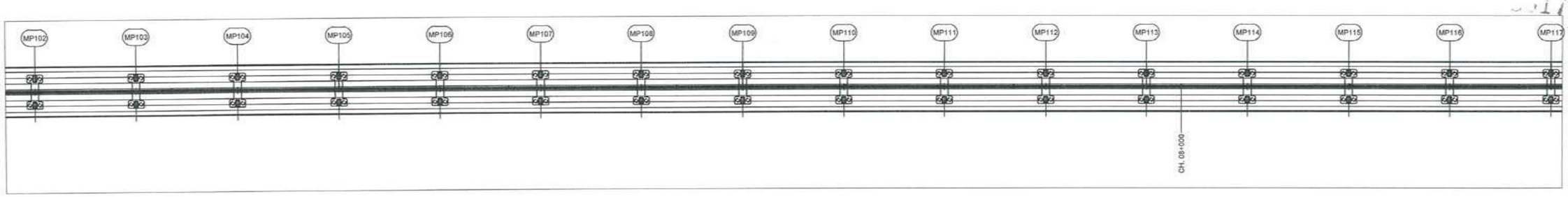
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

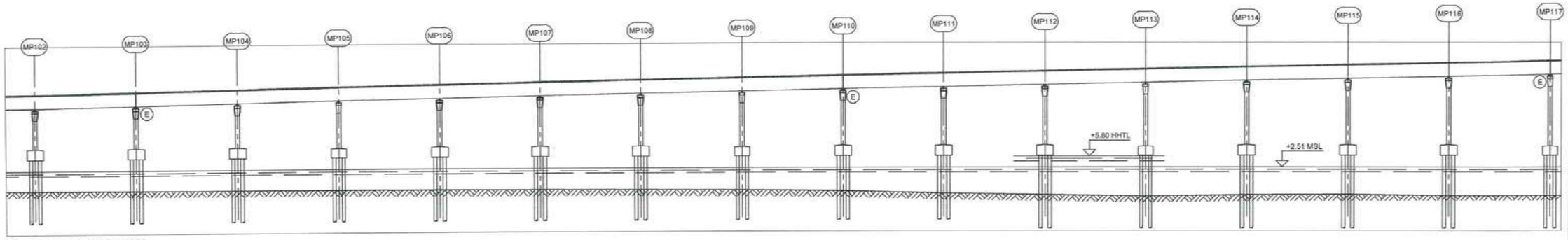
PROJECTION

7169

1768



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	7+319.00	7+379.00	7+439.00	7+499.00	7+559.00	7+619.00	7+679.00	7+739.00	7+799.00	7+859.00	7+919.00	7+979.00	8+039.00	8+099.00	8+159.00	8+219.00
Road level (Road reference line, RRL)	25.403	25.940	26.540	27.140	27.740	28.340	28.940	29.540	30.140	30.740	31.340	31.940	32.540	33.140	33.740	34.340
Existing ground level	-3.498	-3.638	-3.888	-3.736	-3785	-3.869	-3.970	-4.121	-4.539	-5.262	-5.734	-6.163	-5.802	-5.719	-6.082	-6.003
Vertical alignment (Road reference line, RRL)	L = 99.631 Rq = 4982 m								L = 1155.514 G =1.000%							
Horizontal alignment	L = 5377.48 m															
Horizontal alignment																

Notes:

Dimensions: Levels are in metres (Chart datum). Chainage are in metres.

Legend:

MP	Marine pier
HHTL	Highest high tide level
MSL	Mean sea level
(E)	Expansion joint

L&T-IHI CHENNAI (INDIA) CONSORTIUM

MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADCT
GENERAL ARRANGEMENT 9 OF 12

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M V – G A – 0 0 5 9

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

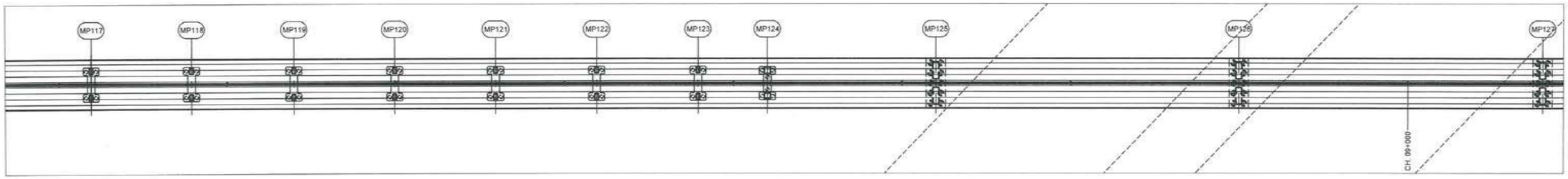
SHEET 1 OF 1 REV. A

PROJECTION

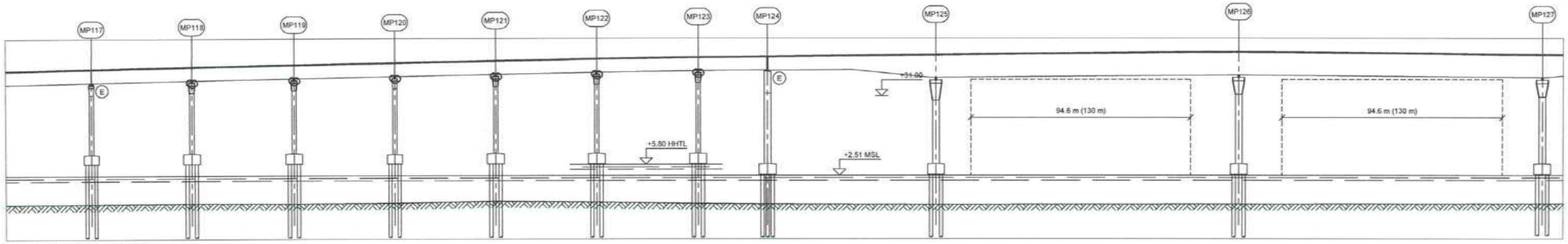
7170

7171

001769



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	8+219.00	8+279.00	8+339.00	8+399.00	8+459.00	8+519.00	8+579.00	8+620.00	8+720.00	8+900.00	9+000.00	9+060.00				
Road level (Road reference line, RRL)	34.340	34.940	35.540	36.140	36.740	37.331	37.784	38.000	38.500	38.275	38.100	38.500				
Existing ground level	-6.003	-5.721	-5.884	-5.713	-5.149	-5.436	-5.849	-6.045	-6.200	-6.100	-5.969					
Vertical alignment (Road reference line, RRL)	L = 1155.514 G =1.000%					L = 99.841 Rq = 19970 m			L = 250.165 G =0.500%		L = 99.828 Rq = 9983 m	L = 250.169 G =-0.500%				
Horizontal alignment	L = 5377.48 m															
Horizontal alignment																

Notes:
Dimensions: Levels are in metres (Chart datum). Chainage are in metres.

Legend:

MP	Marine pier
HHTL	Highest high tide level
MSL	Mean sea level
E	Expansion joint

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

CONTRACTOR: L&T - IHI CONSORTIUM

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

TITLE: MARINE VIADUCT GENERAL ARRANGEMENT 10 OF 12

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M V – G A – 0 0 6 0

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

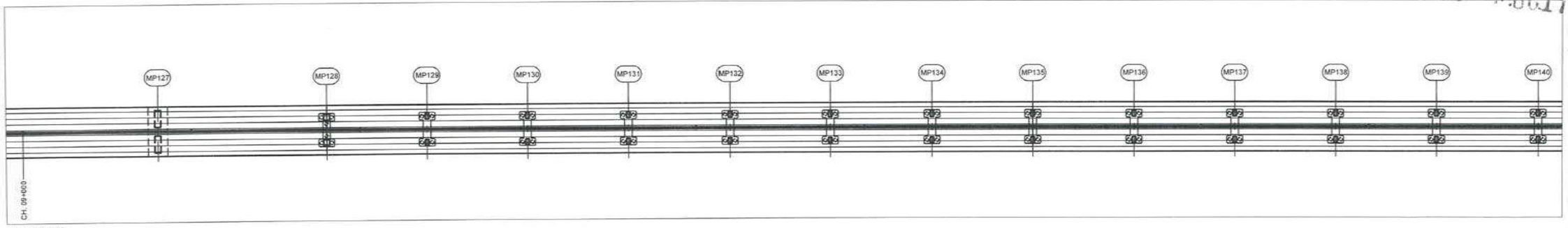
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

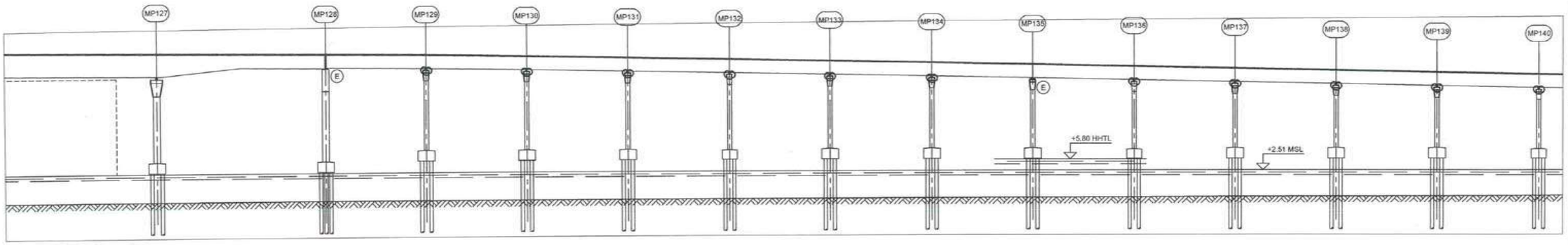
PROJECTION

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7173 661770



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	9+080.00	9+180.00	9+240.00	9+300.00	9+360.00	9+420.00	9+480.00	9+540.00	9+600.00	9+660.00	9+720.00	9+780.00	9+840.00	9+900.00
Road level (Road reference line, RRL)	38.500	38.00	37.660	37.150	36.550	35.950	35.350	34.750	34.150	33.550	32.950	32.350	31.750	31.150
Existing ground level	-5.999	-5.909	-5.889	-5.829	-5.770	-5.710	-5.700	-5.690	-5.629	-5.539	-5.419	-5.360	-5.271	-5.088
Vertical alignment (Road reference line, RRL)	L = 250.169 G =-0.500%		L = 99.833 Rq = 19967 m		L = 1140.567 G =-1.000%									
Horizontal alignment	L = 5377.48 m													
Super elevation schematic														

Notes:
Dimensions: Levels are in metres (Chart datum). Chainage are in metres.

Legend:

MP	Marine pier
HHTL	Highest high tide level
MSL	Mean sea level
(E)	Expansion joint

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE

CONTRACTOR: **L&T - IHI CONSORTIUM**

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

TITLE: MARINE VIADUCT GENERAL ARRANGEMENT 11 OF 12

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M V – G A – 0 0 6 1

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

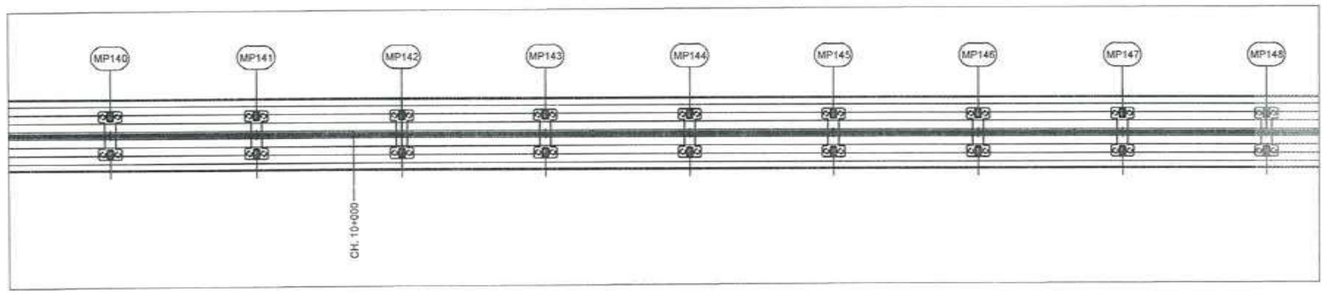
SHEET 1 OF 1 REV. A

PROJECTION

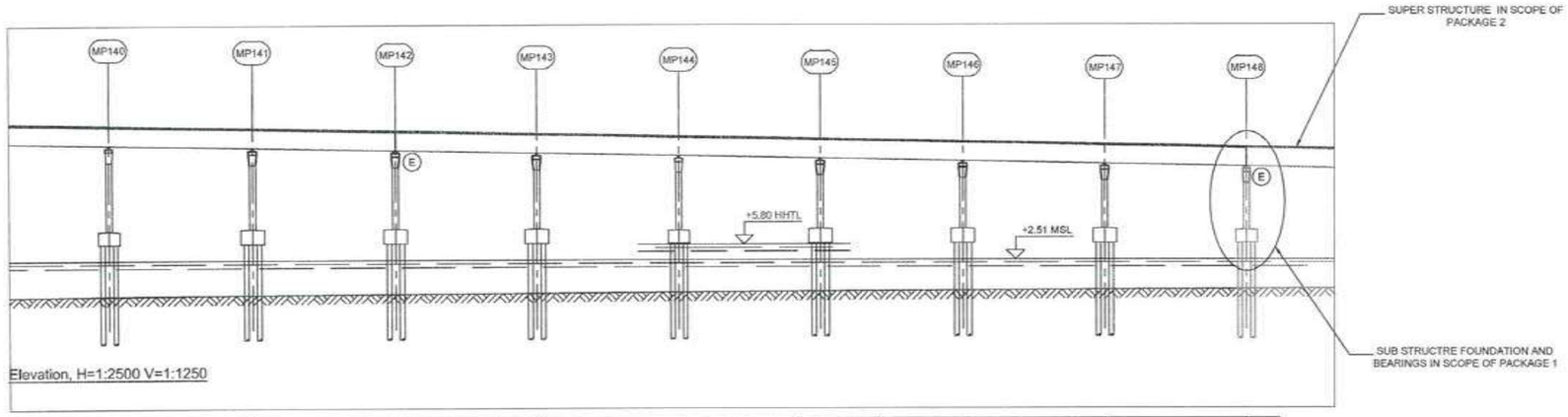
REV.	DESCRIPTION	DSND	DRWN	CHKD	APPD

7175

1771



Plan, 1:2500



Elevation, H=1:2500 V=1:1250

Chainage	9+900.00	9+960.00	10+020.00	10+080.00	10+140.00	10+200.00	10+260.00	10+320.00	10+380.00
Road level (Road reference line, RRL)	31.150	30.550	29.950	29.350	28.750	28.150	27.550	26.950	26.350
Existing ground level	-5.068	-4.906	-4.731	-4.576	-4.425	-4.274	-4.108	-3.929	-3.799
Vertical alignment (Road reference line, RRL)	L = 1140.567 G =-1.000%								
Horizontal alignment	L = 5377.48 m								
Horizontal alignment									

Notes:

Dimensions: Levels are in metres (Chart datum). Chainage are in metres.

Legend:

MP	Marine pier
HHTL	Highest high tide level
MSL	Mean sea level
(E)	Expansion joint

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT GENERAL ARRANGEMENT 12 OF 12

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M V – G A – 0 0 6 2

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

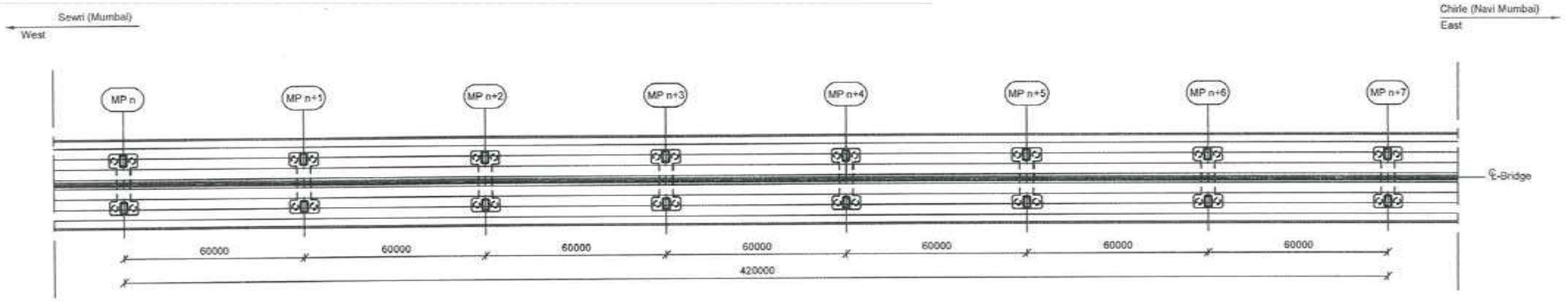
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

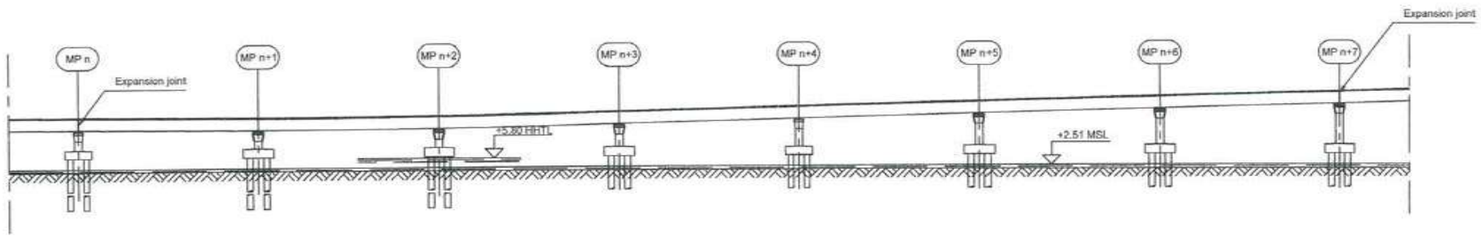
PROJECTION

7177

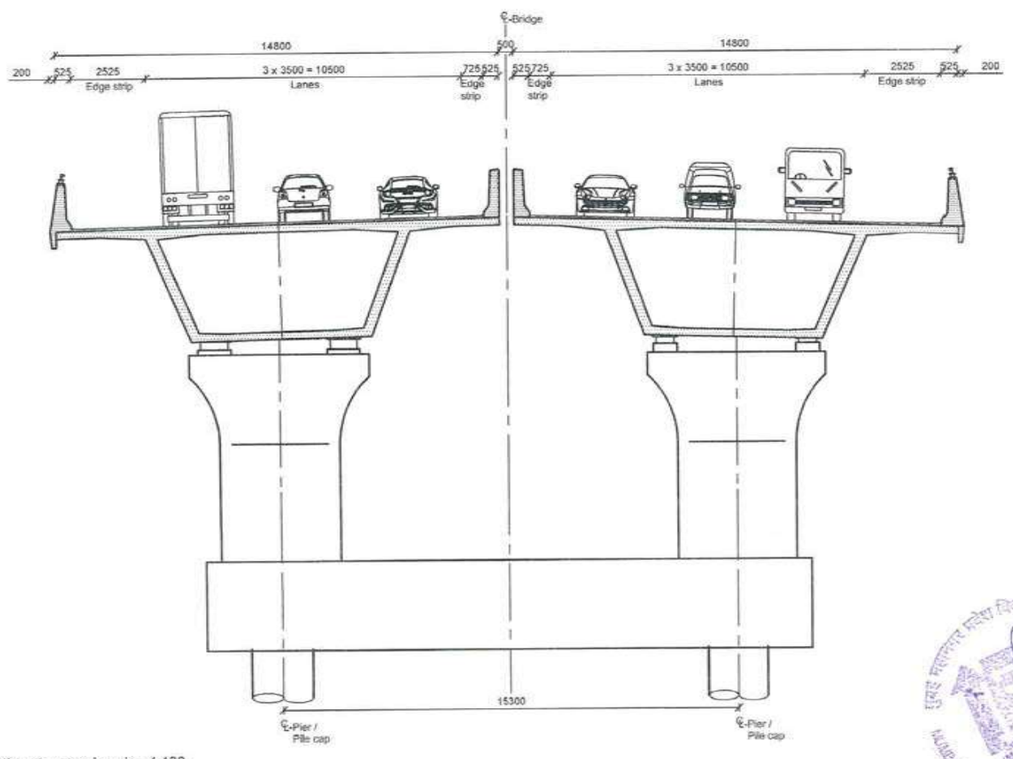
661772



Plan, 1:2000



Elevation, 1:2000



Section at expansion pier, 1:100

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart datum).

Legend:

In -situ concrete

Prefabricated concrete

HHTL Highest high tide level

MSL Mean sea level

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT - TYPICAL EXPANSION SECTION PLAN, ELEVATION AND SECTION

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – M V – G A – 0 1 0 1

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

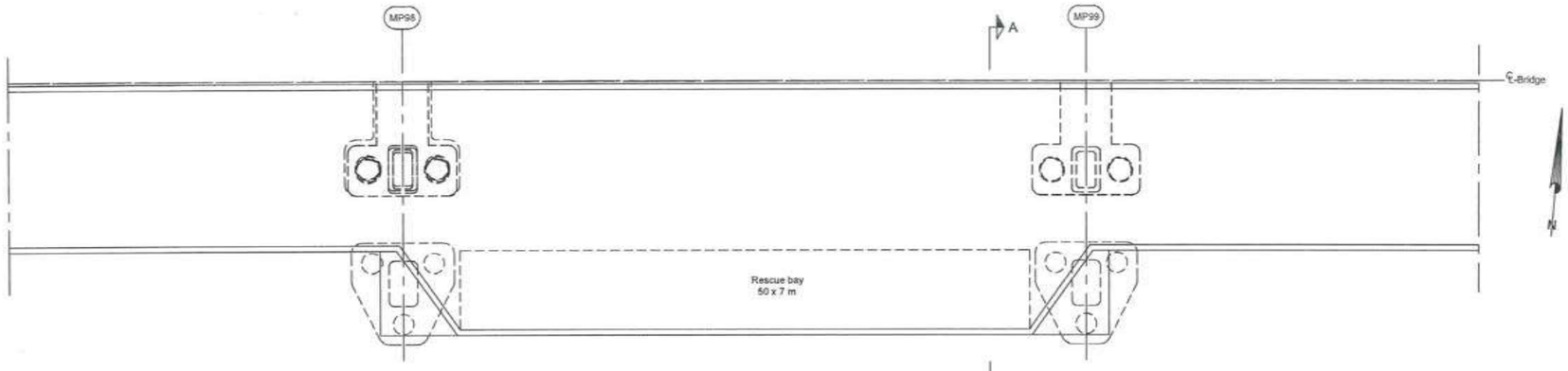
FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

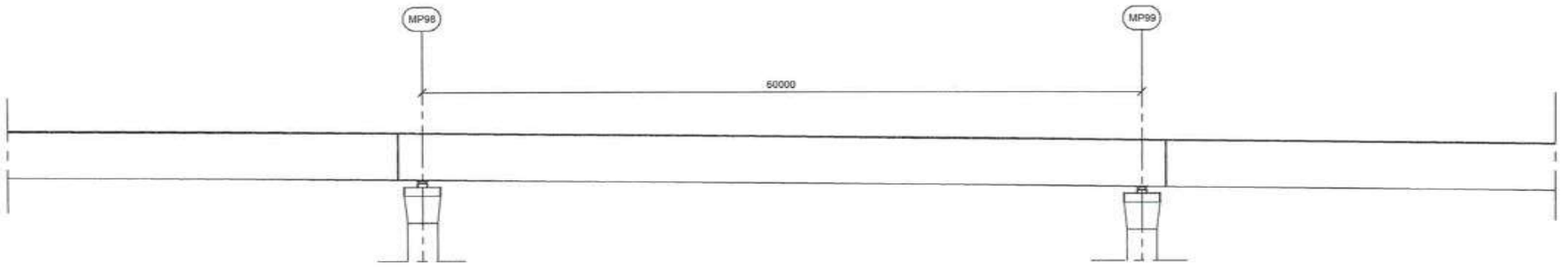
SHEET 1 OF 1 REV. A

PROJECTION

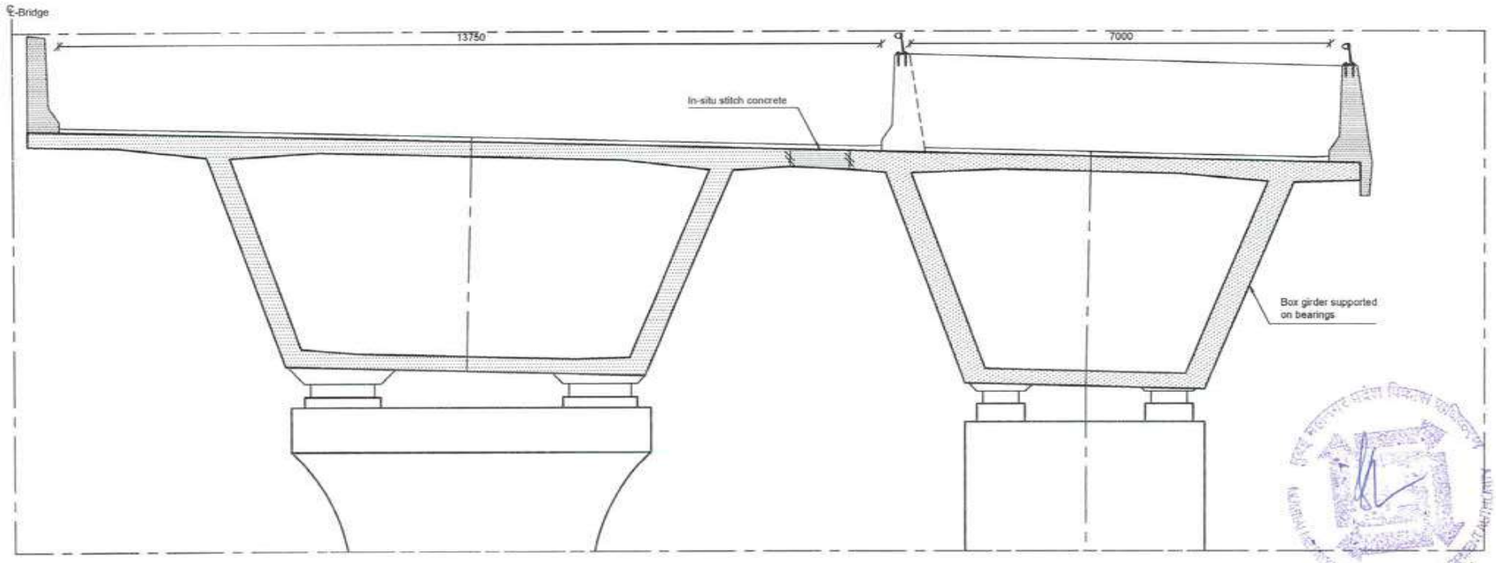
7178



Plan, 1:500



Elevation, 1:500



Section A-A, 1:100

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart datum).

Legend:

In -situ concrete

Prefabricated concrete

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT - GIRDER AT RESCUE AREA, SOUTH CONCRETE DIMENSIONS

SCALE: As shown

DRAWING No: M T H L – CO – C – P 1 – M V – G A – 0 1 2 1

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

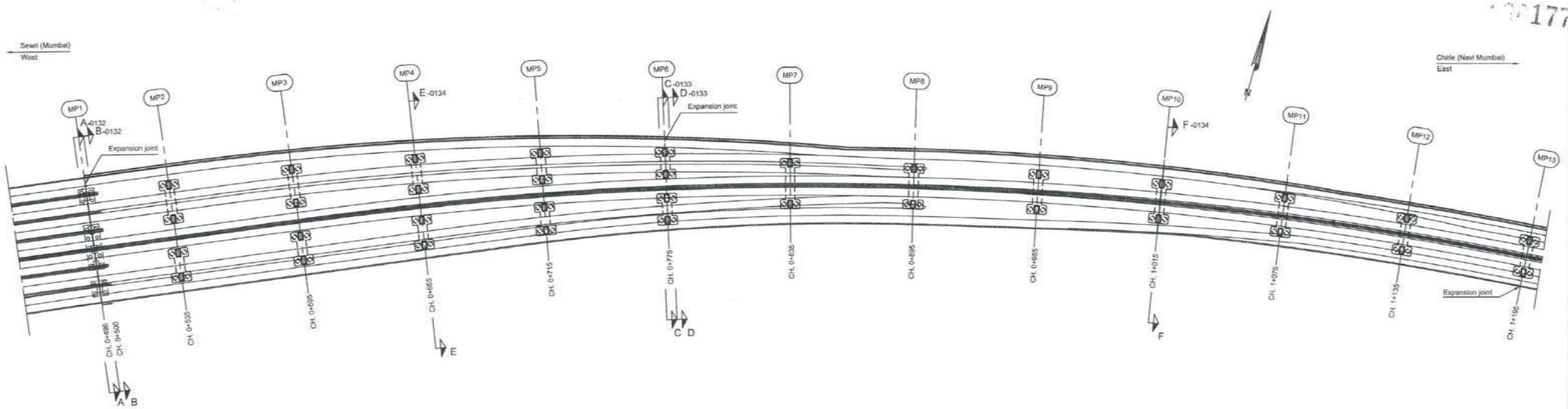
SHEET 1 OF 1 REV. A

PROJECTION

7180

7181

1774



Plan, 1:2000

Pier no.	Chainage	Expansion section		Carriageway width between outer kerbs: Towards Navi Mumbai "WN" (m)	Towards Sewri "WS" (m)	Towards Navi Mumbai	Towards Sewri
MP1	CH. 0+495	1	Exp. joint	34.350	25.350	Two box girders with strut support to two exterior cantilivers	Two box girders with short length cantilevers
MP2	CH. 0+535	1		34.350	25.350	Two box girders with strut support to two exterior cantilivers	Two box girders with short length cantilevers
MP3	CH. 0+595	1		33.240	25.310	Two box girders with strut support to two exterior cantilivers	Two box girders with short length cantilevers
MP4	CH. 0+655	1		30.435	24.530	Two box girders with strut support to two exterior cantilivers	Two box girders with short length cantilevers
MP5	CH. 0+715	1		26.925	22.040	Two box girders with short length cantilevers	Two box girders with short length cantilevers
MP6	CH. 0+775	1	Exp. joint	22.990	19.545	Two box girders with short length cantilevers	Two box girders with short length cantilevers
MP6	CH. 0+775	2	Exp. joint	22.990	19.545	One box girder with strut supported long cantilevers	One box girder with strut supported long cantilevers
MP7	CH. 0+835	2		18.630	17.995	One box girder with strut supported long cantilevers	One box girder with strut supported long cantilevers
MP8	CH. 0+895	2		16.500	17.455	One box girder with strut supported long cantilevers	One box girder with strut supported long cantilevers
MP9	CH. 0+955	2		16.395	16.610	One box girder with strut supported long cantilevers	One box girder with strut supported long cantilevers
MP10	CH. 1+015	2		15.755	14.330	One box girder with strut supported long cantilevers	One box girder with additional length cantilevers
MP11	CH. 1+075	2		14.520	13.750	One box girder with additional length cantilevers	Standard box girder
MP12	CH. 1+135	2		13.750	13.750	Standard box girder	Standard box girder
MP13	CH. 1+195	2	Exp. joint	13.750	13.750	Standard box girder	Standard box girder

Table 1

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Chainage are in metres.

References:

MTHL-CO-C-P1-MV-GA-0132 Marine viaduct - Ch. 0+495 to 1+135 - Concrete dimensions, 2 of 4
MTHL-CO-C-P1-MV-GA-0133 Marine viaduct - Ch. 0+495 to 1+135 - Concrete dimensions, 3 of 4
MTHL-CO-C-P1-MV-GA-0134 Marine viaduct - Ch. 0+495 to 1+135 - Concrete dimensions, 4 of 4

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT - CH. 0+495 TO 1+135 CONCRETE DIMENSIONS, 1 OF 4

SCALE: As shown

DRAWING No MTHL-CO-C-P1-MV-GA-0131

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

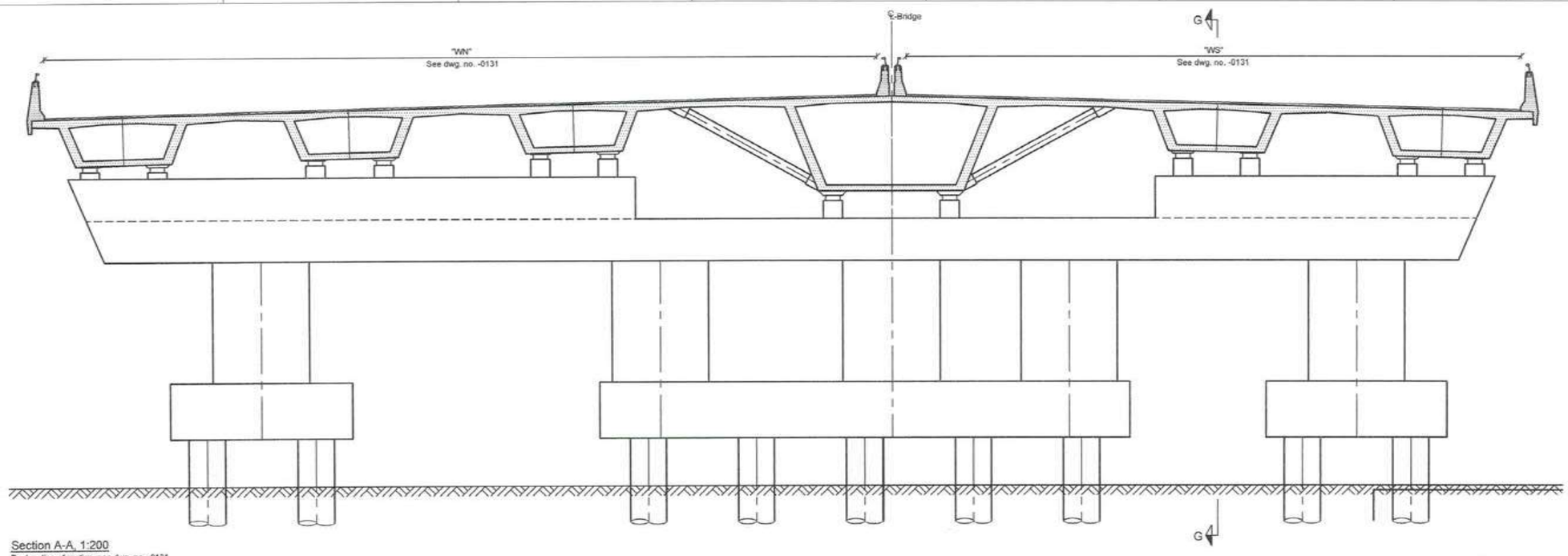
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

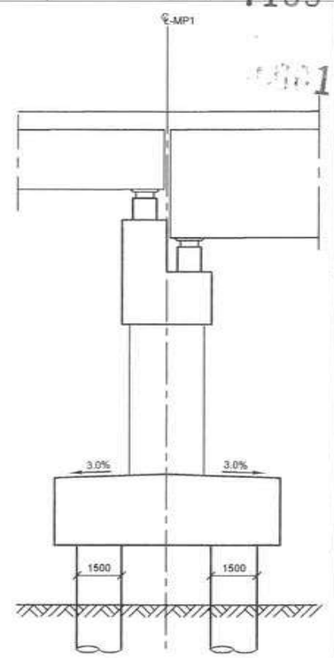
PROJECTION

7183

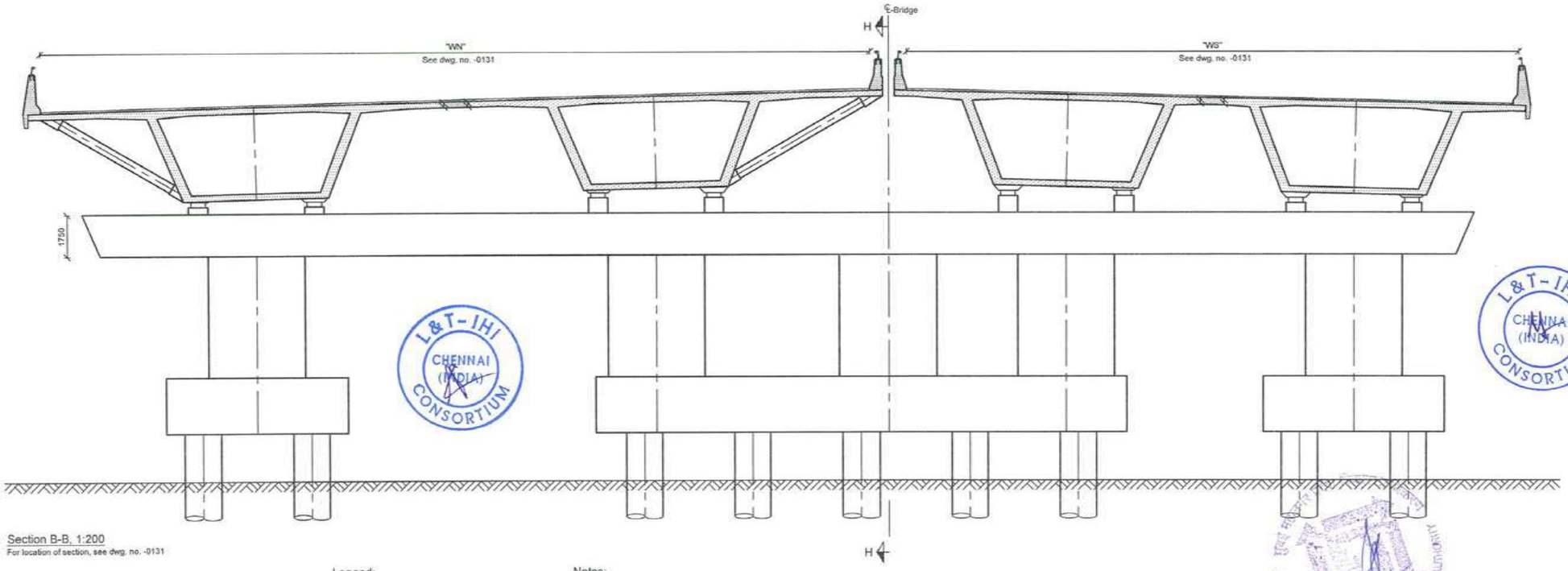
1775



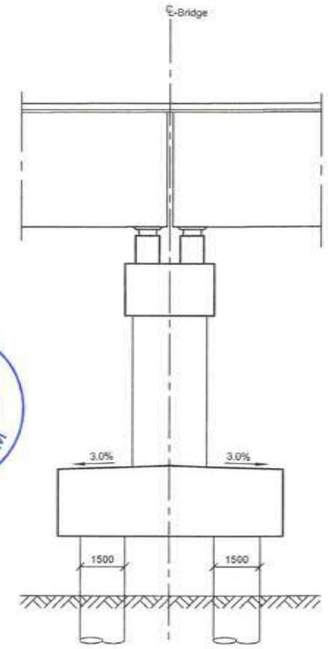
Section A-A, 1:200
For location of section, see dwg. no. -0131



Section G-G, 1:200



Section B-B, 1:200
For location of section, see dwg. no. -0131



Section H-H, 1:200

Legend:

Prefabricated concrete

In-situ concrete

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Level are in metres (Chart datum).

References:

MTHL-CO-C-P1-MV-GA-0131 Marine viaduct - Ch. 0+495 to 1+135 - Concrete dimensions, 1of 4

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT - CH. 0+495 TO 1+135
CONCRETE DIMENSIONS, 2 OF 4

SCALE: As shown

DRAWING No M T H L – CO – C – P 1 – M V – G A – 0 1 3 2

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

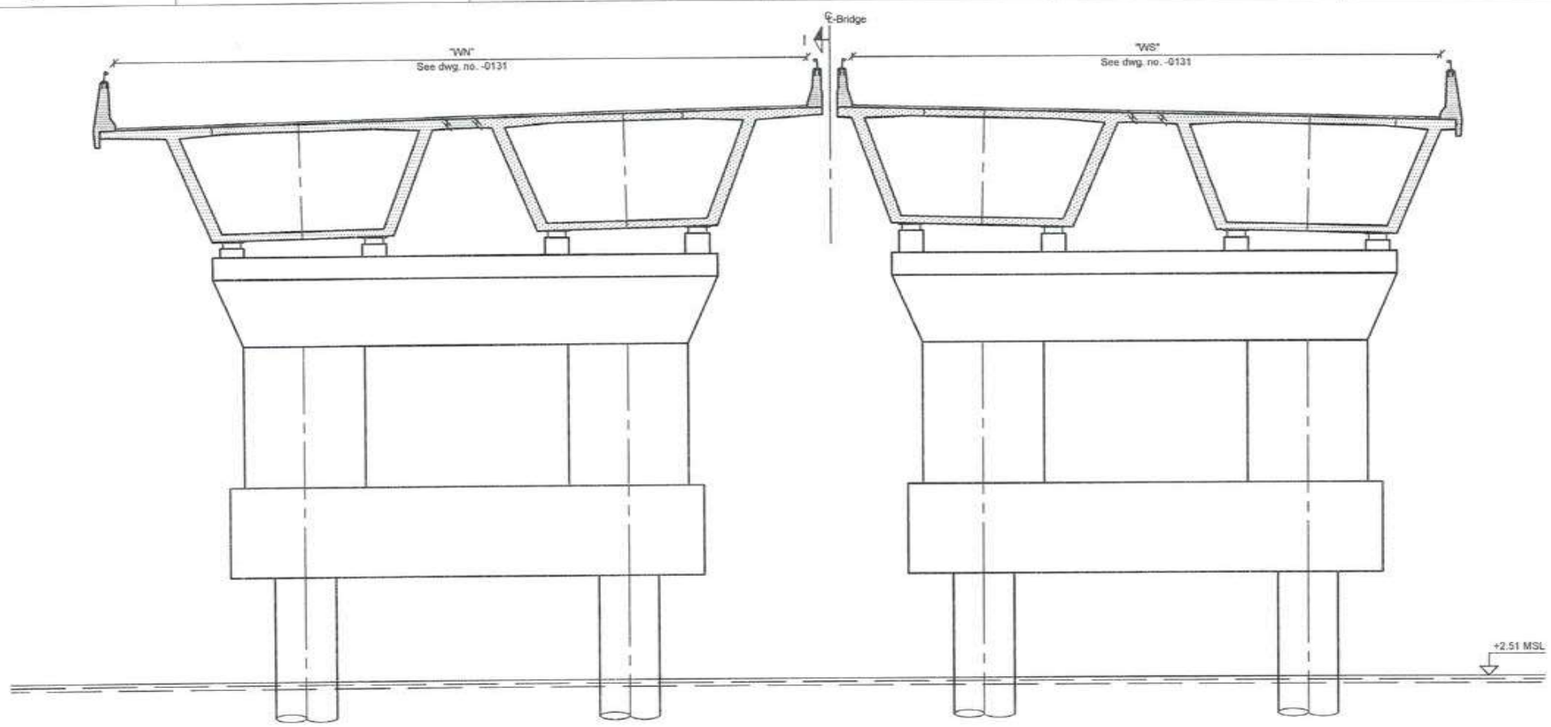
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

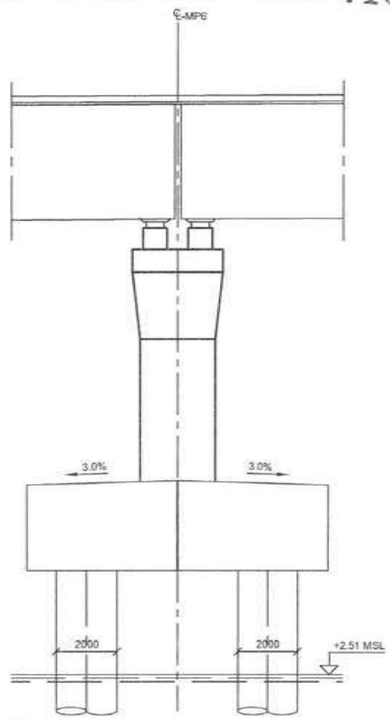
PROJECTION

7185

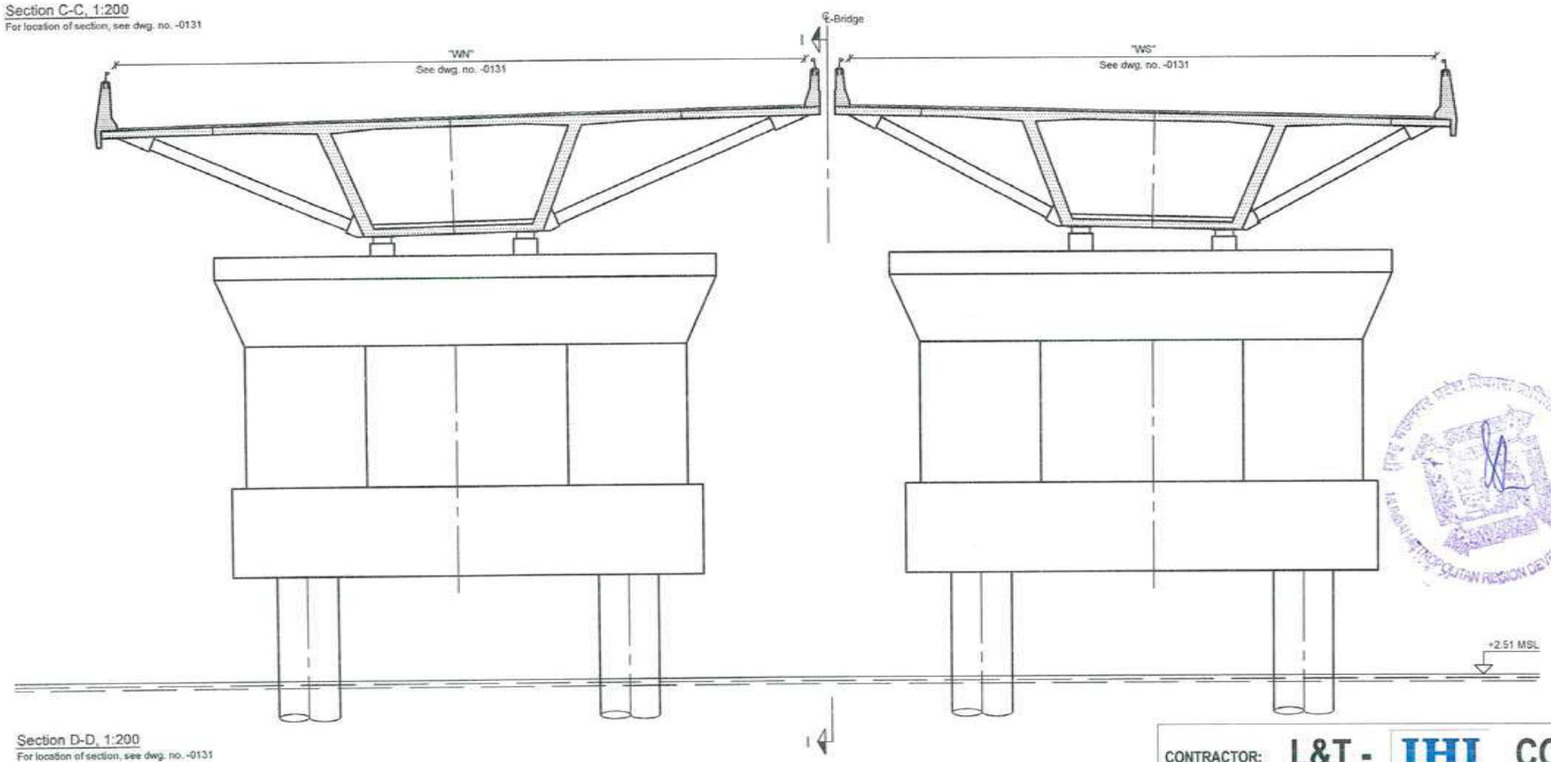
001776



Section C-C, 1:200
For location of section, see dwg. no. -0131



Section I-I, 1:200



Section D-D, 1:200
For location of section, see dwg. no. -0131

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Level are in metres (Chart datum).

Legend:

Prefabricated concrete

In-situ concrete

MSL Mean sea level

References:

MTHL-CO-C-P1-MV-GA-0131 Marine viaduct - Ch. 0+495 to 1+135 - Concrete dimensions, 1 of 4

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT - CH. 0+495 TO 1+135 CONCRETE DIMENSIONS, 3 OF 4

SCALE: As shown

DRAWING No: M T H L – CO – C – P 1 – M V – G A – 0 1 3 3

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

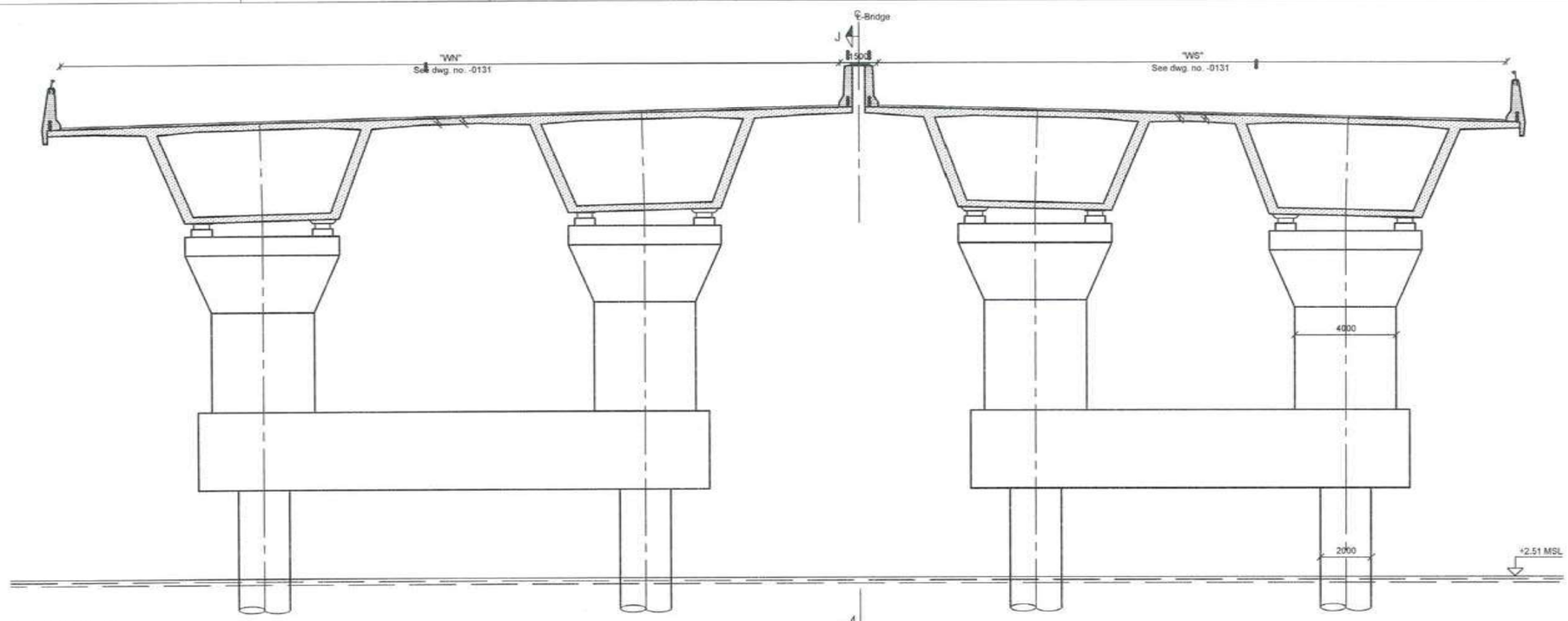
SHEET 1 OF 1 REV. A

PROJECTION

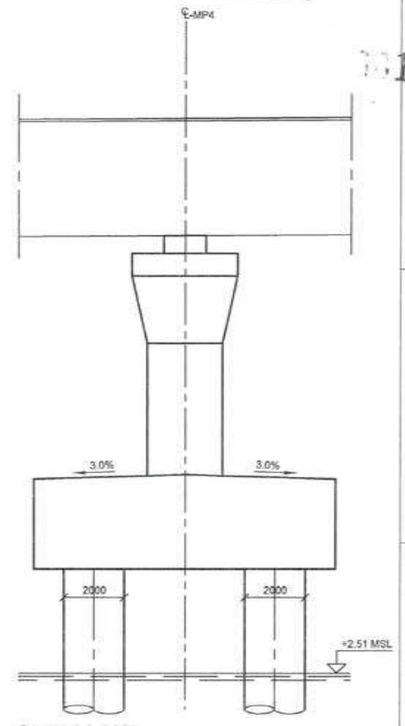
7183

7187

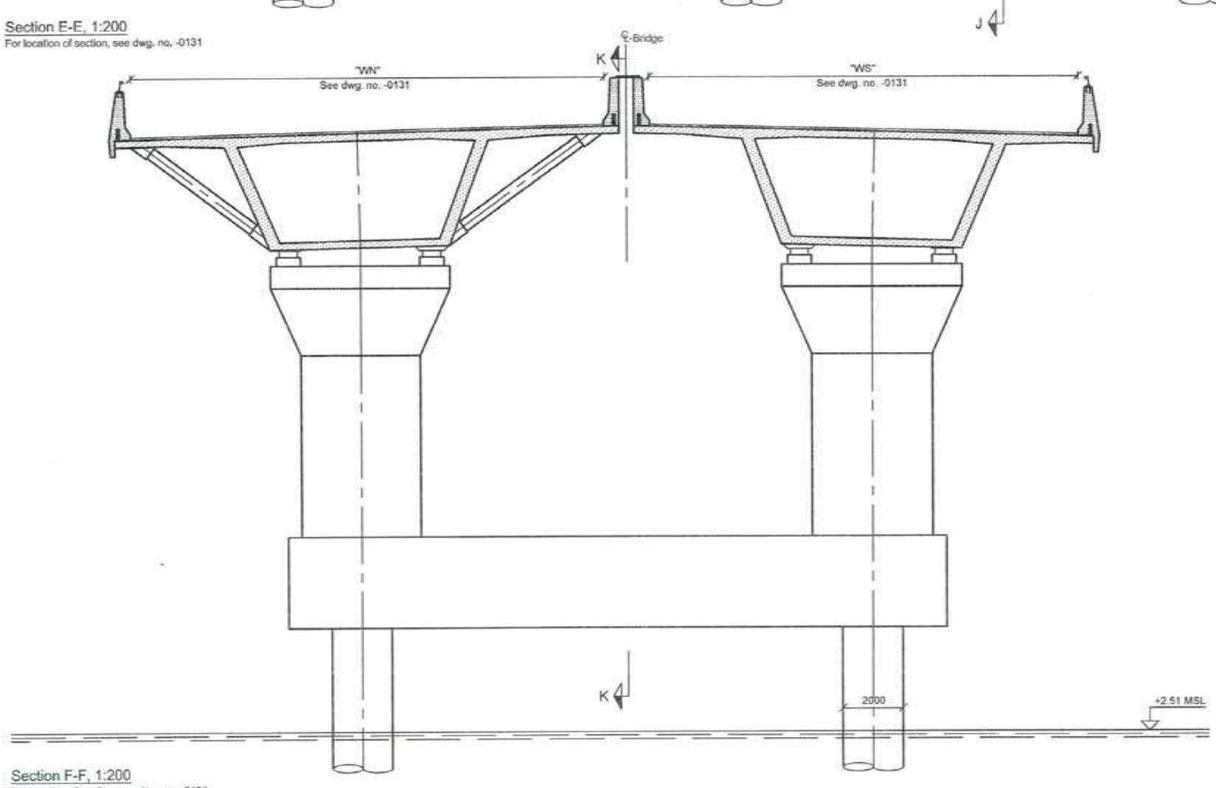
1777



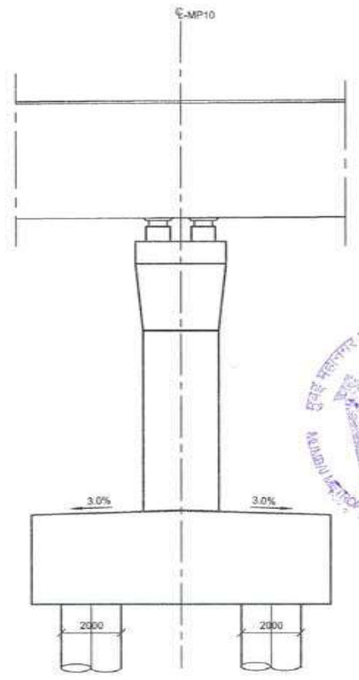
Section E-E, 1:200
For location of section, see dwg. no. -0131



Section J-J, 1:200



Section F-F, 1:200
For location of section, see dwg. no. -0131



Section K-K, 1:200

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Level are in metres (Chart datum).

Legend:

Prefabricated concrete

In-situ concrete

MSL Mean sea level

References:

MTHL-CO-C-P1-MV-GA-0131 Marine viaduct - Ch. 0+495 to 1+135 - Concrete dimensions, 1 of 4

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT - CH. 0+495 TO 1+135
CONCRETE DIMENSIONS, 4 OF 4

SCALE: As shown

DRAWING No MTHL–CO–C–P1–MV–GA–0134

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

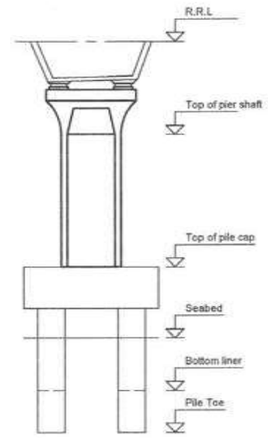
FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017
SHEET 1 OF 1		REV. A

PROJECTION

Bridge Name	Chainage	Pier	Connection	Level in m C.D. R.R.L	Top pier shaft	Top Pilecap	Ground	Bot. Liner	Pile Toe	Adjacent boreholes used for design	
Land Viaduct Sewri	0.000	LPS1	MJ + Bearings	26.074	18.624	3.497	4.697	-3.2	-16.5	BH-33	BH-6
	25.000	LPS2	Bearings	25.295	17.845	3.758	4.958	-9.7	-29.7	BH-7	BH-32
	85.000	LPS3	Bearings	23.990	16.540	3.511	4.711	-7.5	-27.5	BH-9	BH-10
	145.000	LPS4	Bearings	23.355	15.905	2.800	4.000	-11.0	-18.6	BH-12	BH-13
	205.000	LPS5	Bearings	22.788	15.338	2.988	4.188	-4.4	-25.9	BH-14	BH-15
	265.000	LPS6	MJ + Bearings	22.220	14.770	2.800	4.000	-8.5	-24.5	BH-17	BH-18
	325.000	LPS7	Bearings	21.653	14.203	2.800	4.000	-13.2	-22.0	BH-19	BH-20
	385.000	LPS8	Bearings	21.085	13.635	2.800	4.000	-3.8	-11.6	BH-22	BH-23
	445.000	LPS9	Bearings	20.591	13.141	2.800	4.000	-8.3	-17.5	BH-24	BH-25
Concrete Viaduct C1 Intertidal	495.000	MP1	MJ + Bearings	20.522	13.622	8.250	2.995	-12.5	-23.6	BH-34	BH-35
	535.000	MP2	Bearings	20.691	13.241	9.300	2.752	-12.5	-29.8	BH-34	BH-35
	595.000	MP3	Bearings	20.992	13.542	9.300	2.395	-10.6	-34.1	BH-35	BH-36
	655.000	MP4	Bearings	21.292	13.842	9.300	2.265	-10.6	-35.5	BH-35	BH-36
	715.000	MP5	Bearings	21.593	14.143	9.300	2.154	-9.3	-31.3	BH-36	BH-37
	775.000	MP6	MJ + Bearings	21.894	14.994	9.300	2.083	-13.0	-27.3	BH-36	BH-37
	835.000	MP7	Bearings	22.194	14.744	9.300	2.031	-13.0	-26.9	BH-37	BH-38
	895.000	MP8	Bearings	22.495	15.045	9.300	1.989	-12.1	-25.5	BH-37	BH-38
	955.000	MP9	Bearings	22.795	15.345	9.300	1.968	-12.1	-25.0	BH-38	BH-39
	1,015.000	MP10	Bearings	23.096	15.646	9.300	1.950	-11.5	-23.5	BH-39	BH-40
	1,075.000	MP11	Bearings	23.397	15.947	9.300	1.935	-11.9	-35.3	BH-39	BH-40
	1,135.000	MP12	Bearings	23.697	16.247	9.300	1.917	-11.9	-35.1	BH-40	BH-41
	1,195.000	MP13	MJ + Bearings	23.998	16.548	9.300	1.899	-14.1	-30.5	BH-41	BH-42
	1,255.000	MP14	Bearings	24.298	16.848	9.300	1.899	-14.1	-30.7	BH-41	BH-42
	1,315.000	MP15	Bearings	24.599	17.149	9.300	1.889	-14.7	-30.6	BH-42	BH-43
	1,375.000	MP16	Bearings	24.833	17.383	9.300	1.862	-21.6	-32.7	BH-42	BH-43
	1,435.000	MP17	Bearings	24.741	17.291	9.300	1.818	-21.6	-30.9	BH-43	BH-44
	1,495.000	MP18	Bearings	24.446	16.996	9.300	1.768	-13.7	-25.6	BH-44	BH-45
	1,555.000	MP19	Bearings	24.146	16.696	9.300	1.775	-13.7	-20.3	BH-44	BH-45
	1,615.000	MP20	MJ + Bearings	23.846	16.396	9.300	1.747	-12.5	-18.8	BH-45	BH-46
	1,675.000	MP21	Bearings	23.546	16.096	9.300	1.665	-14.4	-23.0	BH-45	BH-46
	1,735.000	MP22	Bearings	23.246	15.796	9.300	1.633	-14.4	-23.6	BH-46	BH-47
	1,795.000	MP23	Bearings	22.946	15.496	9.300	1.623	-14.0	-22.5	BH-46	BH-47
	1,855.000	MP24	Bearings	22.646	15.196	9.300	1.616	-14.0	-22.0	BH-47	BH-48
	1,915.000	MP25	Bearings	22.346	14.896	9.300	1.597	-13.3	-23.1	BH-48	BH-49
	1,975.000	MP26	Bearings	22.046	14.596	9.300	1.560	-9.5	-36.0	BH-48	BH-49
	2,035.000	MP27	MJ + Bearings	21.746	14.296	9.300	1.552	-9.5	-21.6	BH-49	BH-50
	2,095.000	MP28	Bearings	21.446	13.996	9.300	1.558	-6.4	-18.0	BH-50	BH-51
	2,155.000	MP29	Bearings	21.146	13.696	9.300	1.504	-6.4	-24.8	BH-50	BH-51
	2,215.000	MP30	Bearings	20.846	13.396	9.300	1.474	-10.0	-31.5	BH-51	BH-52
	2,275.000	MP31	Bearings	20.546	13.096	9.300	1.482	-13.1	-32.3	BH-51	BH-52
	2,335.000	MP32	Bearings	20.246	12.796	9.300	1.479	-13.1	-33.0	BH-52	BH-53
	2,395.000	MP33	Bearings	19.946	12.496	9.300	1.468	-13.2	-32.4	BH-52	BH-53
	2,455.000	MP34	MJ + Bearings	19.646	12.196	9.300	1.396	-13.2	-31.5	BH-53	BH-54
	2,515.000	MP35	Bearings	19.352	11.902	9.300	1.351	-13.3	-32.5	BH-54	BH-55
	2,575.000	MP36	Bearings	19.641	12.191	9.300	1.358	-7.1	-27.7	BH-54	BH-55
	2,635.000	MP37	Bearings	20.920	13.470	9.300	1.348	-7.1	-23.4	BH-55	BH-56
	2,695.000	MP38	Bearings	22.420	14.970	9.300	1.329	-13.4	-25.7	BH-56	BH-57
	2,755.000	MP39	Bearings	23.920	16.470	9.300	1.331	-13.4	-23.5	BH-56	BH-57
	2,815.000	MP40	MJ + Bearings	25.420	17.970	9.300	1.216	-7.2	-35.4	BH-58	BH-59
	2,875.000	MP41	Bearings	26.920	19.470	9.300	1.220	-7.2	-34.9	BH-58	BH-59
	2,935.000	MP42	Bearings	28.420	20.970	9.300	1.224	-13.4	-32.8	BH-58	BH-59
	2,995.000	MP43	Bearings	29.920	22.470	9.300	1.228	-13.4	-30.7	BH-59	BH-60
	3,055.000	MP44	Bearings	31.420	23.970	9.300	1.242	-13.3	-30.4	BH-59	BH-60
	3,115.000	MP45	MJ + Bearings	32.920	25.470	9.300	1.241	-9.7	-30.6	BH-60	BH-61
	3,175.000	MP46	Bearings	34.420	26.970	9.300	1.212	-11.9	-31.7	BH-60	BH-61
	3,235.000	MP47	Bearings	35.915	28.465	9.300	1.182	-11.9	-27.5	BH-61	BH-62
	3,295.000	MP48	Bearings	37.113	29.663	9.300	1.151	-11.9	-21.8	BH-61	BH-62
	3,355.000	MP49	Bearings	37.799	30.349	9.300	1.120	-3.4	-17.8	BH-61	BH-62
Tata Therma Power Station	3,395.000	MP50	MJ + Bearings	38.020	27.920	6.000	1.102	-3.4	-14.7	BH-62	BH-63
	3,480.000	MP51	Bearing fixed	38.445	26.045	6.000	1.335	-0.2	-16.0	BH-63	BH-64
	3,630.000	MP52	Bearing fixed	38.505	26.105	6.000	0.802	-3.2	-24.1	BH-63	BH-64
Concrete Viaduct C2 Marine	3,715.000	MP53	MJ + Bearings	38.080	27.980	6.000	0.874	-3.6	-23.4	BH-65	BH-66
	3,768.750	MP54	Bearings	37.811	30.361	9.300	0.811	-4.0	-11.7	BH-66	BH-67
	3,828.750	MP55	Bearings	37.511	30.061	9.300	0.929	-4.0	-13.7	BH-66	BH-67
	3,888.750	MP56	Bearings	37.211	29.761	9.300	1.000	-6.0	-18.0	BH-67	BH-68
	3,942.500	MP57	Bearings	36.943	29.493	9.300	0.989	-6.0	-16.3	BH-68	BH-69
	3,996.250	MP58	Bearings	36.674	29.224	9.300	1.076	-9.5	-16.5	BH-69	BH-70
	4,056.250	MP59	Bearings	36.374	28.924	9.300	1.268	-4.8	-20.1	BH-69	BH-70
	4,116.250	MP60	Bearings	36.074	28.624	9.300	1.097	-4.8	-28.2	BH-70	BH-71
	4,170.000	MP61	MJ + Bearings	35.926	28.476	9.300	0.911	-6.6	-22.9	BH-71	BH-72
	4,223.750	MP62	Bearings	36.064	28.614	9.300	1.004	-9.0	-17.6	BH-72	BH-73
	4,283.750	MP63	Bearings	36.364	28.914	9.300	1.063	-10.8	-19.0	BH-73	BH-74
	4,343.750	MP64	Bearings	36.664	29.214	9.300	1.191	-11.8	-18.1	BH-73	BH-74
	4,397.500	MP65	Bearings	36.933	29.483	9.300	1.114	-9.9	-31.9	BH-74	BH-75
	4,451.250	MP66	Bearings	37.201	29.751	9.300	0.721	-10.3	-25.1	BH-75	BH-76
	4,511.250	MP67	Bearings	37.501	30.051	9.300	0.837	-9.1	-25.7	BH-76	BH-77
	4,571.250	MP68	Bearings	37.801	30.351	9.300	0.712	-9.1	-31.9	BH-77	BH-78
Tata Thermal Power Station Coal Barth Channel	4,625.000	MP69	MJ + Bearings	38.070	27.970	6.000	0.409	-14.1	-30.4	BH-77	BH-78
	4,715.000	MP70	Bearing fixed	38.520	26.120	6.000	-0.353	-11.6	-25.9	BH-79	BH-80
	4,865.000	MP71	Bearing fixed	39.145	26.745	6.000	-2.236	-14.9	-26.3	BH-81	BH-82
	5,015.000	MP72	Bearing fixed	38.520	26.120	6.000	-2.027	-7.0	-17.0	BH-81	BH-82
	5,115.000	MP73	Bearing	38.020	27.220	6.000	-1.921	-7.0	-11.2	BH-82	BH-83
	5,215.000	MP74	Bearing	37.520	26.720	6.000	-2.019	-9.3	-13.4	BH-84	BH-85
	5,308.000	MP75	MJ + Bearing	37.055	26.955	6.000	-2.401	-9.4	-17.5	BH-85	BH-86
	5,428.000	MP76	Bearing	37.035	23.635	6.000	-2.979	-10.4	-20.5	BH-87	BH-88
	5,608.000	MP77	Bearing fixed	37.935	25.535	6.000	-3.225	-11.4	-27.7	BH-87	BH-88
	5,728.000	MP78	Bearing fixed	38.535	26.735	6.000	-4.248	-11.4	-41.8	BH-89	BH-90
	5,868.000	MP79	Bearing fixed	38.505	26.705	6.000	-4.475	-10.8	-28.2	BH-90	BH-91
	5,988.000	MP80	Bearing	37.904	26.104	6.000	-6.007	-14.3	-26.3	BH-91	BH-92

Bridge Name	Chainage	Pier	Connection	Level in m C.D. R.R.L	Top pier shaft	Top Pilecap	Ground	Bot. Liner	Pile Toe	Adjacent boreholes used for design	
Concrete Viaduct C3 Marine	6,078.000	MP81	MJ + Bearings	37.260	27.160	6.000	-6.119	-14.5	-31.3	BH-93	BH-94
	6,119.000	MP82	Bearings	36.855	29.405	9.300	-5.934	-19.1	-19.2	BH-93	BH-94
	6,179.000	MP83	Bearings	36.255	28.805	9.300	-3.621	-14.9	-28.2	BH-95	BH-96
	6,239.000	MP84	Bearings	35.655	28.205	9.300	-3.650	-14.6	-35.8	BH-96	BH-97
	6,299.000	MP85	Bearings	35.055	27.605	9.300	-3.629	-12.7	-29.9	BH-97	BH-98
	6,359.000	MP86	Bearings	34.455	27.005	9.300	-3.567	-15.7	-40.7	BH-97	BH-98
	6,419.000	MP87	Bearings	33.855	26.405	9.300	-3.592	-17.6	-38.7	BH-98	BH-99
	6,479.000	MP88	Bearings	33.255	25.805	9.300	-3.650	-17.6	-37.7	BH-99	BH-100
	6,539.000	MP89	MJ + Bearings	32.655	25.205	9.300	-3.638	-19.0	-32.2	BH-99	BH-100
	6,599.000	MP90	Bearings	32.055	24.605	9.300	-3.612	-16.6	-28.2	BH-100	BH-101
	6,659.000	MP91	Bearings	31.455	24.005	9.300	-3.556	-16.6	-29.3	BH-100	BH-101
	6,719.000	MP92	Bearings	30.855	23.405	9.300	-3.506	-21.0	-30.5	BH-101	BH-102
	6,779.000	MP93	Bearings	30.255	22.805	9.300	-3.400	-19.5	-27.6	BH-103	BH-104
	6,839.000	MP94	Bearings	29.655	22.205	9.300	-3.412	-17.7	-27.7	BH-103	BH-104
	6,899.000	MP95	Bearings	29.055	21.605	9.300	-3.454	-15.9	-25.6	BH-104	BH-105
	6,959.000	MP96	MJ + Bearings	28.455	21.005	9.300	-3.729	-14.5	-25.9	BH-105	BH-106
	7,019.000	MP97	Bearings	27.855	20.405	9.300	-3.760	-12.9	-25.5	BH-106	BH-107
	7,079.000	MP98	Bearings	27.255	19.805	9.300	-3.583	-14.6	-24.6	BH-106	BH-107
	7,139.000	MP99	Bearings	26.655	19.205	9.300	-3.475	-14.6	-32.2	BH-108	BH-109
	7,199.000	MP100	Bearings	26.055	18.605	9.300	-3.446	-16.5	-26.8	BH-109	BH-110
	7,259.000	MP101	Bearings	25.477	18.027	9.300	-3.411	-16.0	-29.3	BH-109	BH-110
	7,319.000	MP102	Bearings	25.408	17.958	9.300	-3.498	-19.4	-30.5	BH-110	BH-111
	7,379.000	MP103	MJ + Bearings	25.940	18.490	9.300	-3.638	-19.4	-31.8	BH-110	BH-111
	7,439.000	MP104	Bearings	26.540	19.090	9.300	-3.688	-22.6	-36.6	BH-111	BH-112
	7,499.000	MP105	Bearings	27.140	19.690	9.300	-3.736	-24.0	-36.1	BH-112	BH-113
	7,559.000	MP106	Bearings	27.740	20.290	9.300	-3.785	-24.0	-26.3	BH-112	BH-113
	7,619.000	MP107	Bearings	28.340	20.890	9.300	-3.869	-19.6	-27.3	BH-113	BH-114
	7,679.000	MP108	Bearings	28.940	21.490	9.300	-3.970	-19.6	-32.4	BH-113	BH-114
	7,739.000	MP109	Bearings	29.540	22.090	9.300	-4.121	-21.3	-30.6	BH-115	BH-116
	7,799.000	MP110	MJ + Bearings	30.140	22.690	9.300	-4.539	-18.3	-29.4	BH-116	BH-117
	7,859.000	MP111	Bearings	30.740	23.290	9.300	-5.262	-16.5	-28.1	BH-117	BH-118
	7,919.000	MP112	Bearings	31.340	23.890	9.300	-5.734	-14.4	-28.6	BH-118	BH-119
	7,979.000	MP113	Bearings	31.940	24.490	9.300	-6.163	-15.1	-30.0	BH-119	BH-120
	8,039.000	MP114	Bearings	32.540	25.090	9.300	-5.802	-15.1	-24.9	BH-119	BH-120
	8,099.000	MP115	Bearings	33.140	25.690	9.300	-5.719	-16.1	-22.7	BH-120	BH-121
	8,159.000	MP116	Bearings	33.740	26.290	9.300	-6.082	-16.1	-26.2	BH-120	BH-121
	8,219.000	MP117	MJ + Bearings	34.340	26.890	9.300	-6.003	-16.6	-31.1	BH-121	BH-122
	8,279.000	MP118	Bearings	34.940	27.490	9.300	-5.721	-16.6	-37.8	BH-122	BH-123
	8,339.000	MP119	Bearings	35.540	28.090	9.300	-5.884	-15.7	-35.6	BH-123	BH-124
	8,399.000	MP120	Bearings	36.140	28.690	9.300	-5.713	-16.3	-29.6	BH-124	BH-125
	8,459.000	MP121	Bearings	36.740	29.290	9.300	-5.149	-15.5	-25.8	BH-125	BH-126
	8,519.000	MP122	Bearings	37.331	29.881	9.300	-5.436	-15.6	-24.5	BH-126	BH-127
	8,579.000	MP123	Bearings	37.784	30.334	9.300	-5.849	-18.9	-26.9	BH-127	BH-128
Thane Creek Channel	8,620.000	MP124	MJ + Bearing	38.000	27.350	6.000	-6.045	-18.9	-36.5	BH-127	BH-128
	8,720.000	MP125	Bearing fixed	38.500	26.100	6.000	-6.200	-23.1	-38.9	BH-129	BH-130
	8,900.000	MP126	Bearing fixed	39.275	26.875	6.000	-6.100	-20.6	-50.3	BH-129	BH-130
	9,080.000	MP127	Bearing fixed	38.500	26.100	6.000	-5.999	-22.0	-35.1	BH-131	BH-132
Concrete Viaduct C4 Marine	9,180.000	MP128	MJ + Bearing	38.000	27.350	6.000	-5.900	-20.4	-33.4	BH-132	BH-133
	9,240.000	MP129	Bearings	37.660	30.210	9.300	-5.889	-20.4	-27.0	BH-133	BH-134
	9,300.000	MP130	Bearings	37.150	29.700	9.300	-5.829	-18.9	-27.9	BH-133	BH-134
	9,360.000	MP131	Bearings	36.550	29.100	9.300	-5.770	-19.8	-29.4	BH-134	BH-135
	9,420.000	MP132	Bearings	35.950	28.500	9.300	-5.710	-19.8	-29.7	BH-134	BH-135
	9,480.000	MP133	Bearings	35.350	27.900	9.300	-5.700	-18.7	-25.5	BH-135	BH-136
	9,540.000	MP134	Bearings	34.750	27.300	9.300	-5.690	-20.2	-23.0	BH-136	BH-137
	9,600.000	MP135	MJ + Bearing	34.150	26.700	9.300	-5.629	-20.2	-24.2	BH-136	BH-137
	9,660.000	MP136	Bearings	33.550	26.100	9.300	-5.539	-12.1	-30.5	BH-137	BH-138
	9,720.000	MP137	Bearings	32.950	25.500	9.300	-5.419	-12.1	-32.7	BH-137	BH-138
	9,780.000	MP138	Bearings	32.350	24.900	9.300	-5.350	-19.9	-34.1	BH-138	BH-139
	9,840.000	MP139	Bearings	31.750	24.300	9.300	-5.271	-10.8	-34.9	BH-139	BH-140
	9,900.000	MP140	Bearings	31.150	23.700	9.300	-5.088	-10.8	-25.4	BH-139	BH-140
	9,960.000	MP141	Bearings	30.550	23.100	9.300	-4.908	-13.0	-20.0	BH-140	BH-142
	10,020.000	MP142	MJ + Bearing	29.950	22.500	9.300	-4.731	-13.0	-22.4	BH-140	BH-142
	10,080.000	MP143	Bearings	29.350	21.900	9.300	-4.576	-15.4	-23.2	BH-142	BH-143
	10,140.000	MP144	Bearings	28.750	21.300	9.300	-4.425	-15.4	-24.4	BH-142	BH-143
	10,200.000	MP145	Bearings	28.150	20.700	9.300	-4.274	-22.7	-26.2	BH-142	BH-143
	10,260.000	MP146	Bearings	27.550	20.100	9.300	-4.108	-22.7	-30.1	BH-143	BH-144
	10,320.000	MP147	Bearings	26.950	19.500	9.300	-3.929	-22.7	-37.7	BH-143	BH-144



Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Abbreviations
- FT Foundation type.
- MJ Movement joint.
- MP Marine pier.
- LPS Land pier Sewri .
- P Pier type.
- R.R.L. Road reference line.

References:
- MTHL-CO-C-P1-MV-GA-0161 Marine Viaduct - Pier Type 1 and 2
- MTHL-CO-C-P1-MV-GA-0181 Marine Viaduct - Foundation Type 1
- MTHL-CO-C-P1-SB-FB-0171 Steel Bridges - Pier Type 3
- MTHL-CO-C-P1-SB-FB-0172 Steel Bridges - Pier Type 4
- MTHL-CO-C-P1-SB-GA-0189 Steel Bridges - Foundation Type 8
- MTHL-CO-C-P1-SB-GA-0190 Steel Bridges - Foundation Type 9
- MTHL-CO-C-P1-SB-GA-0191 Steel Bridges - Foundation Type 3
- MTHL-CO-C-P1-SB-GA-0192 Steel Bridges - Foundation Type 4
- MTHL-CO-C-P1-LV-GA-0193 Land Viaduct - Foundation Type 5
- MTHL-CO-C-P1-LV-GA-0194 Land Viaduct - Foundation Type 7

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: Marine Viaduct Substructure Schedule

SCALE: N/A

DRAWING No MTHL-CO-C-P1-MV-GA-0151 SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

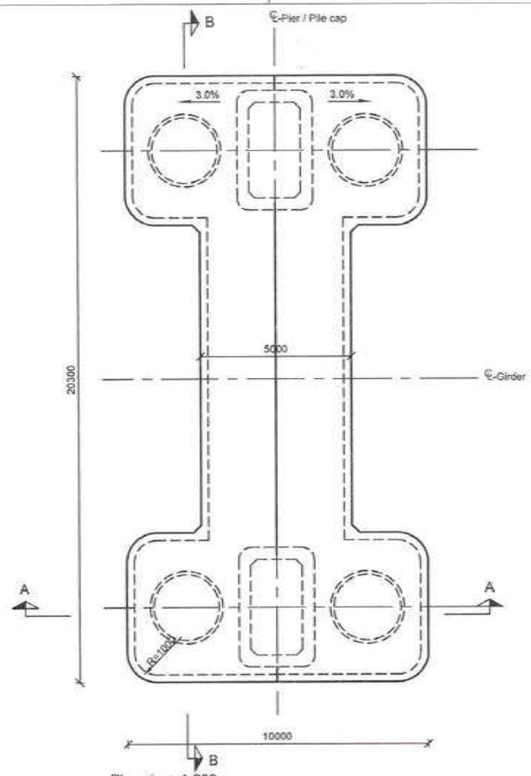
PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

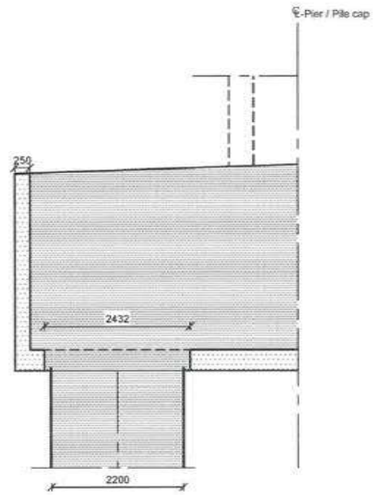
7189

1778

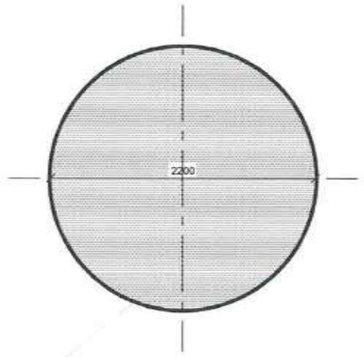
7191



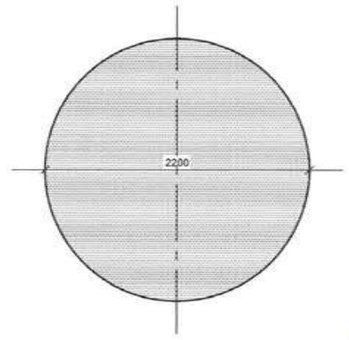
Plan view, 1:200



Detail 1, 1:100



Section C-C 1:50



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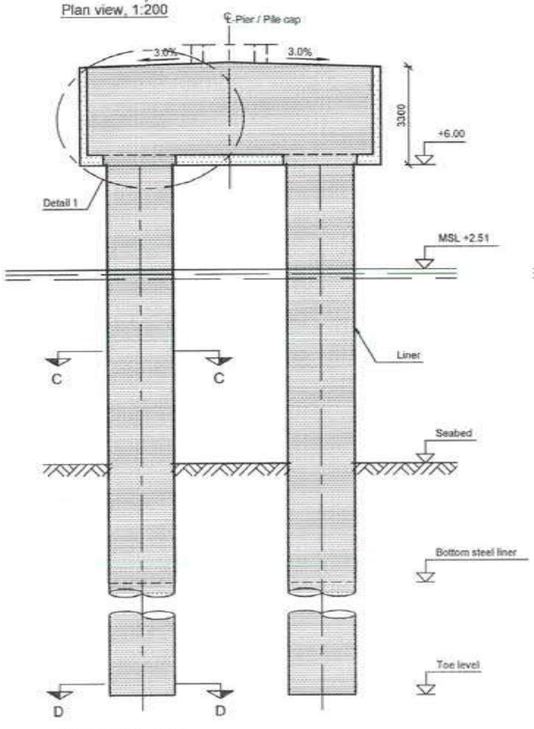

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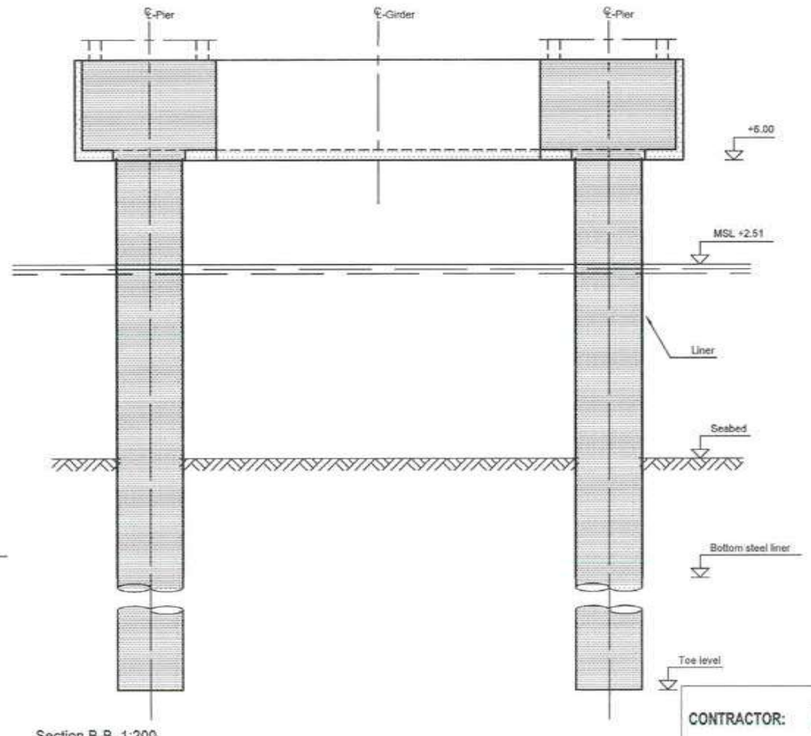


Section B-B, 1:200

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

- In-situ concrete
- Prefabricated concrete
- Steel
- MSL — Mean sea level

References:

- MTHL-CO-C-P1-CN-ST-0005 General notes
- MTHL-CO-C-P1-MV-GA-0150 Marine Viaduct - Substructure Schedule
- MTHL-CO-C-P2-MV-GA-0155 Marine Viaduct - Substructure Schedule

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT FOUNDATION TYPE 1

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M V – G A – 0 1 8 1

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

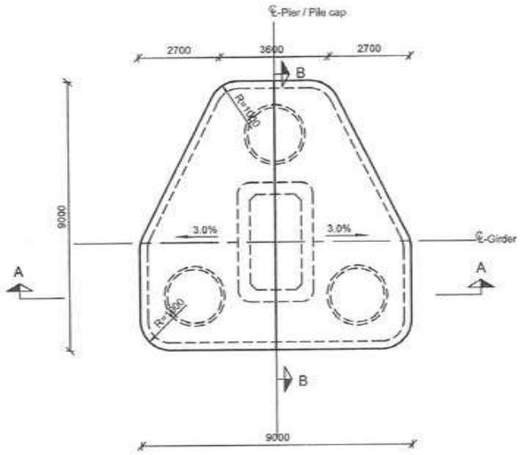
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

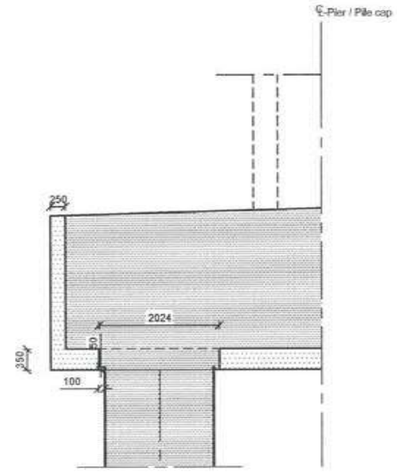
PROJECTION

7193

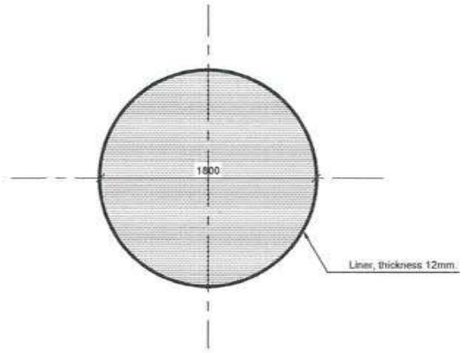
1730



Plan view, 1:200



Detail 1, 1:100



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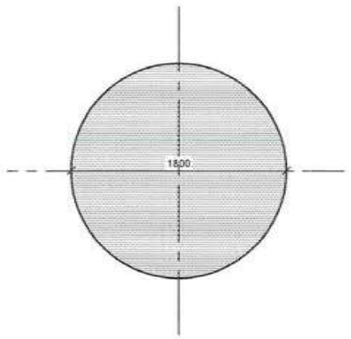

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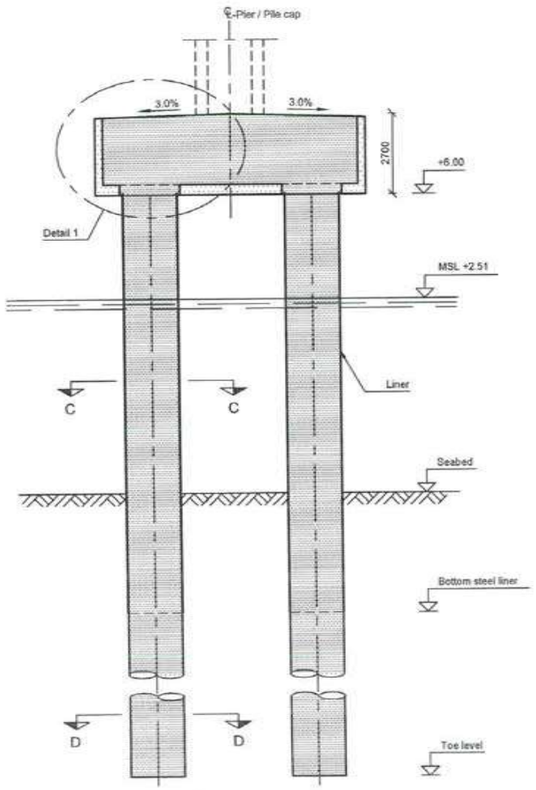
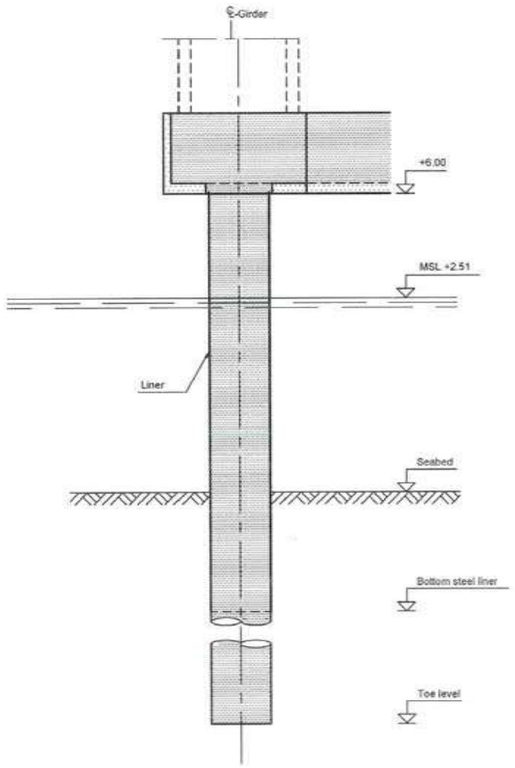


Section A-A, 1:200



Section B-B, 1:200

L&T-IHI CONSORTIUM CHENNAI (INDIA)

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

- In-situ concrete
- Prefabricated concrete
- Steel
- MSL Mean sea level

References:

MTHL-CO-C-P1-CN-ST-0005 General notes
MTHL-CO-C-P1-MV-GA-0151 Marine Viaduct - Substructure Schedule
MTHL-CO-C-P2-MV-GA-0155 Marine Viaduct - Substructure Schedule

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT FOUNDATION TYPE 2

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – M V – G A – 0 1 8 2

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

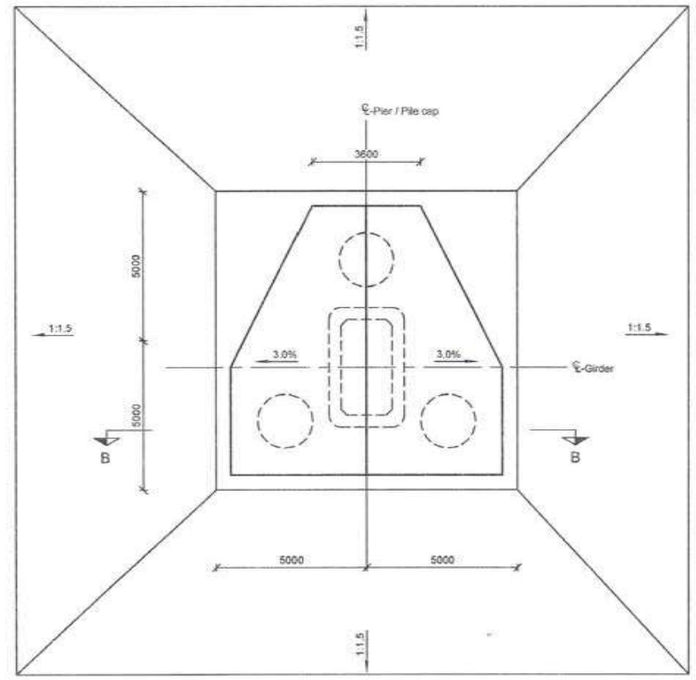
SHEET 1 OF 1 REV. A

PROJECTION

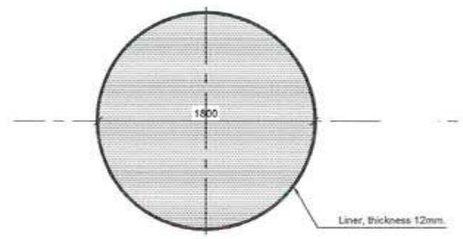
7195

301781

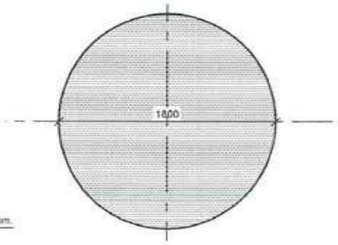
Foundation Type 5



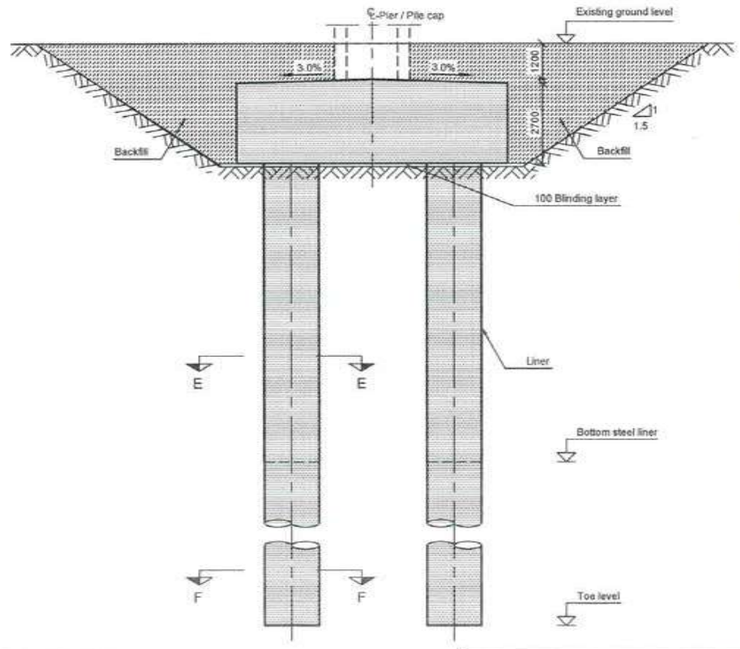
Plan view, 1:200



Section E-E 1:50



Section F-F 1:50



Section B-B, 1:200

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

- In-situ concrete
- Prefabricated concrete
- Backfill

References:

MTHL-CO-C-P1-CN-ST-0005 General notes
MTHL-CO-C-P1-MV-GA-0150 Marine Viaduct - Substructure Schedule
MTHL-CO-C-P2-MV-GA-0155 Marine Viaduct - Substructure Schedule

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: LAND VIADUCT FOUNDATION TYPE 5

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – L V – G A – 0 1 9 3

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

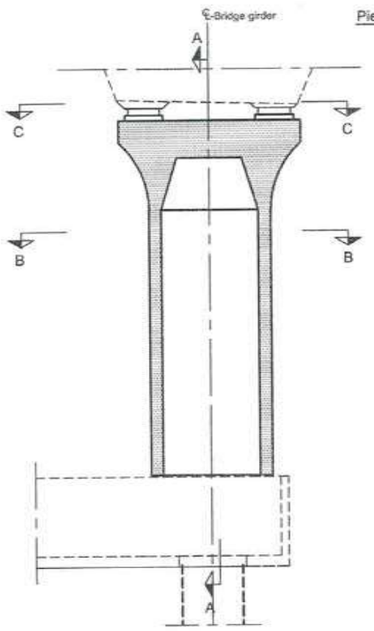
SHEET 1 OF 1 REV. A

PROJECTION

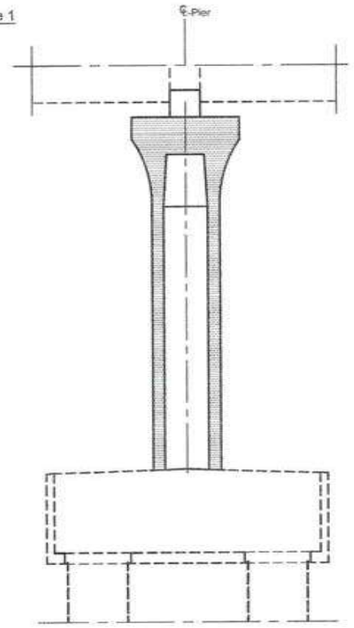
7197

1782

Pier Type 1

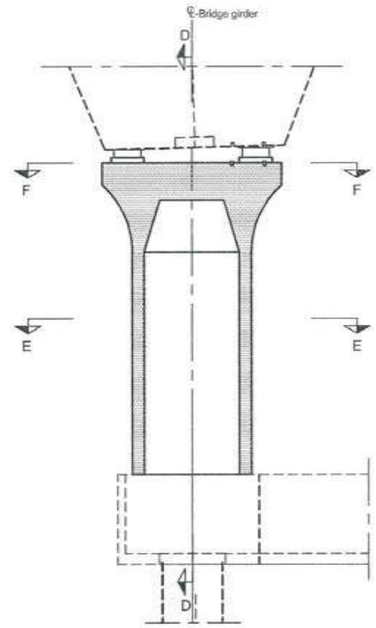


Section ℄ - Pier, 1:200

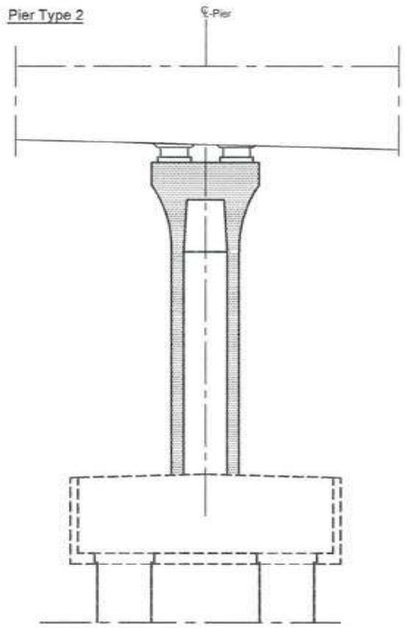


Section A-A, 1:200

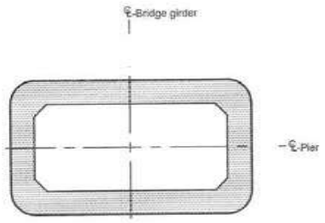
Pier Type 2



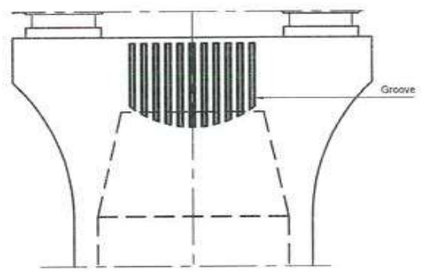
Section ℄ - Pier, 1:200



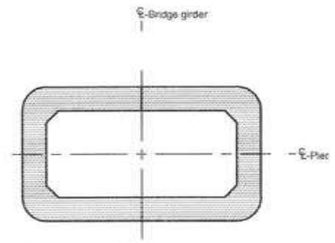
Section D-D, 1:200



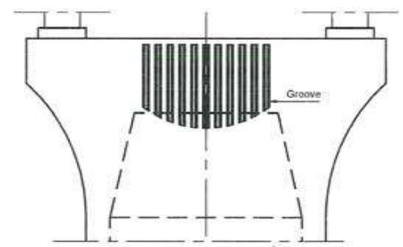
Section B-B, 1:100



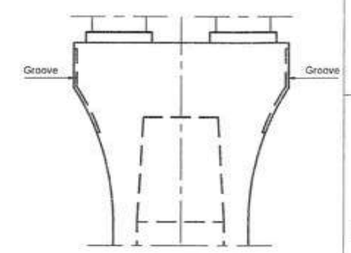
Elevation J-J, 1:100



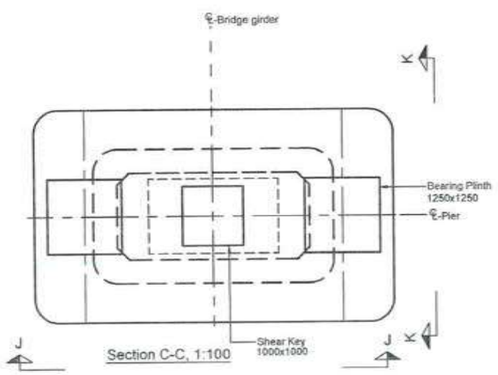
Section E-E, 1:100



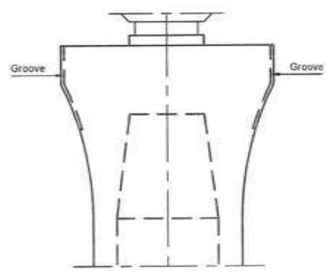
Elevation G-G, 1:100



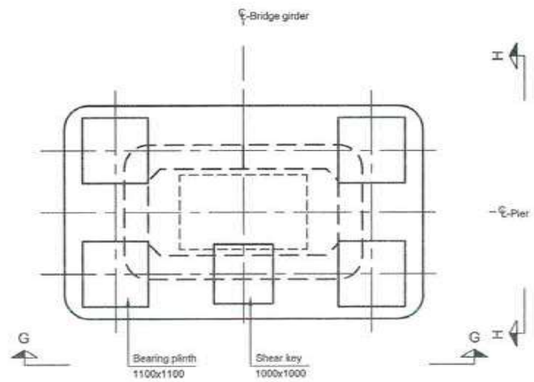
Elevation H-H, 1:100



Section C-C, 1:100



Elevation K-K, 1:100



Section F-F, 1:100

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

In-situ concrete

References:

MTHL-CO-C-P1-CN-ST-0005 General notes

MTHL-CO-C-P1-MV-GA-0151 Marine Viaduct - Substructure Schedule

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MARINE VIADUCT PIER TYPE 1 AND 2

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M V – F B – 0 1 6 1

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

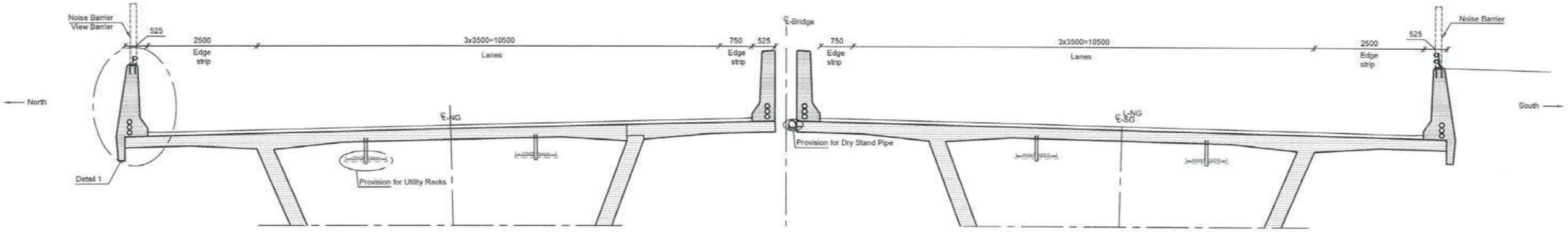
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

PROJECTION

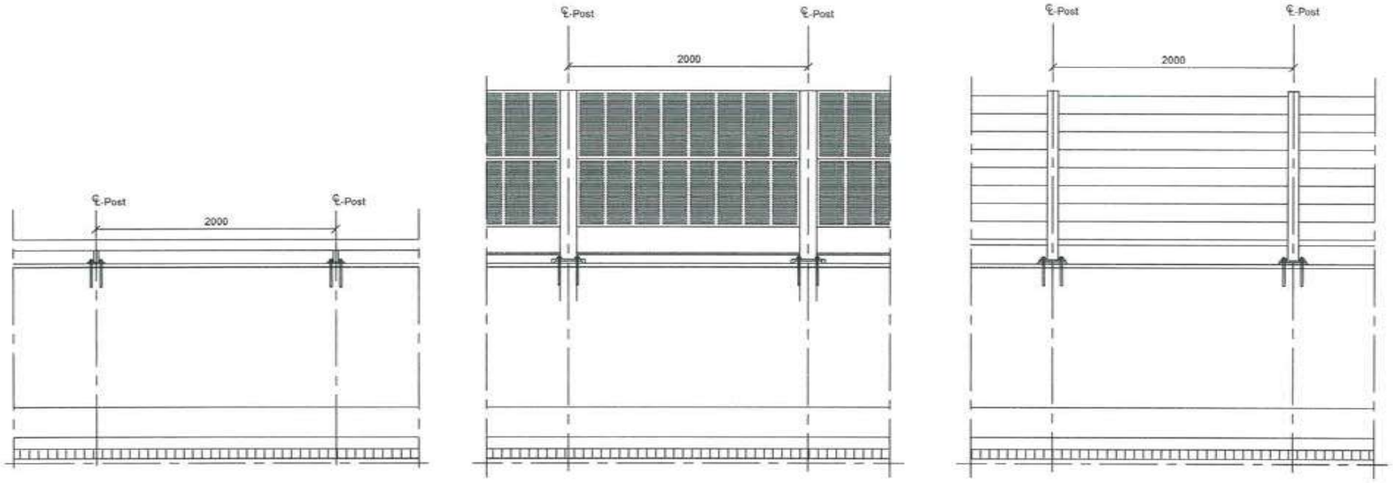
7199

661783



Bridge deck, concrete girder, 1:200

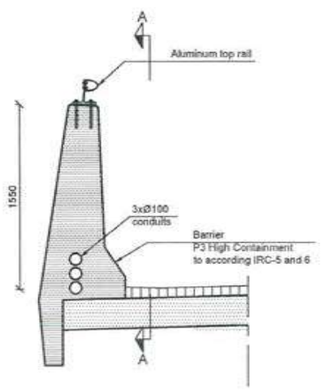
Looking East.



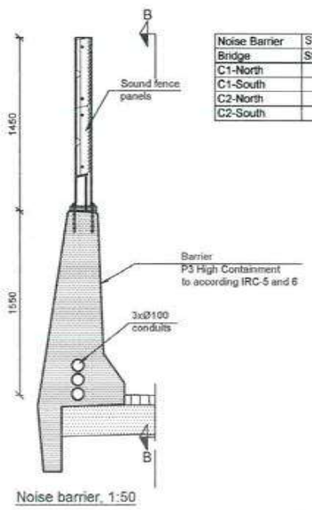
Section A-A, 1:50

Section B-B, 1:50

Section C-C, 1:50

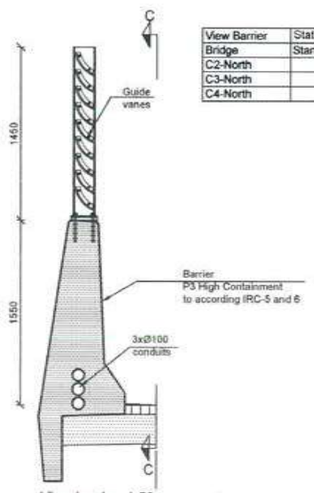


Detail 1, 1:50



Noise Barrier	Stationing	
Bridge	Start	End
C1-North	500	3395
C1-South	500	3395
C2-North	3715	4000
C2-South	3715	4625

Noise barrier, 1:50



View Barrier	Stationing	
Bridge	Start	End
C2-North	4000	4625
C3-North	6078	8620
C4-North	9180	10000

View barrier, 1:50

Detail 2, 1:25

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Abbreviations: NG/SG: North girder/ south girder; C1: Concrete bridge no.

Legend:

- In-situ concrete
- Prefabricated concrete
- Pavement

References:

MTHL-CO-C-P1-GN-ST-0005 General notes

L&T-IHI CHENNAI (INDIA) CONSORTIUM

MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: BRIDGE FURNITURE
CONCRETE BRIDGES GENERAL LAYOUT

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M S – F B – 0 4 0 1

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

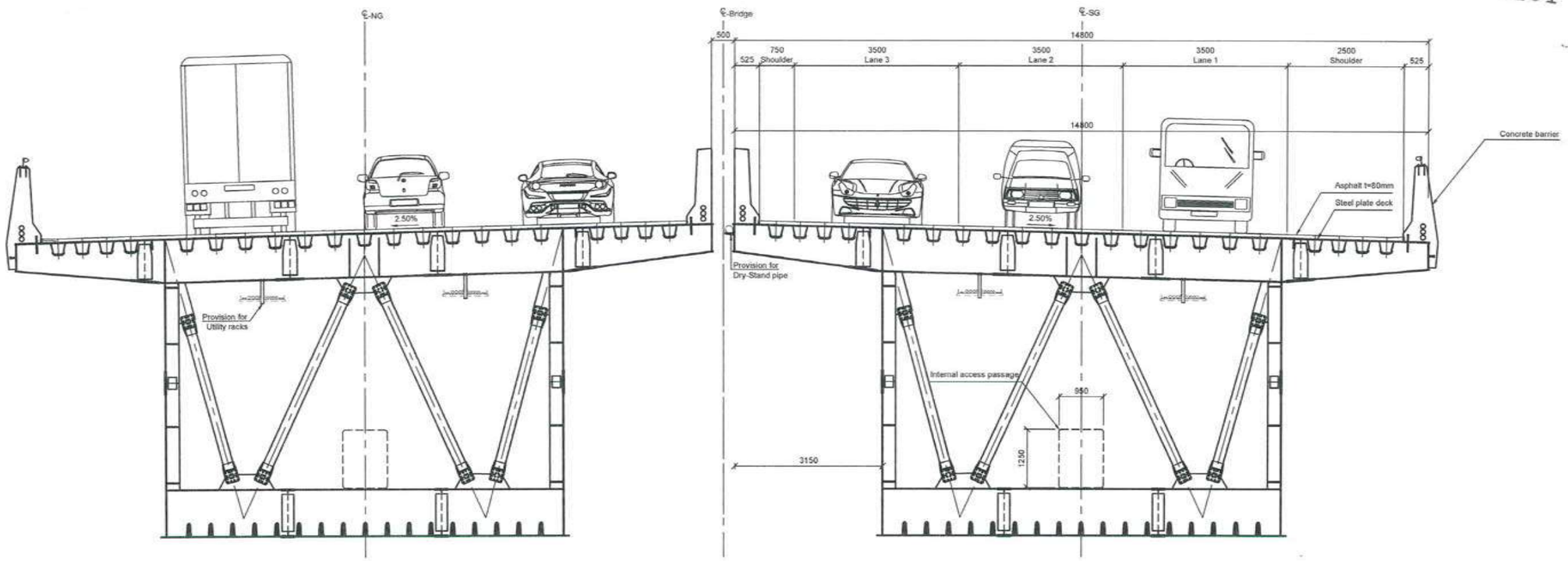
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

PROJECTION

7201

1784



General arrangement, 1:50
(Looking East)

Notes:
Dimensions: Dimensions are in millimeters unless otherwise noted.
Levels are in meters.

Legend:
Steel

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGES
GIRDER GENERAL ARRANGEMENT, CROSS SECTION

SCALE AS SHOWN

DRAWING No M T H L – CO – C – P 1 – S B – F B – 0 2 0 1

SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

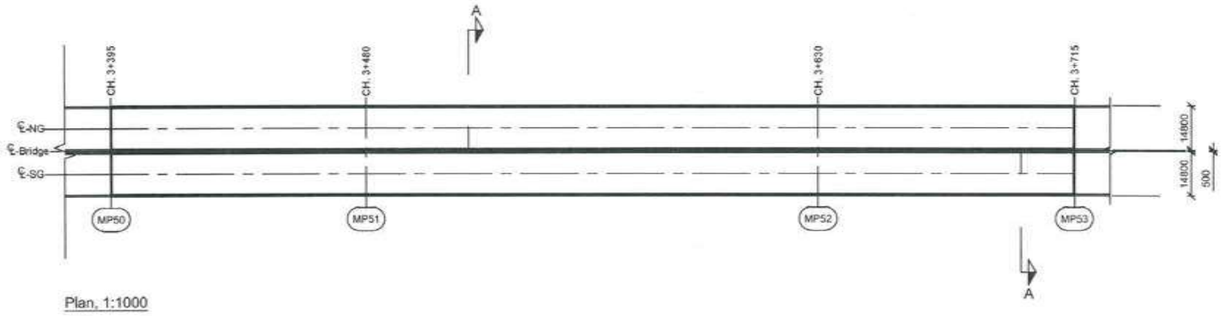
PROJECTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

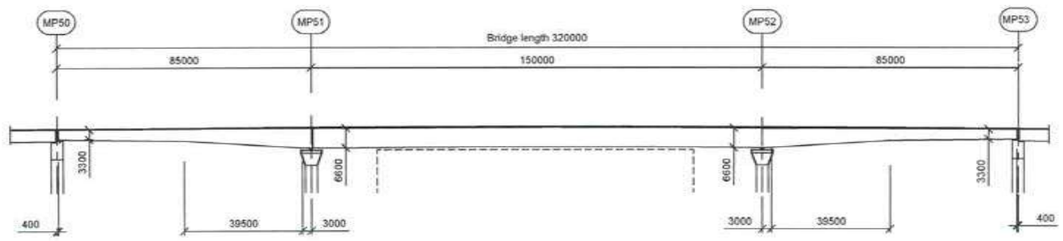
PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

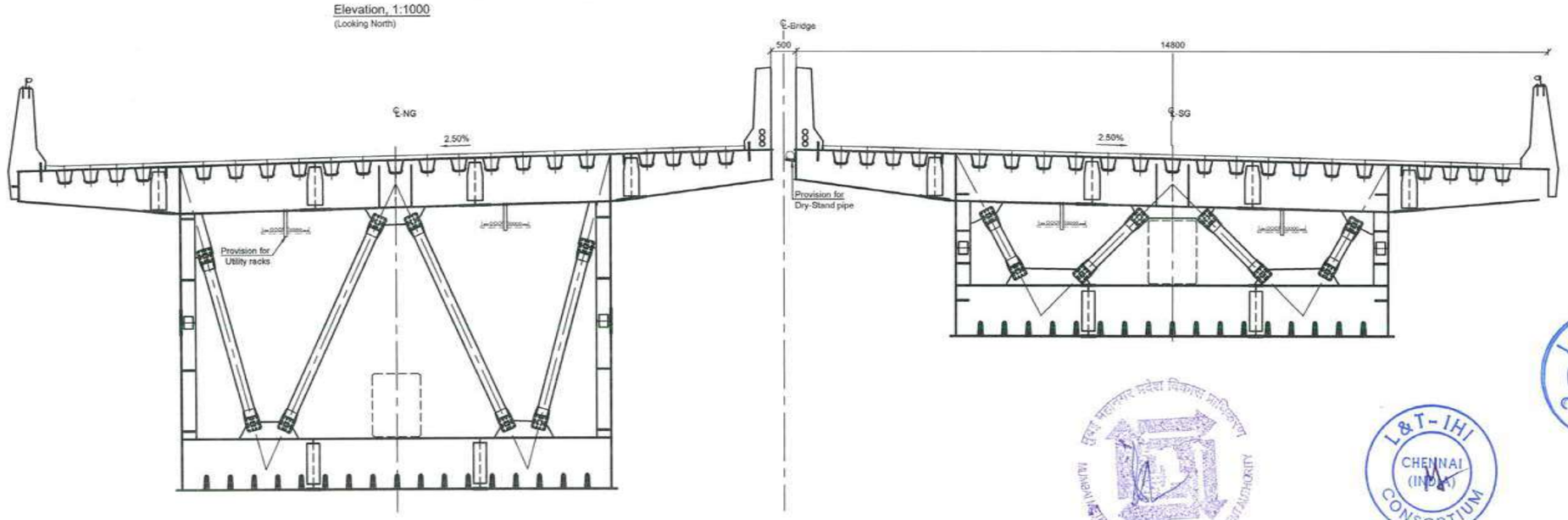
7203



Plan, 1:1000



Elevation, 1:1000
(Looking North)



Section A - A, 1:50
(Looking East)

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters.

Legend:

Steel

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGE P1-OS01 NS/SS GIRDER ARRANGEMENT, PLAN, ELEVATION

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – S B – G A – 0 2 1 1

SHEET 1 OF 1 REV. A

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

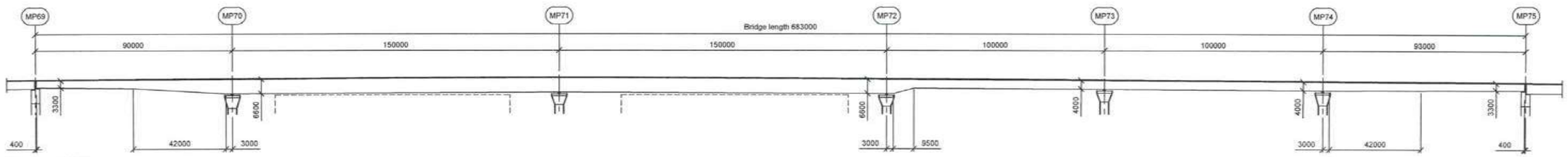
PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

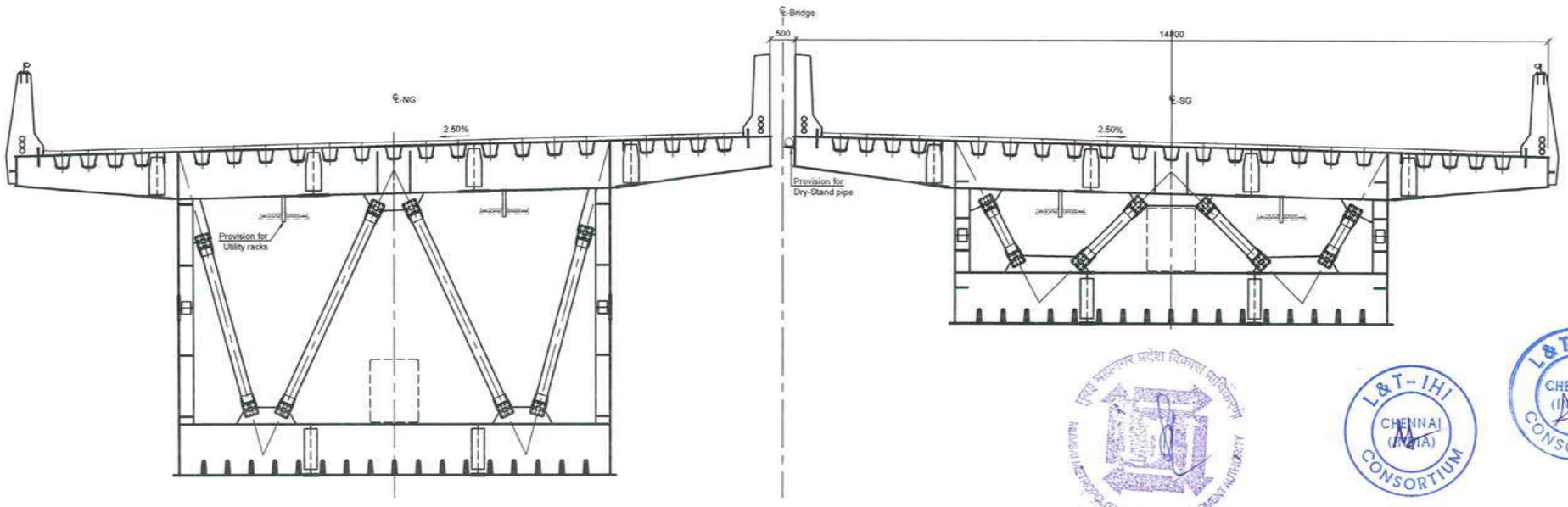
7205

1786

Plan, 1:1000



Elevation, 1:1000
(Looking North)



Section A - A, 1:50
(Looking East)

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters.

Legend:

Steel

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: STEEL BRIDGE P1-OS02 NS/SS
GIRDER ARRANGEMENT, PLAN, ELEVATION

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – S B – G A – 0 2 1 5

SHEET 1 OF 1 REV. A

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

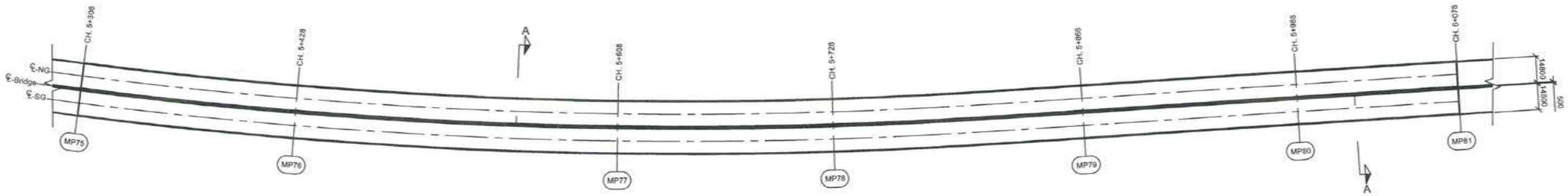
PROJECTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

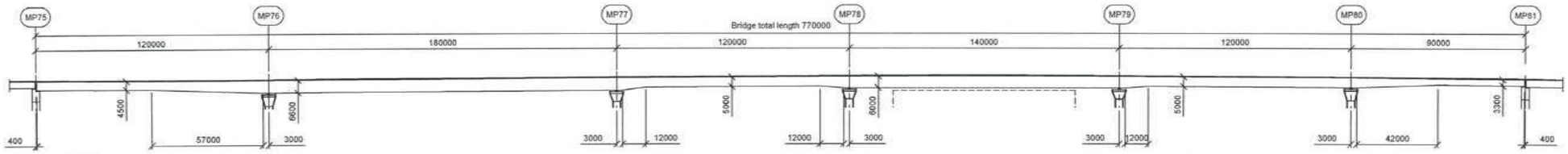
PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

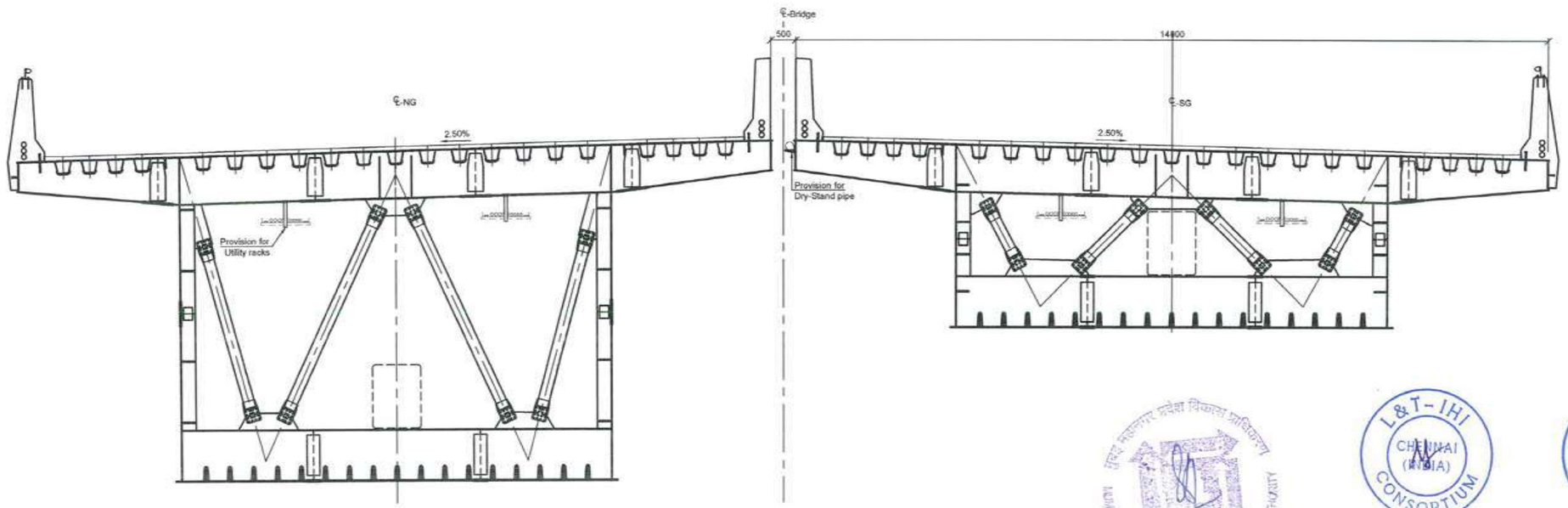
7206



Plan, 1:1250



Elevation, 1:1250
(Looking North)



Section A - A, 1:50
(Looking East)

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters.

Legend:

Steel

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGE P1-OS03 NS/SS GIRDER ARRANGEMENT, PLAN, ELEVATION

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – S B – G A – 0 2 1 9

SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

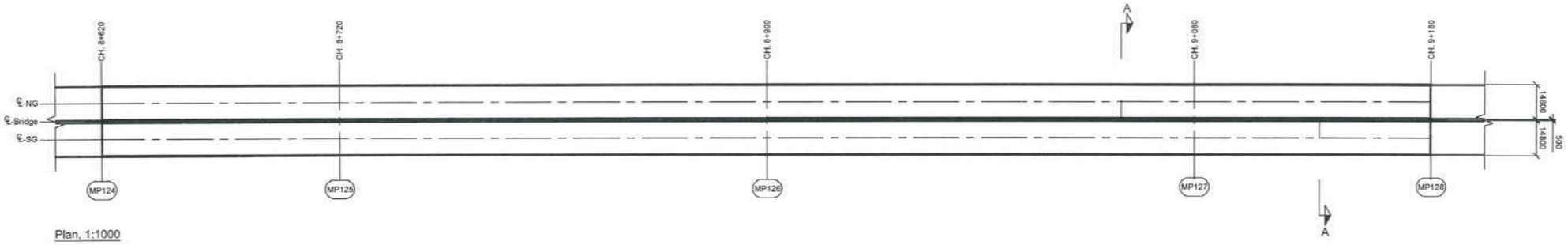
CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

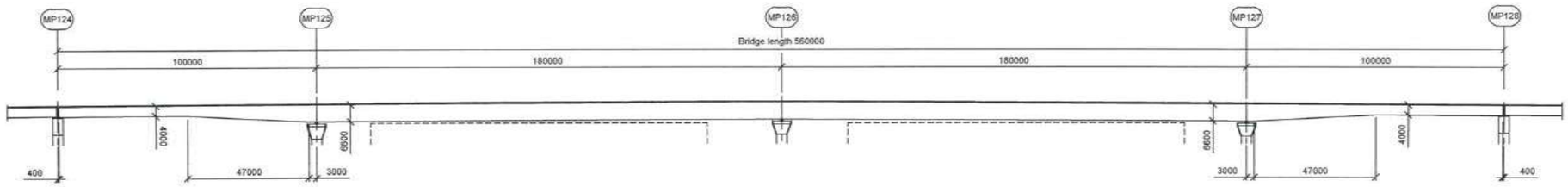
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7209

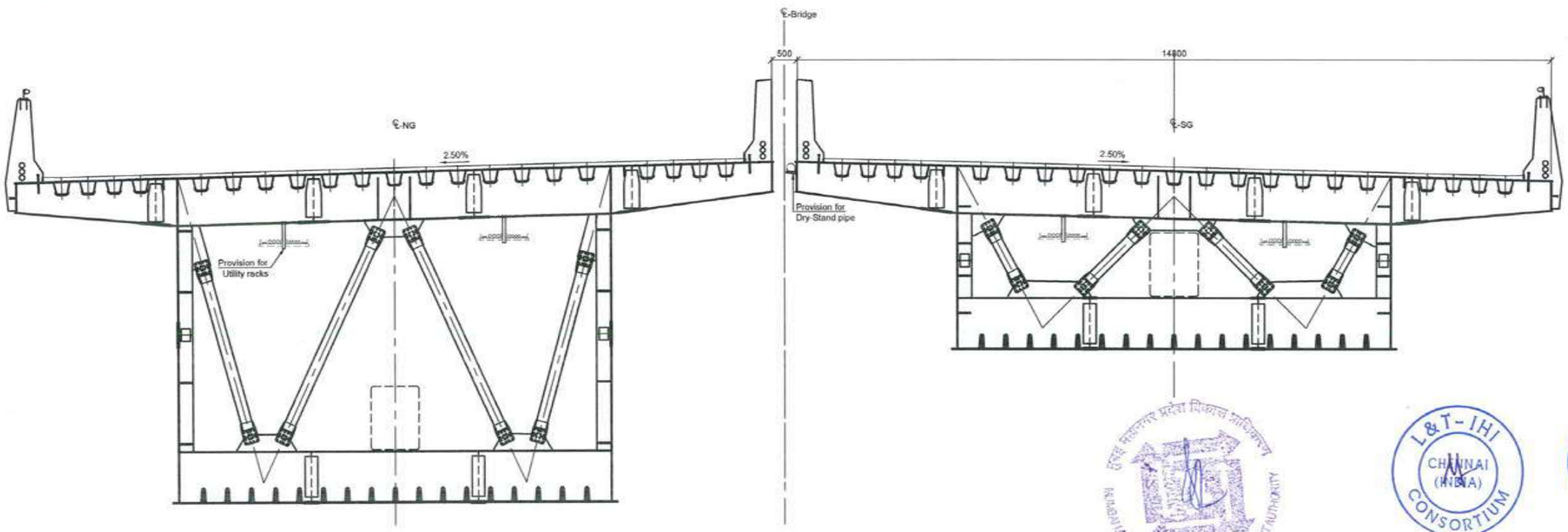
001788



Plan, 1:1000



Elevation, 1:1000
(Looking North)



Section A - A, 1:50
(Looking East)

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters.

Legend:

Steel

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGE P1-OS04 NS/SS GIRDER ARRANGEMENT, PLAN, ELEVATION

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – S B – G A – 0 2 2 3

SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

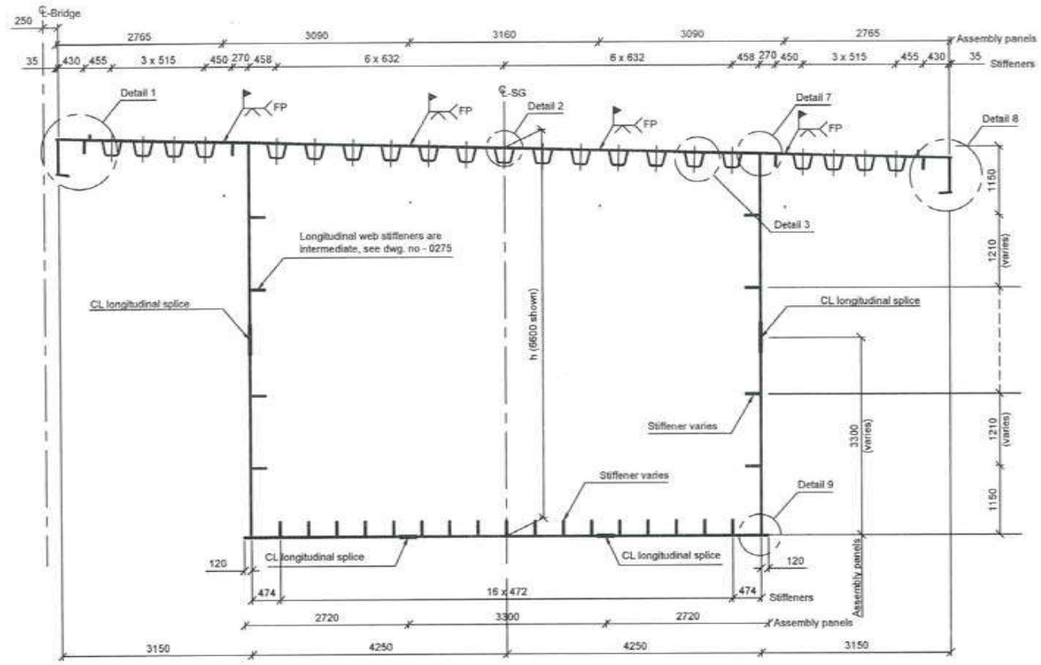
CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

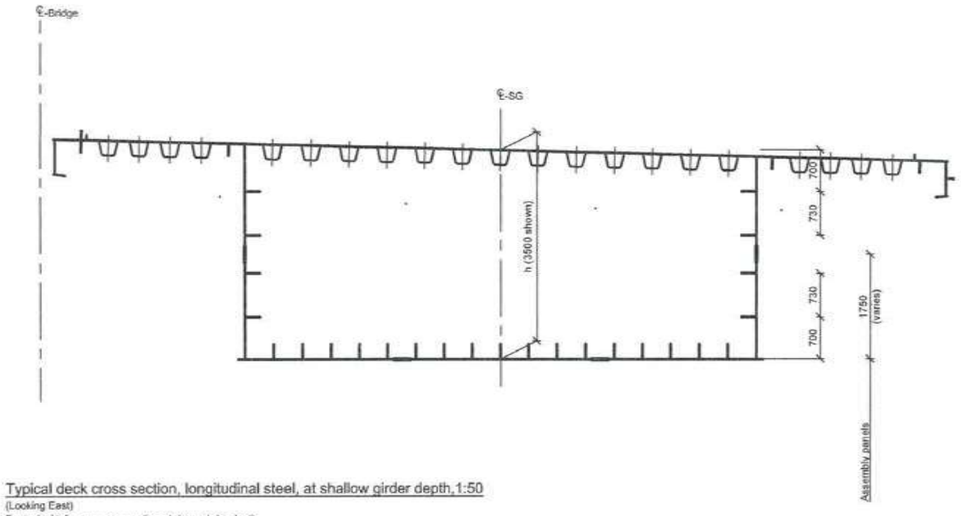
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7210

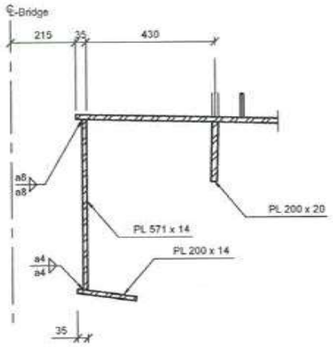
7211



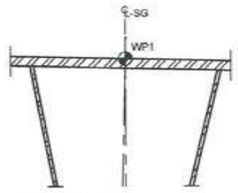
Typical deck cross section, longitudinal steel, at deep girder depth,1:50
(Looking East)



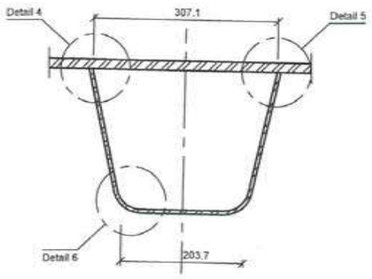
Typical deck cross section, longitudinal steel, at shallow girder depth,1:50
(Looking East)
For typical info, see cross section at deep girder depth



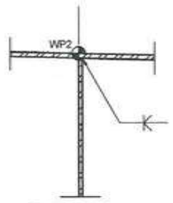
Detail 1,1:10



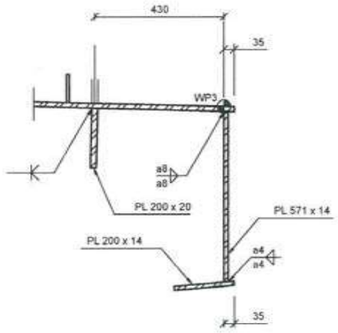
Detail 2,1:5



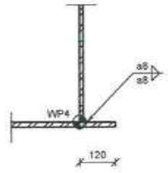
Detail 3,1:5
(Trough type 320 x 240 x 6 - 40)



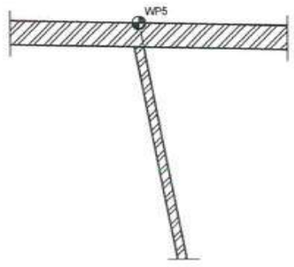
Detail 7,1:10



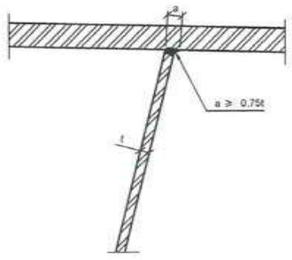
Detail 8,1:10



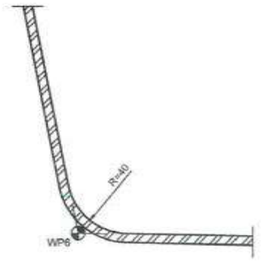
Detail 9,1:10



Detail 4,1:2



Detail 5,1:2
(After fit up and tack welding)



Detail 6,1:2

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters.

Layout: South girder shown. North girder mirrored about CL of bridge.

Legend:

Steel

WP Work point

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

PROJECTION

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGES
GIRDER LONGITUDINAL STEEL

SCALE AS SHOWN

DRAWING No M T H L – CO – C – P 1 – S B – F B – 0 2 5 1

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

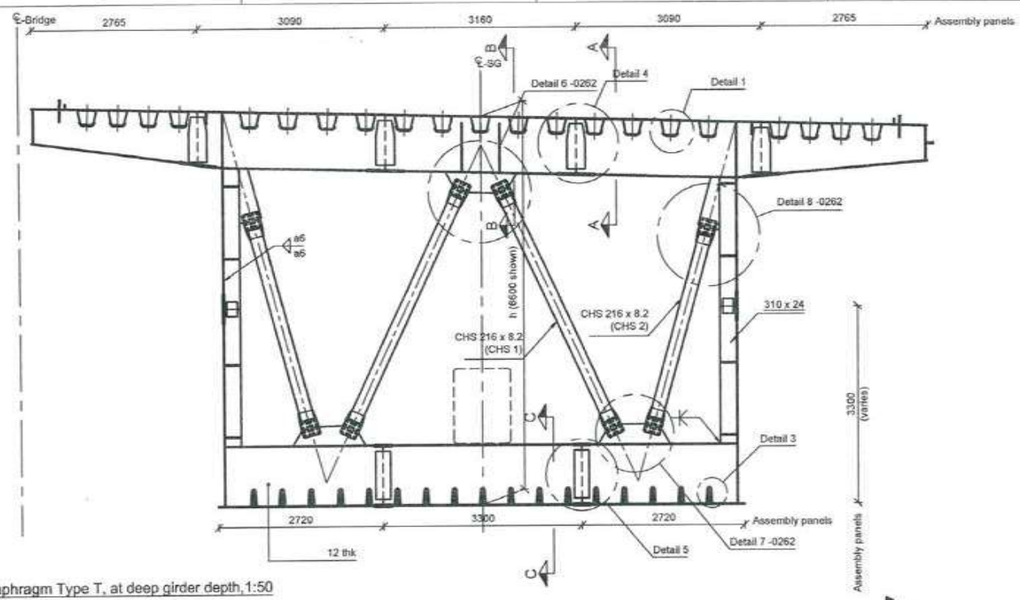
CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

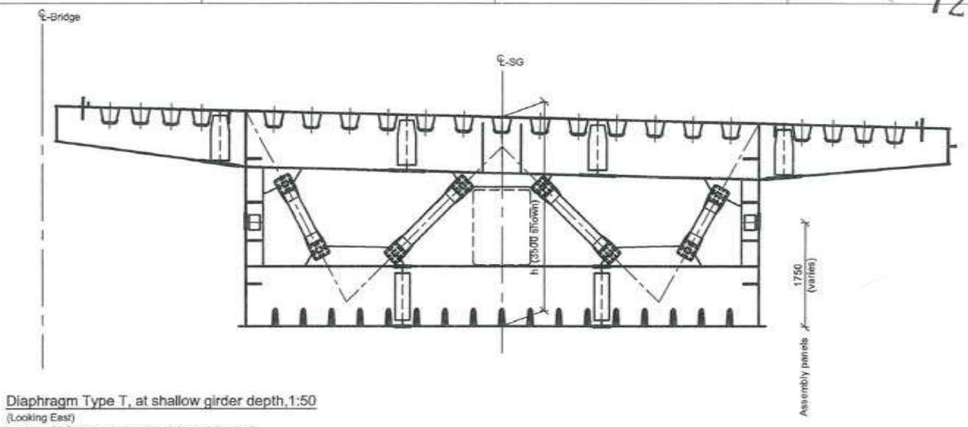
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7213

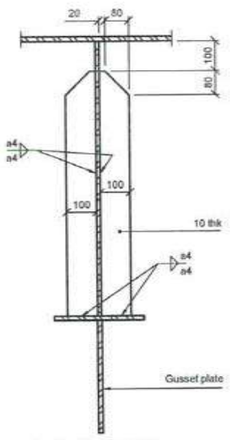
1790



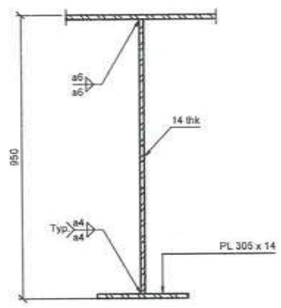
Diaphragm Type T, at deep girder depth,1:50
(Looking East)



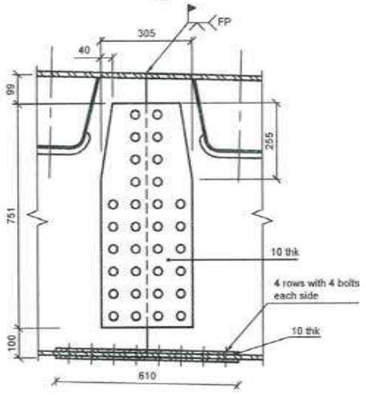
Diaphragm Type T, at shallow girder depth,1:50
(Looking East)
For typical info, see cross section at deep girder depth
Diaphragm type T is applicable when h > 3300
For h=3300, diaphragm type P applies, see dwg no -0265



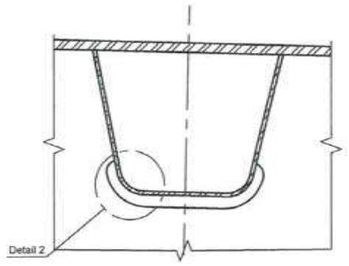
Section B - B, 1:10



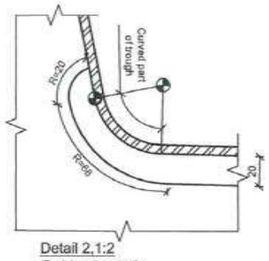
Section A - A, 1:10



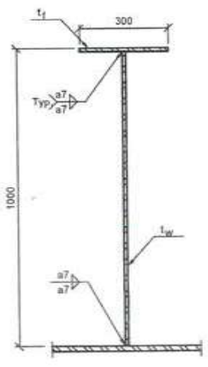
Detail 4,1:10



Detail 1,1:5
(Deck trough cut out)



Detail 2,1:2
(Deck trough cut out)

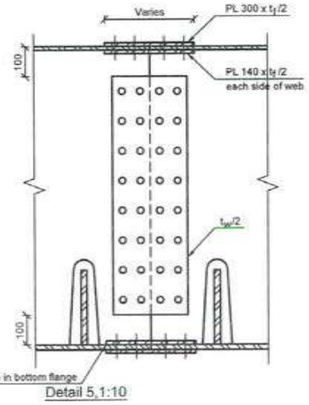


Section C - C, 1:10

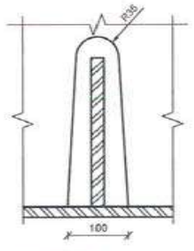
Table 1: Bottom flange transverse stiffener thickness [mm]

Diaphragm T type	T1	T2	T3
Web thickness, t_w	12	14	24
Flange thickness, t_f	12	22	30

For diaphragm types, see material distribution drawings



Detail 5,1:10



Detail 3,1:5
(Longitudinal stiffener cut out)

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters.

Layout: South girder shown. North girder mirrored about CL of bridge.

Legend:

Steel

WP Work point

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGES GIRDER DIAPHRAGM TYPE T, 1 OF 2

SCALE AS SHOWN

DRAWING No M T H L – CO – C – P 1 – S B – F B – 0 2 6 1

SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

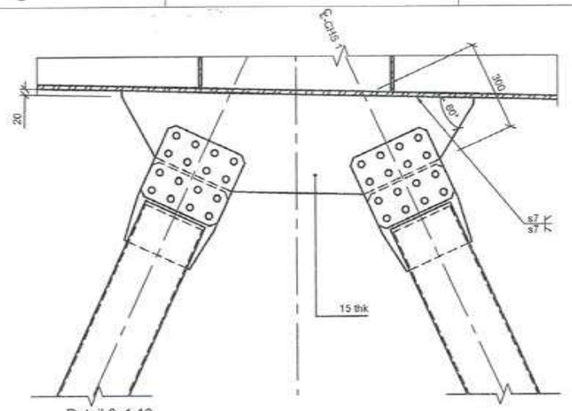
PROJECTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

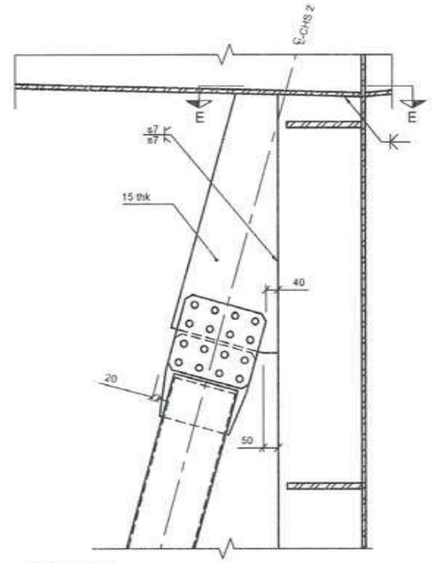
PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

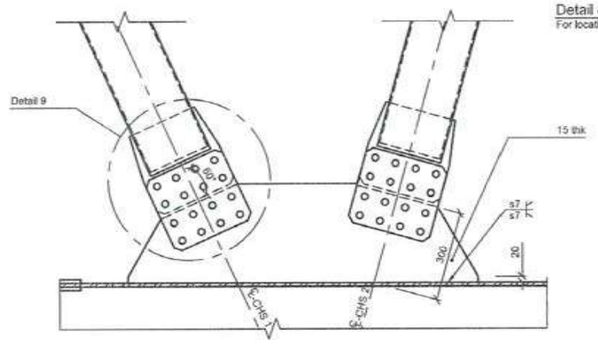
7215



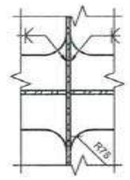
Detail 6, 1:10
For location of detail, see dwg No. -0261



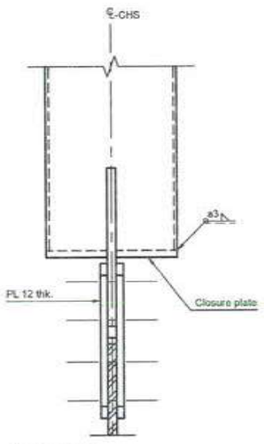
Detail 8, 1:10
For location of detail, see dwg No. -0261



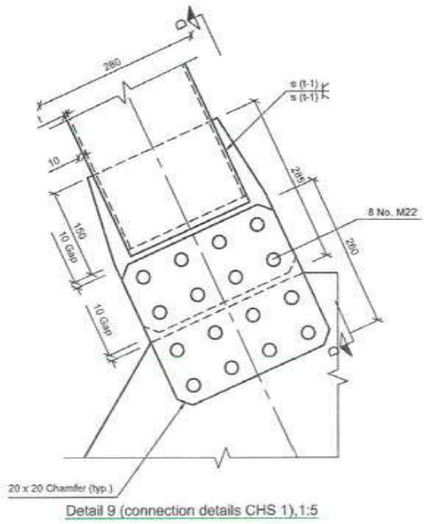
Detail 7, 1:10
For location of detail, see dwg No. -0261



Section E-E, 1:10



Section D - D,1:5



Detail 9 (connection details CHS 1),1:5

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters.

Layout: South girder shown. North girder mirrored about CL of bridge.

Legend:

Steel

WP Work point

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGES
GIRDER DIAPHRAGM TYPE T, 2 OF 2

SCALE AS SHOWN

DRAWING No MTHL-CO-C-P1-SB-FB-0262

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

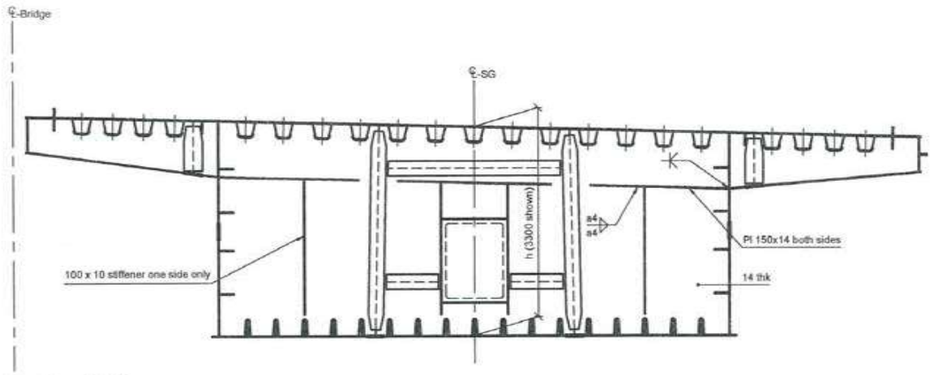
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

PROJECTION

7217

1792



Diaphragm Type P, 1:50

(Looking East)

For information not shown see diaphragm type T, dwg no -0261
Diaphragm type P only applied when girder depth = 3300
For other girder depths diaphragm type T is used

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters.

Layout: South girder shown. North girder mirrored about CL of bridge.

Legend:

Steel

WP Work point

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGES GIRDER DIAPHRAGM TYPE P

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – S B – F B – 0 2 6 5

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

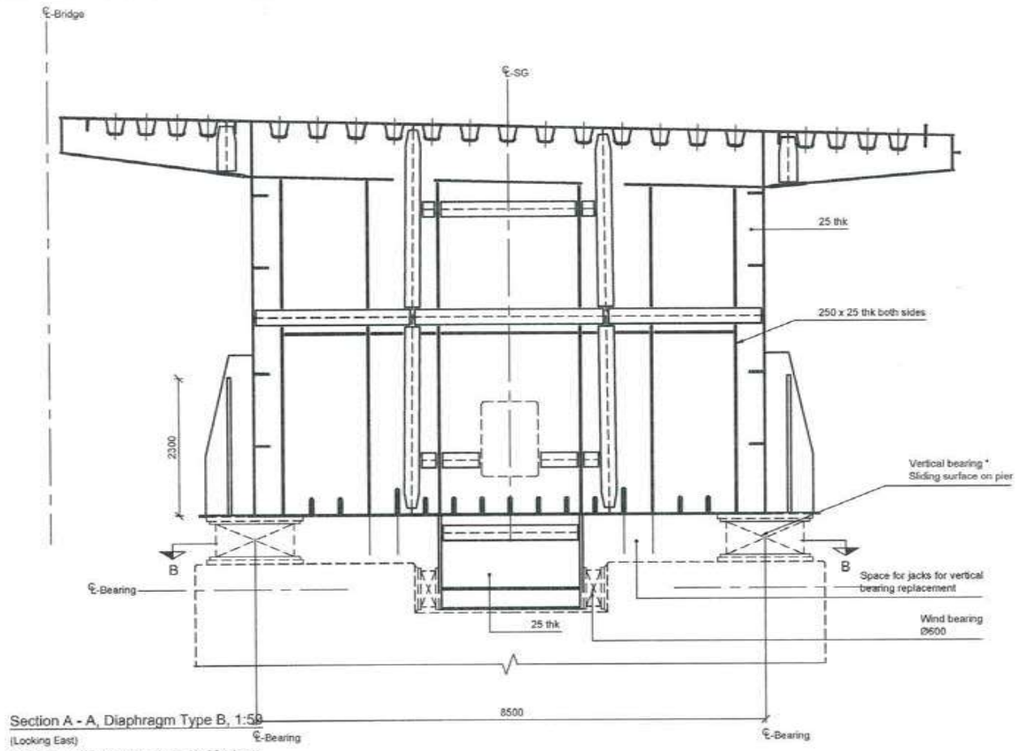
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

PROJECTION

7218

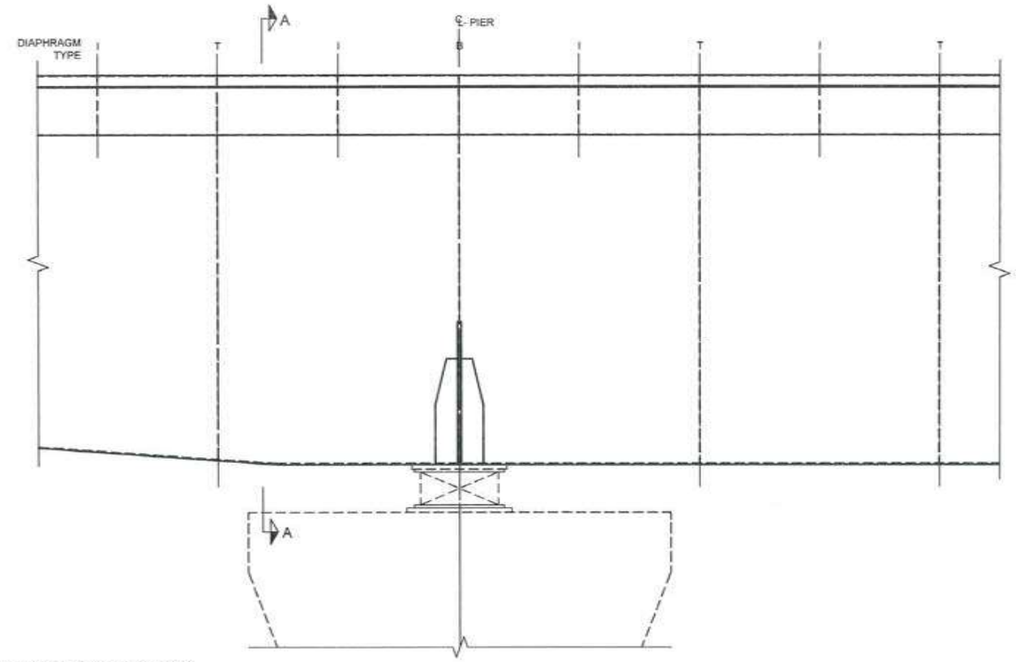
7219



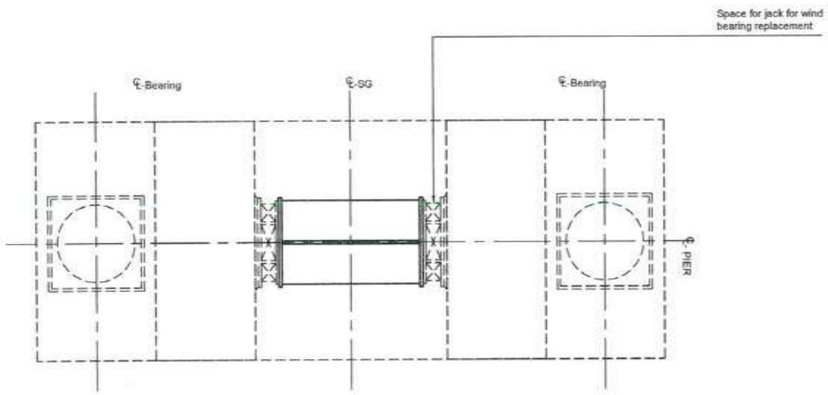
Section A - A, Diaphragm Type B, 1:50

(Looking East)

* Vertical bearing also provides longitudinal fixation at some locations and also resistance to uplift at some locations.



Elevation at internal pier, 1:50



Section B - B, 1:50

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters.

Layout: South girder shown. North girder mirrored about CL of bridge.

Legend:

Steel

WP Work point

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGES GIRDER DIAPHRAGM TYPE B

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – S B – F B – 0 2 6 9

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

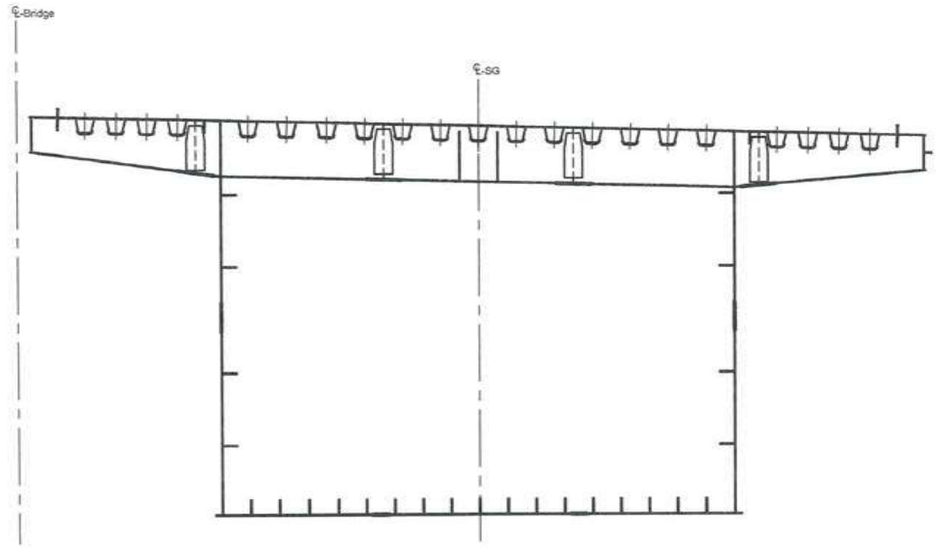
FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

PROJECTION

7221



Diaphragm Type I, 1:50
(Looking East)
For information not shown, see diaphragm type T, dwg no -0261

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters.

Layout: South girder shown. North girder mirrored about CL of bridge.

Legend:

Steel

WP Work point

FOR TENDER PURPOSE

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGES GIRDER DIAPHRAGM TYPE I

SCALE AS SHOWN

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

DRAWING No M T H L – CO – C – P 1 – S B – F B – 0 2 7 3

SHEET 1 OF 1 REV. A

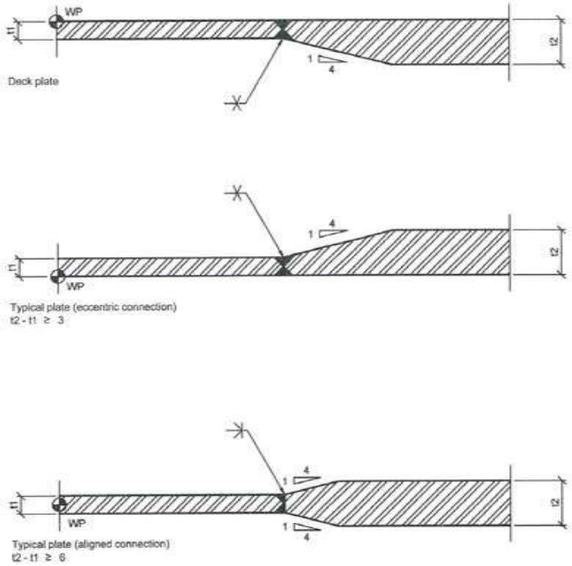
RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

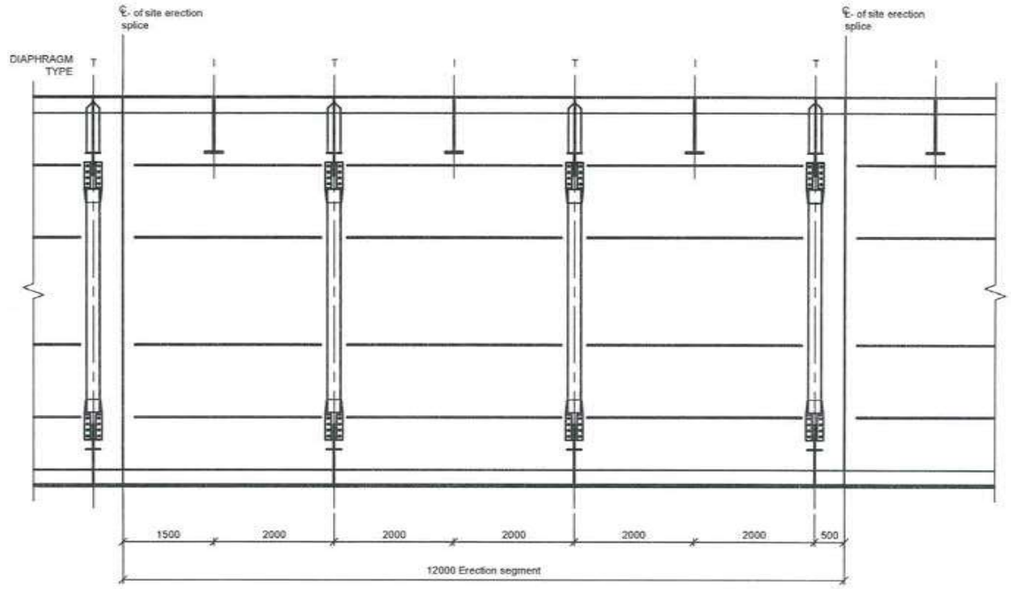
PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD



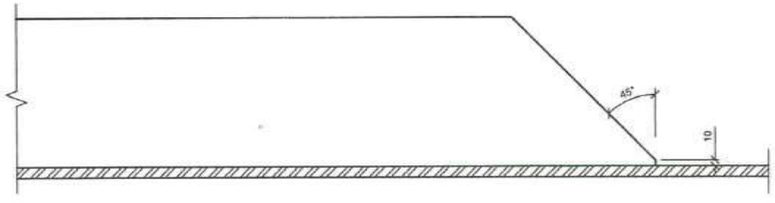
Typical welding between plates of different thicknesses, 1:2

(Weld without permanent backing strip)



Typical section erection segment, longitudinal section, 1:50

Bolted connections on webs not shown



Flat stiffener termination detail, 1:5

No chamfer of stiffener is required when web stiffener terminates at bolted connection for site erection splice

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters.

Layout: South girder shown. North girder mirrored about CL of bridge.

Legend:

Steel

WP Work point

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGES GIRDER TYPICAL DETAILS

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – S B – F B – 0 2 7 5

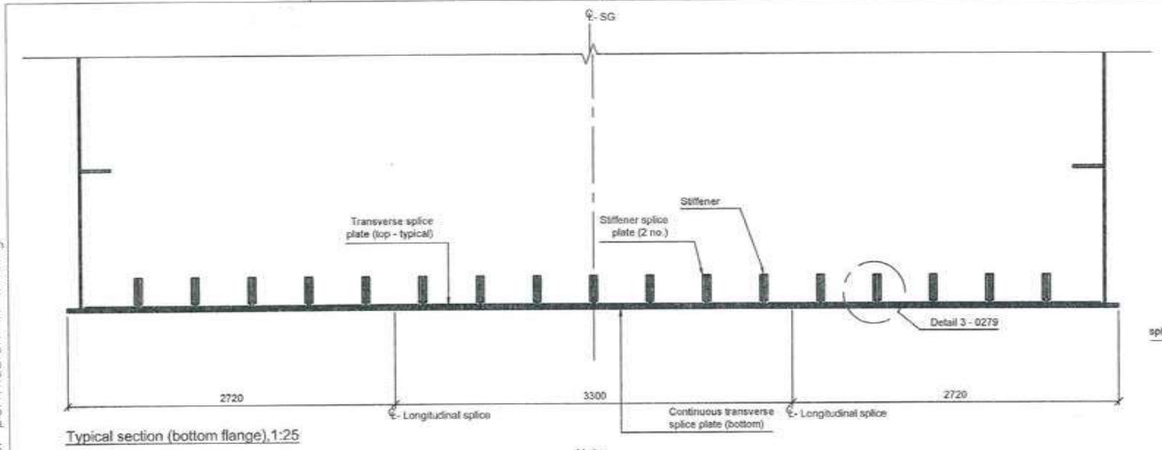
RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

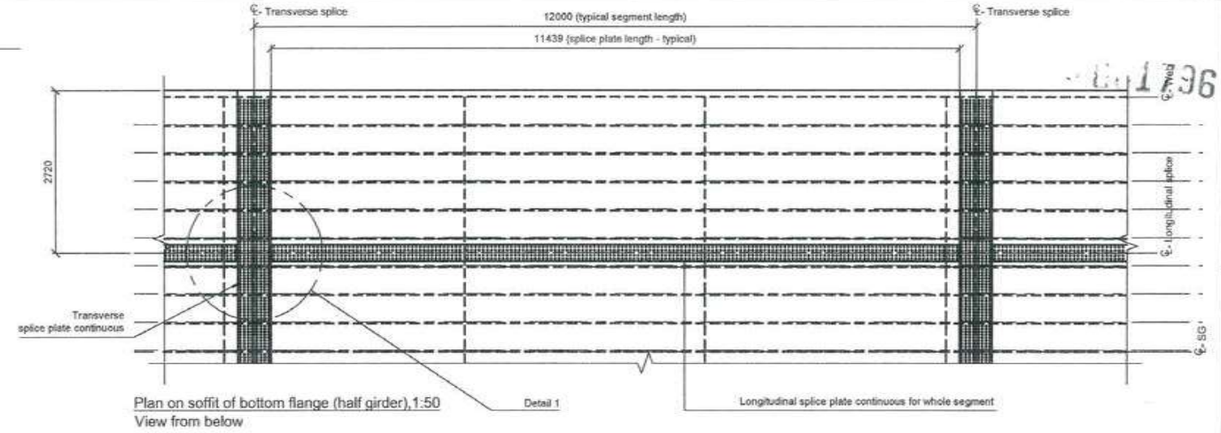
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

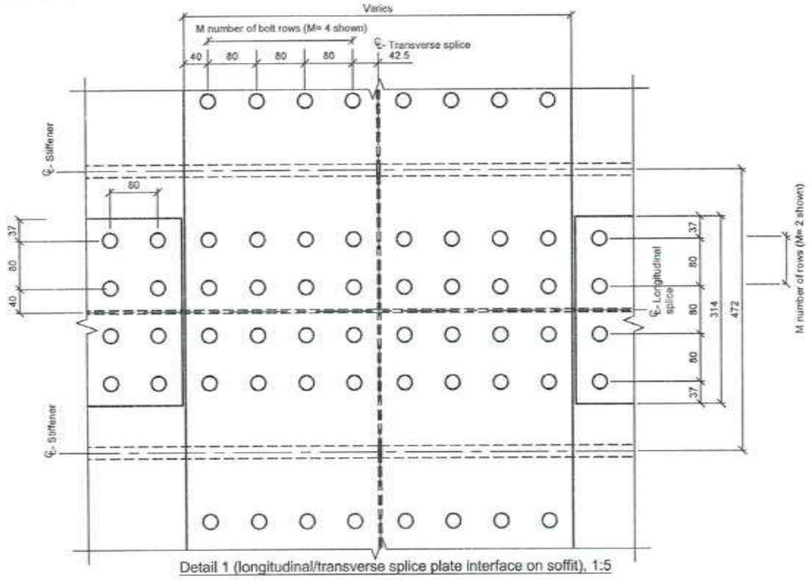
PROJECTION



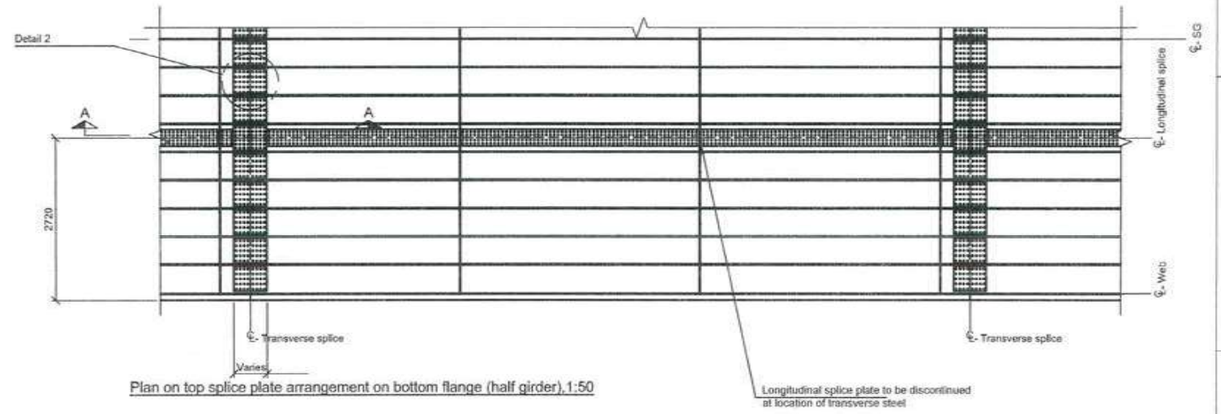
Typical section (bottom flange),1:25



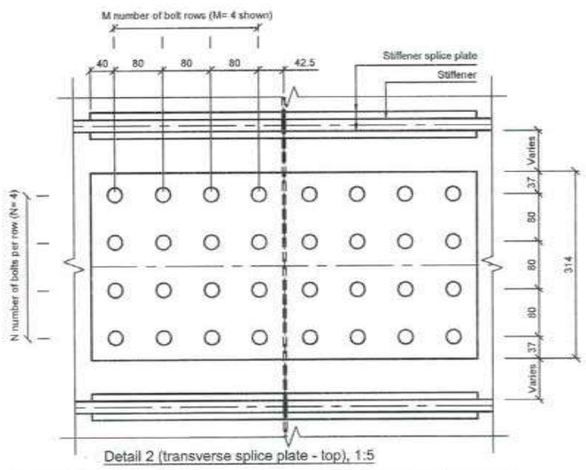
Plan on soffit of bottom flange (half girder),1:50
View from below



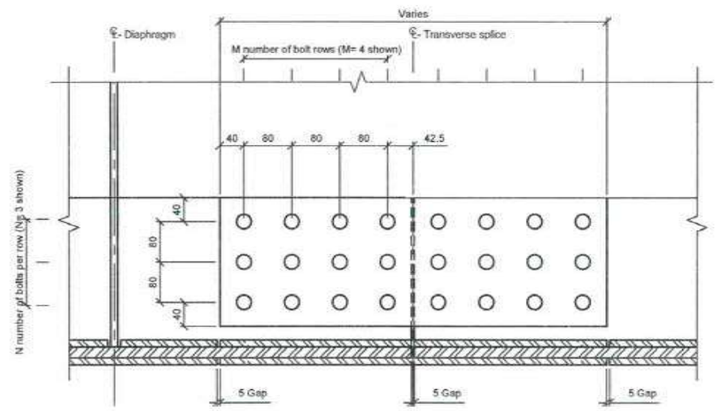
Detail 1 (longitudinal/transverse splice plate interface on soffit), 1:5



Plan on top splice plate arrangement on bottom flange (half girder),1:50



Detail 2 (transverse splice plate - top), 1:5



Section A - A, 1:5

Notes:

Dimensions:	Dimensions are in millimeters unless otherwise noted. Levels are in meters.
Layout:	South girder shown. North girder mirrored about CL of bridge.
Bolts:	All bolts M22 type S10T in Ø24 holes U.N.O.

Legend:

▨	Steel
WP	Work point

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: STEEL BRIDGES
GIRDER BOLTED CONNECTIONS 1 OF 2

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – S B – F B – 0 2 7 8

SHEET 1 OF 1 REV. A

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

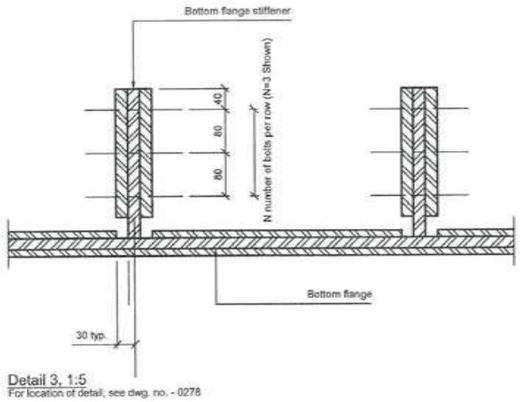
L&T-IHI CHENNAI (INDIA) CONSORTIUM

मुंबई महानगर प्रदेश विकास प्राधिकरण MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

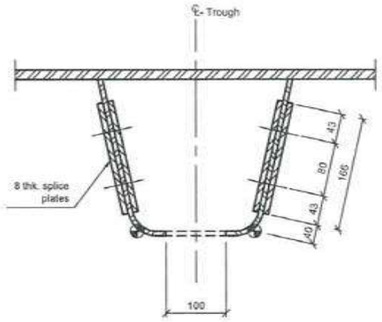
7226

7227

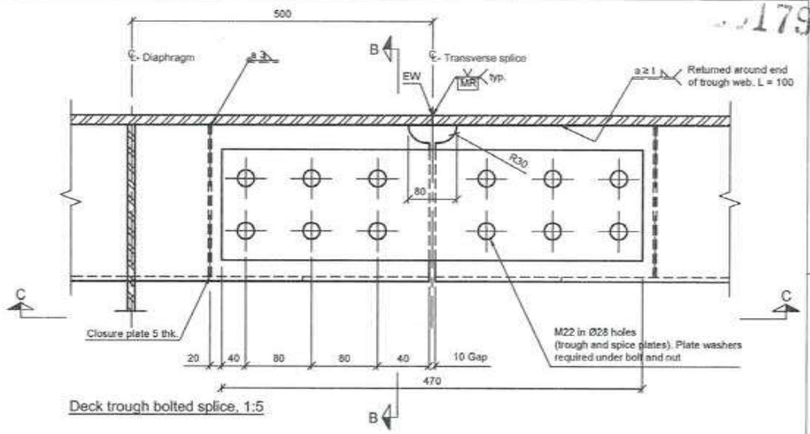
1797



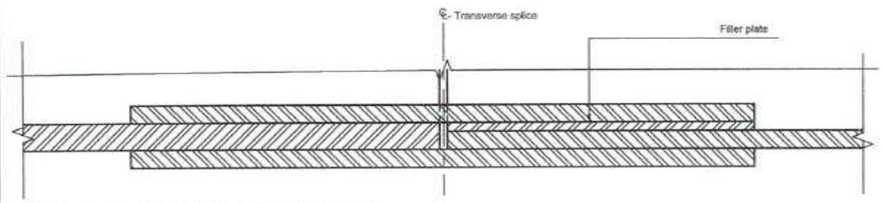
Detail 3, 1:5
For location of detail, see dwg. no. - 0278



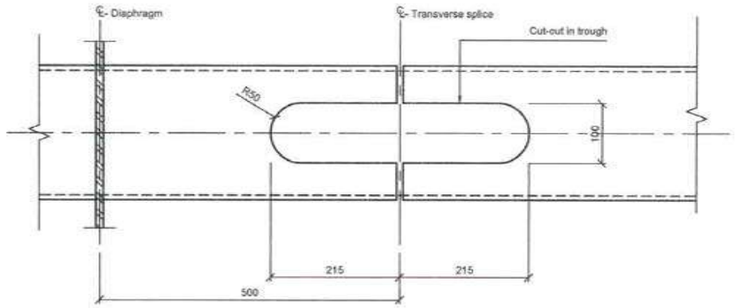
Section B - B, 1:5



Deck trough bolted splice, 1:5



Detail for variation in bottom flange plate thickness, 1:2



Section C - C, 1:5

Bottom flange stiffeners - transverse splice plate							
Min. stiffener type	Min. stiffener type height	Min. stiffener type thickness	Bottom flange stiffener splice type	Thickness of splice plates (mm)	N Number of bolts per row	M Number of rows	Total bolts in one splice plate
190x16	190	16	BFST190x16T	14	2	4	16
250x20	250	20	BFST250x20T	12	2	5	20
300x25	300	25	BFST300x25T	14	3	5	30
300x30	300	30	BFST300x30T	18	3	6	36
350x30	350	30	BFST350x30T	18	3	7	42
360x38	360	38	BFST360x38T	22	4	7	56

Bottom flange - longitudinal splice plate					
Min. thickness of joining plates (mm)	Bottom flange splice type	Thickness of splice plates (mm)	M Number of rows	Distance between bolts (mm)	Total bolts per meter
12	BFL12	8	2	80	48
14	BFL14	8	2	80	48
16	BFL16	8	2	80	48
18	BFL18	10	2	80	48
20	BFL20	10	2	80	48
22	BFL22	12	2	80	48
24	BFL24	12	2	80	48
26	BFL26	14	2	80	48
28	BFL28	14	2	80	48
30	BFL30	16	2	80	48
32	BFL32	16	3	80	72
34	BFL34	18	3	80	72
36	BFL36	18	3	80	72
38	BFL38	20	3	80	72

Bottom flange - transverse splice plate					
Min. thickness of joining plates (mm)	Bottom flange splice type	Thickness of splice plates (mm)	N Number of bolts per row	M Number of rows	Total bolts in one splice plate
12	BFT12T	10	4	3	24
14	BFT14T	12	4	4	32
16	BFT16T	14	4	4	32
18	BFT18T	14	4	5	40
20	BFT20T	16	4	5	40
22	BFT22T	18	4	6	48
24	BFT24T	20	4	6	48
26	BFT26T	20	4	7	56
28	BFT28T	22	4	7	56
30	BFT30T	24	4	8	64
32	BFT32T	26	4	8	64
34	BFT34T	26	4	8	64
36	BFT36T	28	4	9	72
38	BFT38T	30	4	9	72

Web - transverse splice plate					
Min. thickness of joining plates (mm)	Web plate splice type	Thickness of splice plates (mm)	Number of rows M	Distance between bolts (mm) L	Total bolts in one splice plate/per 1 m of splice (1 web only)
10	WPT10T	8	2	80	50
12	WPT12T	8	3	80	75
14	WPT14T	8	3	80	75
16	WPT16T	8	3	80	75
18	WPT18T	8	4	80	100
20	WPT20T	10	4	80	100
22	WPT22T	10	5	80	125
24	WPT24T	12	5	80	125
26	WPT26T	12	5	80	125
28	WPT28T	14	6	80	150
30	WPT30T	14	6	80	150
32	WPT32T	16	6	80	150

Web plate - longitudinal splice plate					
Min. thickness of joining plates (mm)	Web plate splice type	Thickness of splice plates (mm)	M Number of rows	Distance between bolts (mm)	Total bolts per meter
10	WFL10	8	2	80	48
12	WFL12	8	2	80	48
14	WFL14	8	2	80	48
16	WFL16	8	3	80	72
18	WFL18	10	3	80	72
20	WFL20	10	3	80	72
22	WFL22	12	3	80	72
24	WFL24	12	4	80	96
26	WFL26	14	4	80	96
28	WFL28	14	4	80	96
30	WFL30	16	4	80	96
32	WFL32	16	5	80	120

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters.

Layout: South girder shown. North girder mirrored about CL of bridge.

Material: All spacer plates to be type SS400 steel

Legend:

Steel

WP Work point

L&T-IHI CONSORTIUM CHENNAI (INDIA)

FOR TENDER PURPOSE

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGES
GIRDER BOLTED CONNECTIONS - 2 OF 2

SCALE AS SHOWN

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

DRAWING No M T H L – CO – C – P 1 – S B – F B – 0 2 7 9

SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

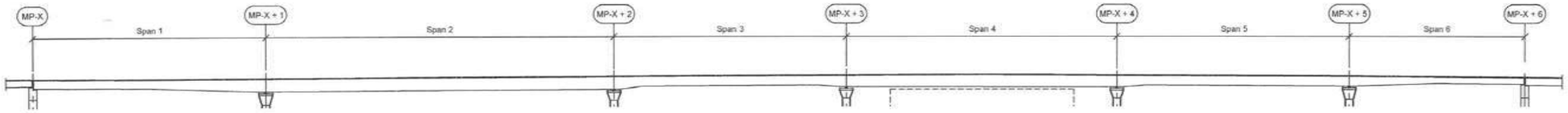
PROJECTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

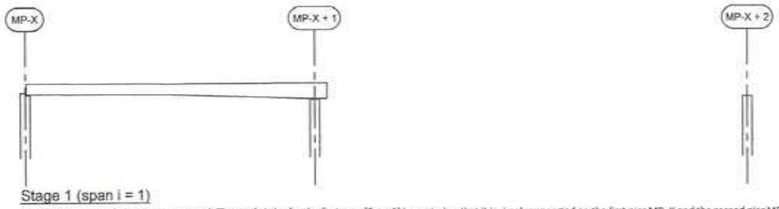
PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV.	DESCRIPTION	DSND	DRWN	CHKD	APPD

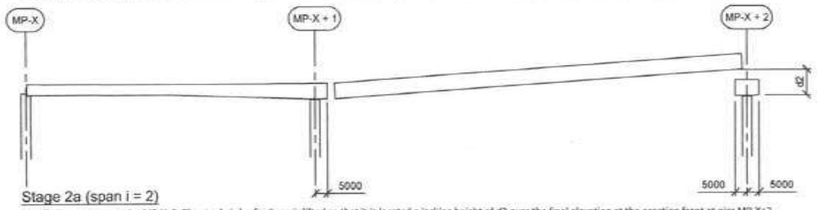
7229
1798



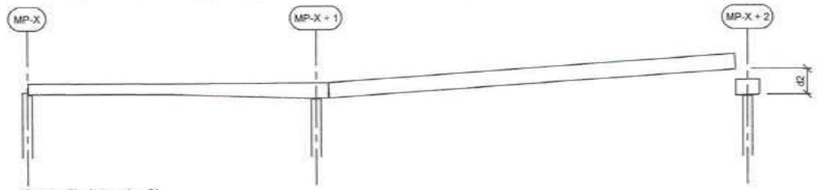
Elevation, 1:2500
(Viewed towards north)



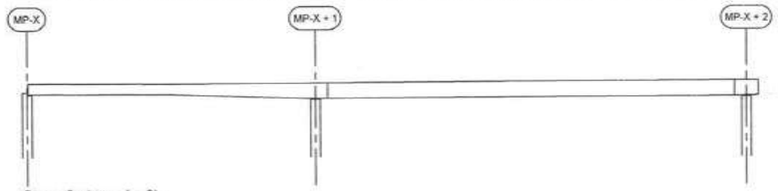
Stage 1 (span i = 1)
All substructures and piers are constructed. The steel girder for the first span [Span 1] is erected so that it is simply supported on the first pier MP- X and the second pier MP-X+1



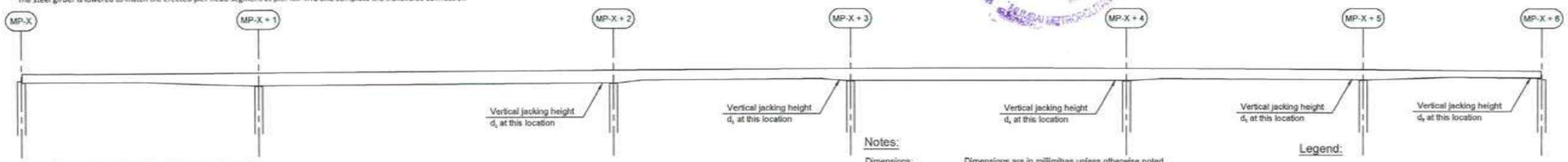
Stage 2a (span i = 2)
Install pier segment at pier MP-X+2. The steel girder for Span is lifted so that it is located a jacking height of d2 over the final elevation at the erection front at pier MP-X+2



Stage 2b (span i = 2)
The transverse connection in the girder at pier MP- X+1 is established while the steel girder is maintained at a height of d2 over the final elevation at the erection front at pier MP-X+2



Stage 2c (span i = 2)
The steel girder is lowered to match the erected pier head segment at pier MP-X+2 and complete the transverse connection



Stage 3 to stage n (span i = 3 to span i = n)
The principles for stage 2a, 2b and 2c are repeated for each subsequent span i until all spans n are built

Stage n +1
All finishes (superimposed deadloads) are installed such as surfacing, crash barriers, noise barriers, visual barriers, safety fence, utility troughs, light posts, utility loads etc. and the bridge is finalised

Notes:

Dimensions: Dimensions are in millimitres unless otherwise noted.
Levels are in metres.

Construction method: This drawing defines the amount of vertical erection jacking of the steel girder at each pier to achieve the required vertical dead load bending moment distribution in the steel girder. Only the main steps of the construction sequence is shown. The detailing and additional break-up of the construction sequence to be made by the contractor.
In case the contractor chooses a different construction method such as for example launching, the assembly of girder segments shall be made using the jacking heights shown.

Layout: This drawing is generic and considers a bridge with 'n' number of spans starting with Span i = 1 at pier number X and ending with Span i = n at pier X + n so that the principles can be applied for all bridges regardless of the number of spans.

Legend:

Steel

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: CONSTRUCTION SEQUENCE GIRDER, STEEL BRIDGES

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – S B – C Q – 1 1 0 1

SHEET 1 OF 1 REV. A

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

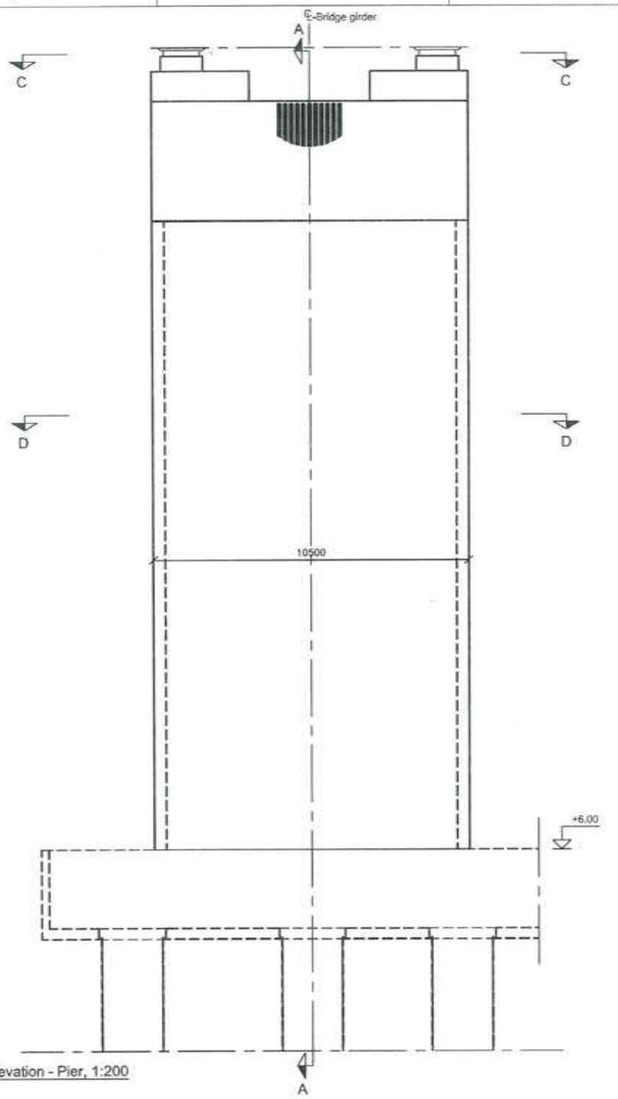
CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

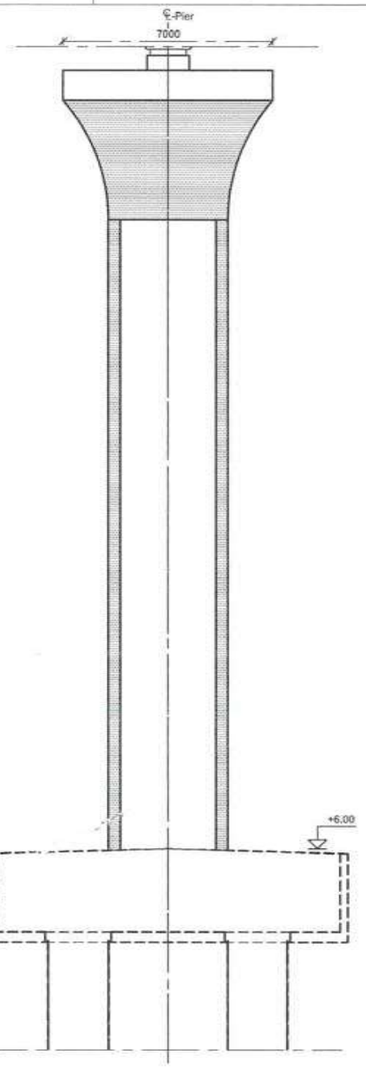
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7231

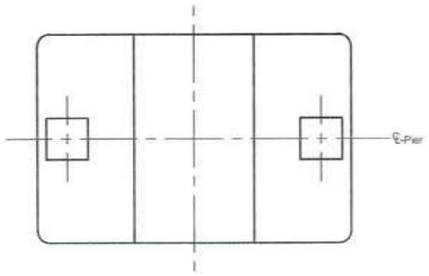
001798



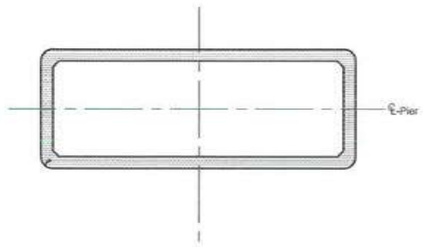
Elevation - Pier, 1:200



Section A-A, 1:200



Section C - C, 1:200



Section D-D, 1:200

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

In-situ concrete

Prefabricated concrete

References:

MTHL-CO-C-P1-CN-ST-0005 General notes

MTHL-CO-C-P1-MV-GA-0151 Marine Viaduct - Substructure Schedule

L&T-IHI CONSORTIUM CHENNAI (INDIA)

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGES PIER TYPE 3

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – S B – F B – 0 1 7 1

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

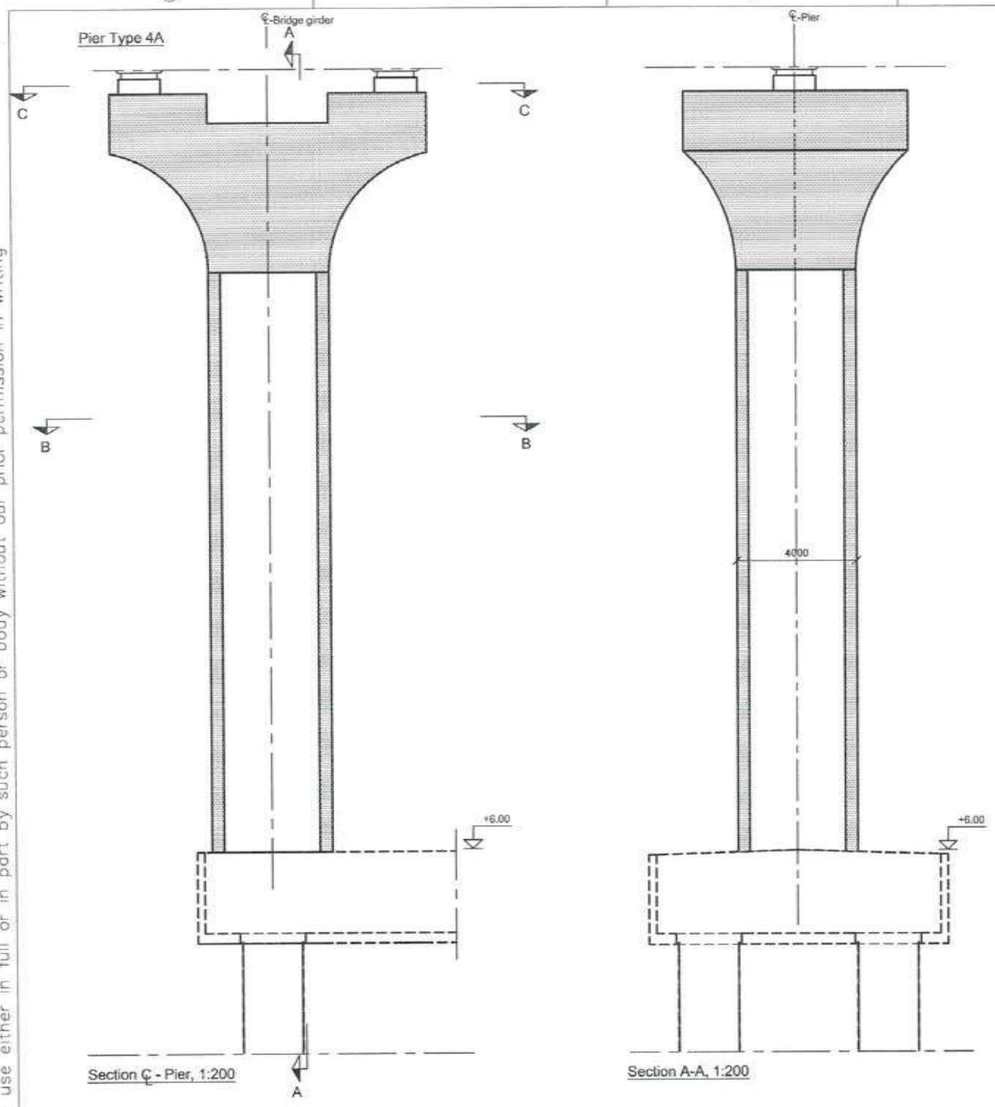
SHEET 1 OF 1 REV. A

PROJECTION

7233

061800

Pier Type 4A

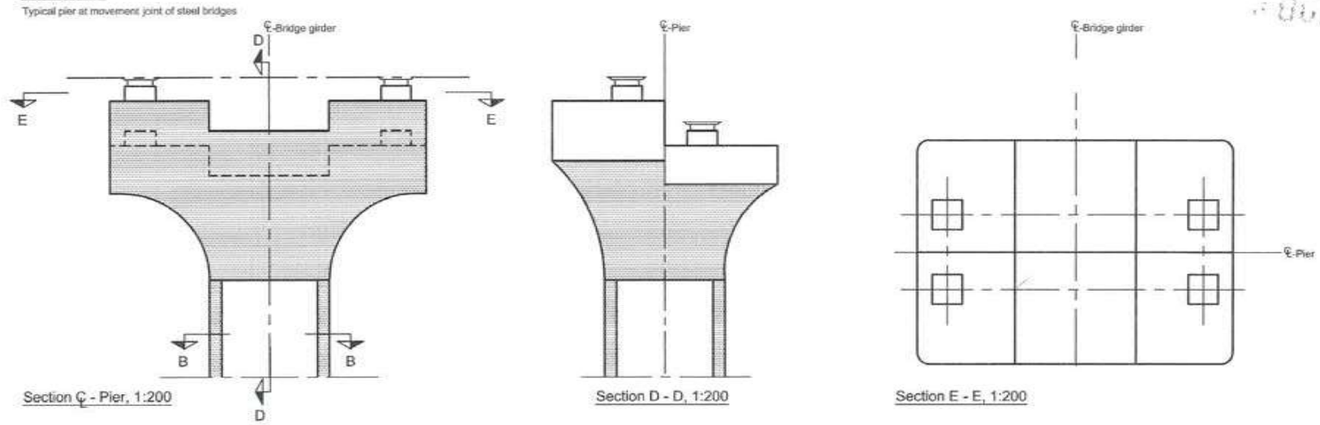


Section ℄ - Pier, 1:200

Section A-A, 1:200

Pier Type 4B

Typical pier at movement joint of steel bridges



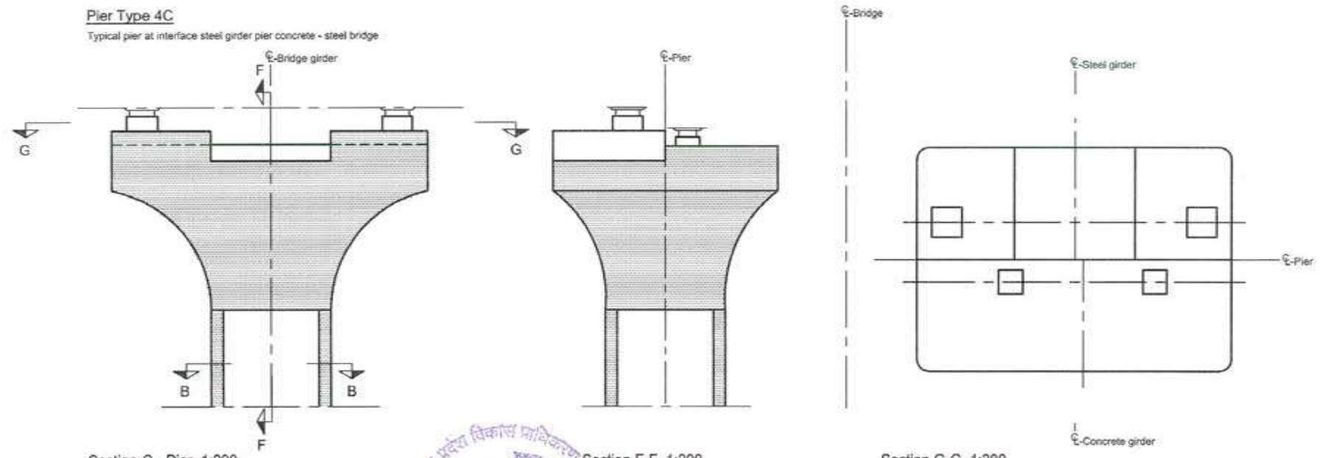
Section ℄ - Pier, 1:200

Section D - D, 1:200

Section E - E, 1:200

Pier Type 4C

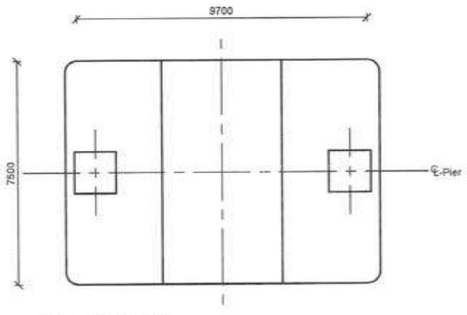
Typical pier at interface steel girder pier concrete - steel bridge



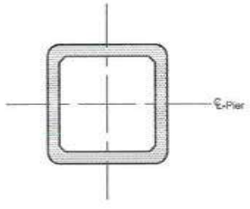
Section ℄ - Pier, 1:200

Section F-F, 1:200

Section G-G, 1:200



Section C - C, 1:200



Section B-B, 1:200

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

In-situ concrete

References:

MTHL-CO-C-P1-CN-ST-0005 General notes

MTHL-CO-C-P1-MV-GA-0151 Marine Viaduct - Substructure Schedule

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGES PIER TYPE 4

SCALE: AS SHOWN

DRAWING No: MTHL-CO-C-P1-SB-FB-0172

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

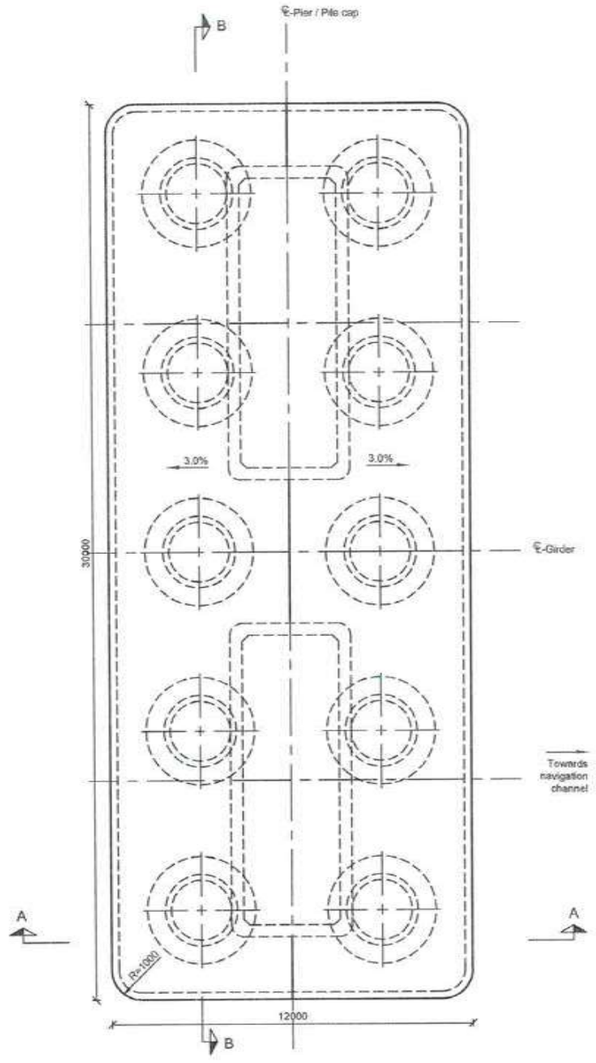
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

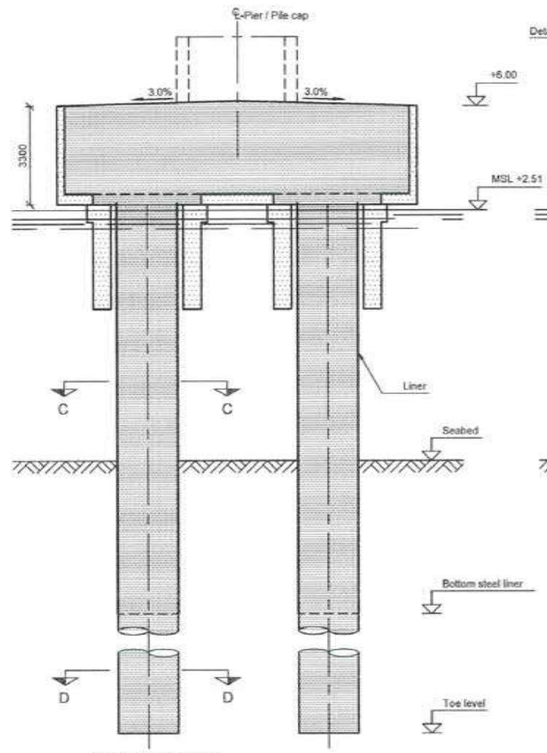
PROJECTION

7235

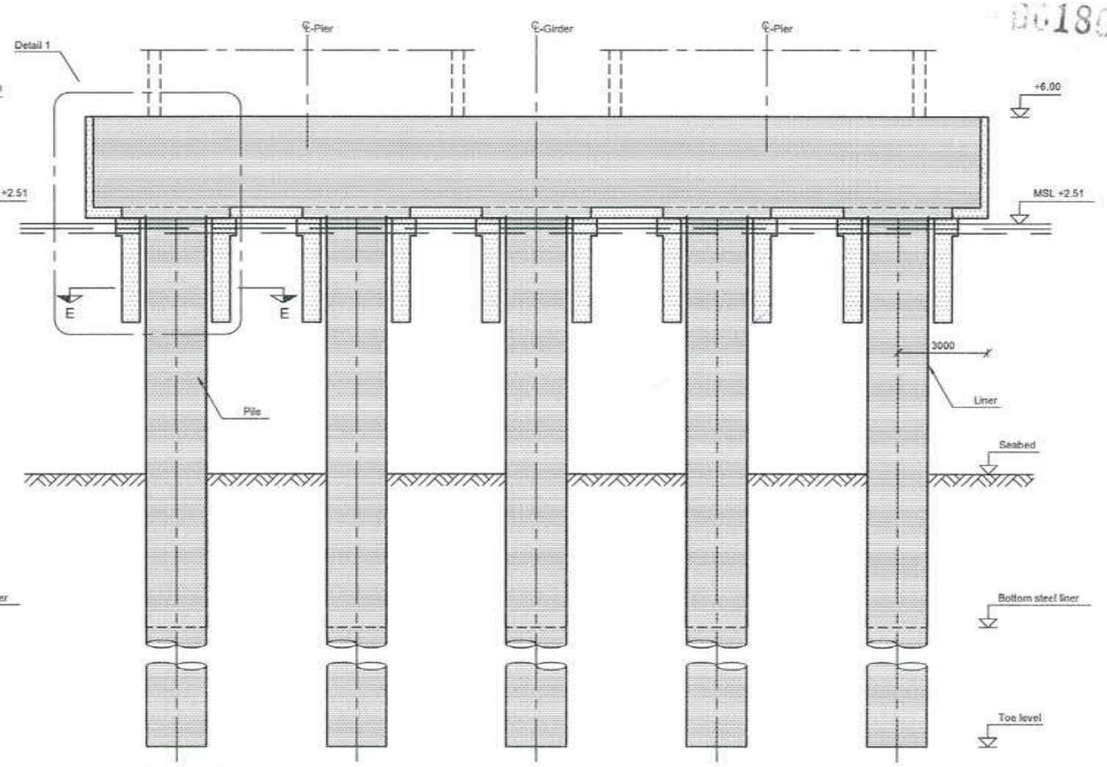
001801



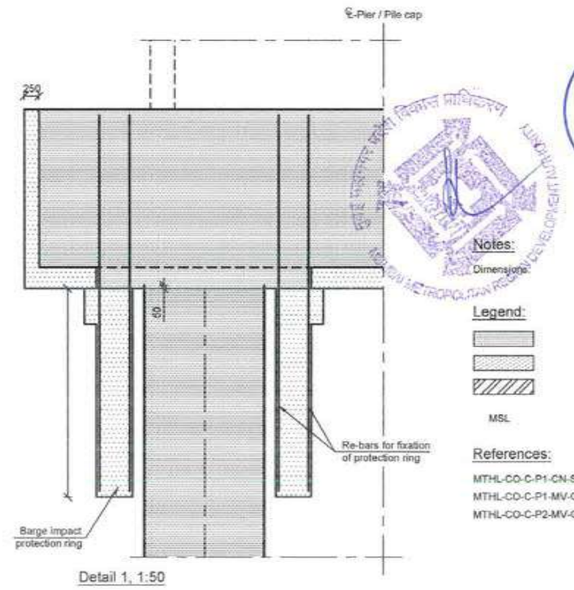
Plan view, 1:100



Section A-A, 1:100



Section B-B, 1:100



Detail 1, 1:50

Notes:

Dimensions:

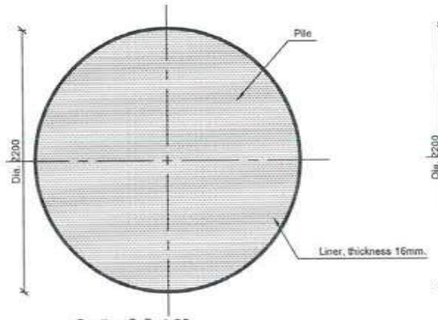
Dimensions are in millimetres unless otherwise noted.
Levels are in metres (Chart Datum).

Legend:

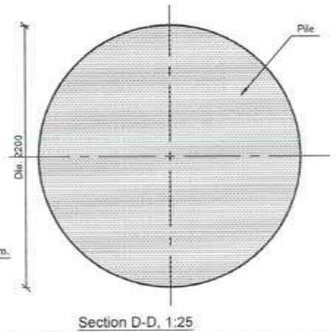
	In-situ concrete
	Prefabricated concrete
	Steel
MSL	Mean sea level

References:

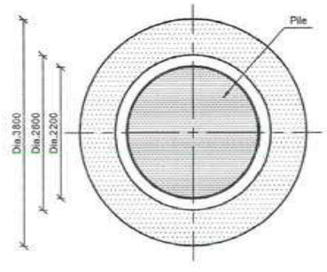
MTHL-CO-C-P1-CN-ST-0005	General notes
MTHL-CO-C-P1-MV-GA-0151	Marine Viaduct - Substructure Schedule
MTHL-CO-C-P2-MV-GA-0155	Marine Viaduct - Substructure Schedule



Section C-C, 1:25



Section D-D, 1:25



Section E-E, 1:50

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT-PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGE FOUNDATION TYPE 3

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – S B – G A – 0 1 9 1

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

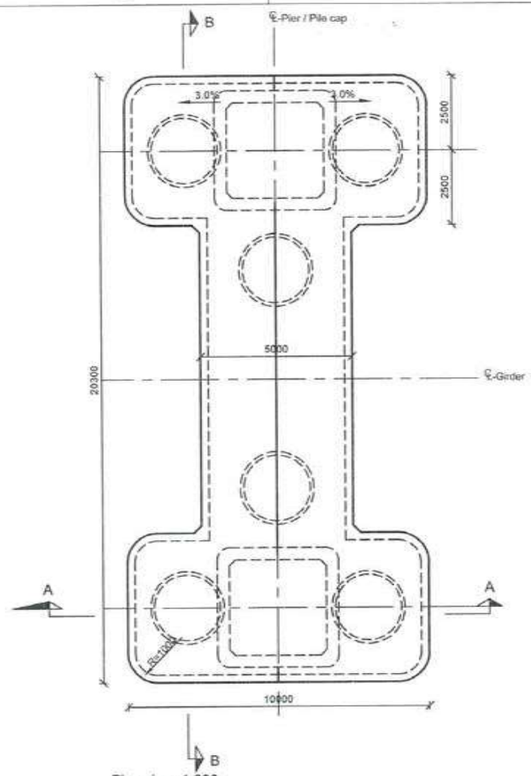
SHEET 1 OF 1 REV. A

PROJECTION

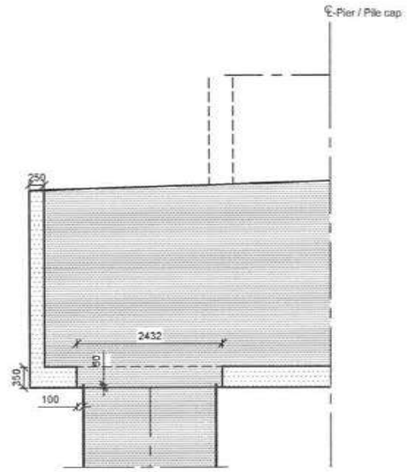
7236

7237

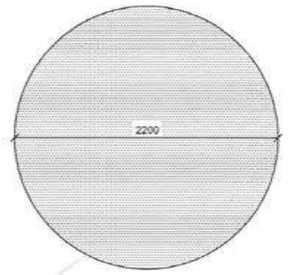
Gc1802



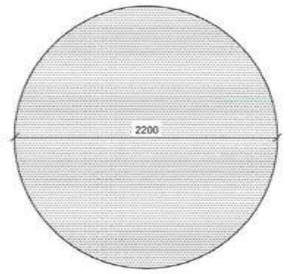
Plan view, 1:200



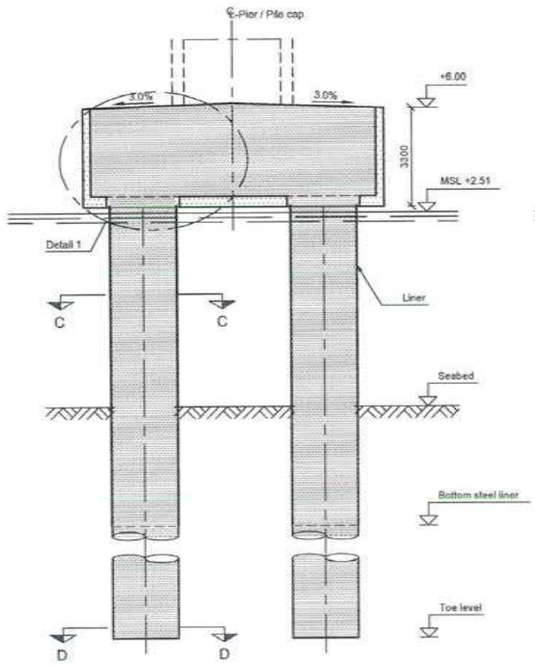
Detail 1, 1:100



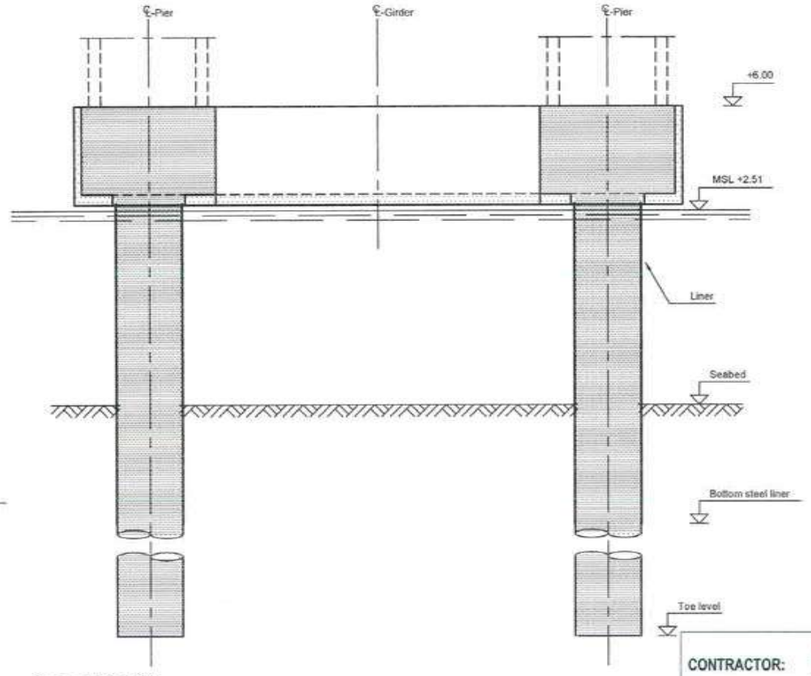
Section C-C 1:50



Section D-D 1:50



Section A-A, 1:200



Section B-B, 1:200

Notes:

Dimensions: Dimensions are in millimetres unless otherwise noted. Levels are in metres (Chart Datum).

Legend:

- In-situ concrete
- Prefabricated concrete
- Steel
- MSL — Mean sea level

References:

- MTHL-CO-C-P1-CN-ST-0005 General notes
- MTHL-CO-C-P1-MV-GA-0150 Marine Viaduct - Substructure Schedule
- MTHL-CO-C-P2-MV-GA-0155 Marine Viaduct - Substructure Schedule

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGES FOUNDATION TYPE 4

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – S B – G A – 0 1 9 2

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

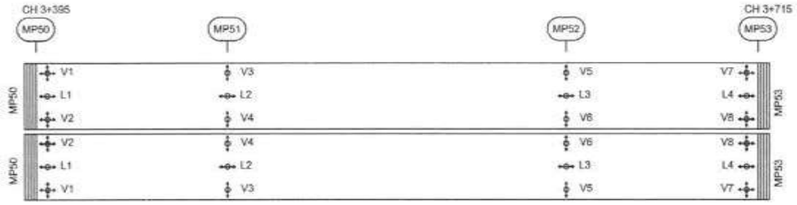
FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

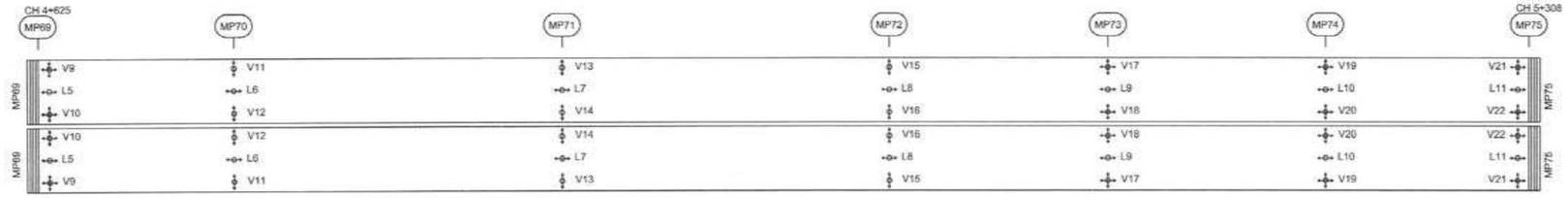
SHEET 1 OF 1 REV: A

PROJECTION

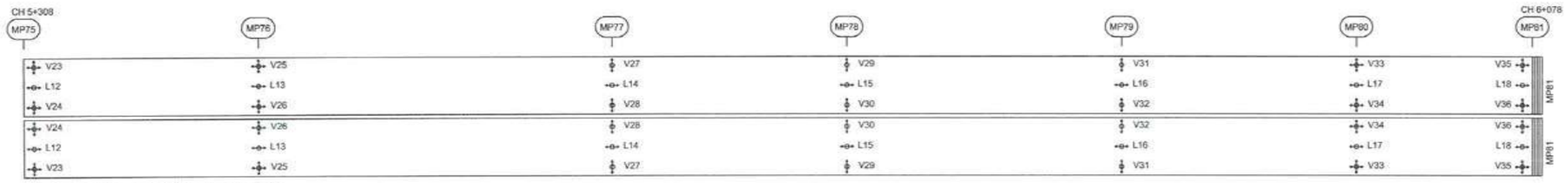
7239 Jv1803



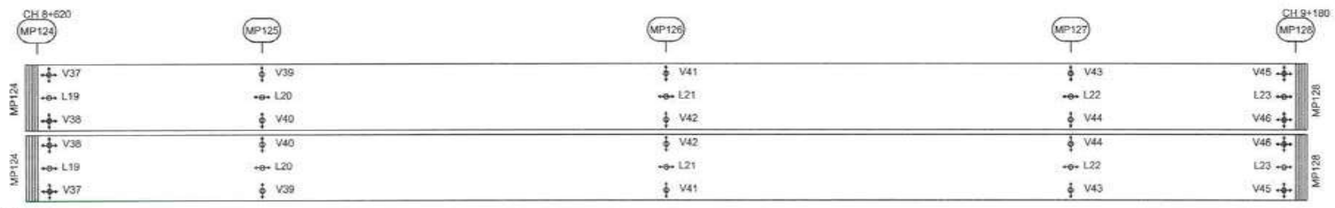
Bearings and expansion joint layout, P1-OS01



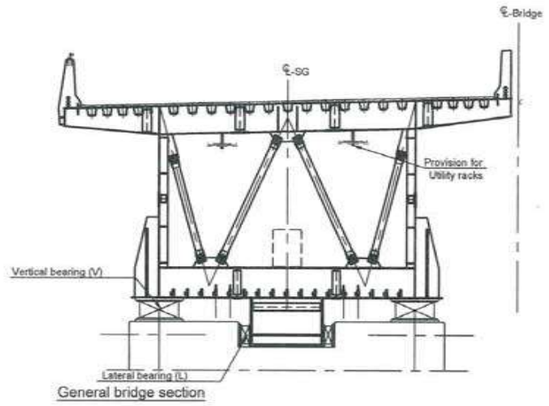
Bearings and expansion joint layout, P1-OS02



Bearings and expansion joint layout, P1-OS03



Bearings and expansion joint layout, P1-OS04



General bridge section

L&T-IHI CHENNAI (INDIA) CONSORTIUM

Notes:

Reactions from wind can be reduced by a factor of 2.8 when combining wind with traffic

Dimensions: Dimensions are in millimeters unless otherwise noted. Chainage are in meters.

Legend:

- Free sliding bearing
- Lateral bearing
- Uni-directional bearing
- Expansion joint
- V Vertical bearing
- L Lateral bearing

	Direction	Unit	MP50	MP53	MP69	MP75	MP81	MP124	MP128
Required capacity with preset SLS_Rare	Us	m	± 0.20	± 0.20	± 0.25	± 0.45	± 0.30	± 0.25	± 0.30

Expansion joint schedule
Load combinations according to IRC-6

L&T-IHI CHENNAI (INDIA) CONSORTIUM

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STEEL BRIDGE
BEARINGS AND EXPANSION JOINTS 1 OF 3

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – M S – F B – 0 3 0 1

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

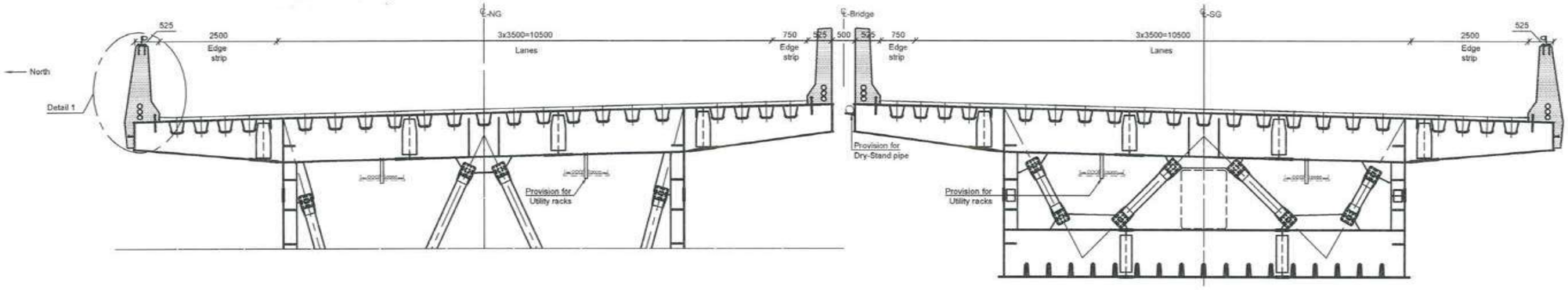
FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

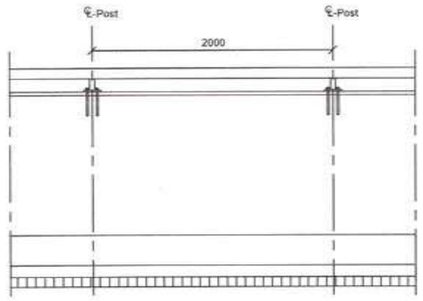
SHEET 1 OF 1 REV. A

PROJECTION

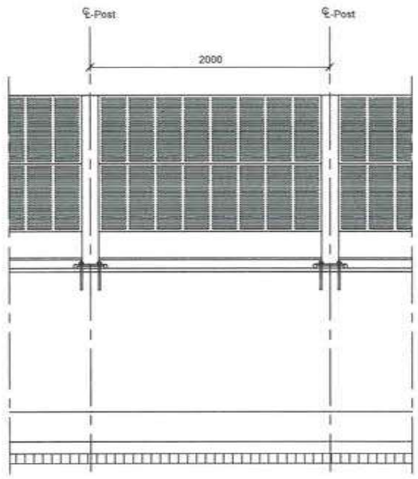
7241



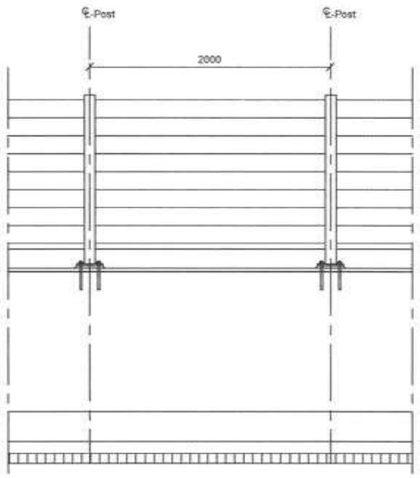
Bridge deck, steel girder, 1:200
Looking East.



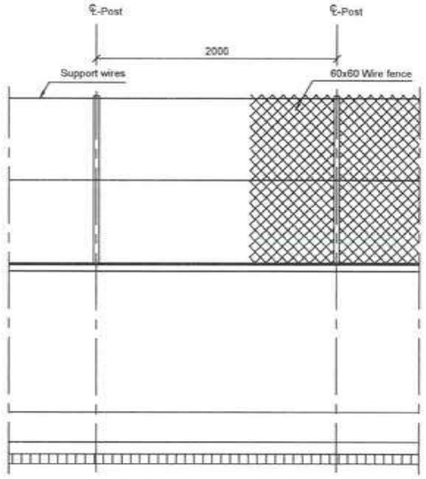
Section A-A, 1:50



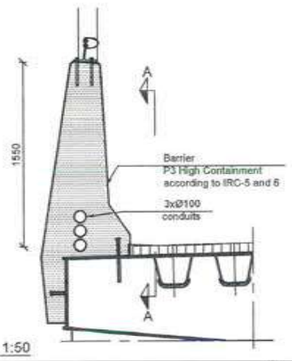
Section B-B, 1:50



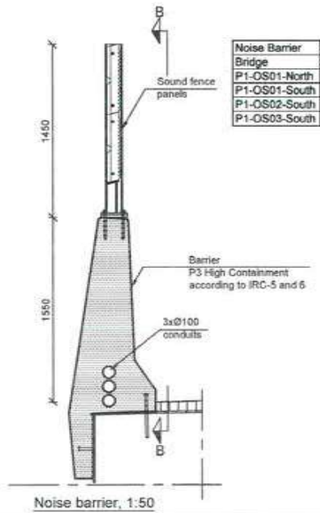
Section C-C, 1:50



Section E-E, 1:50

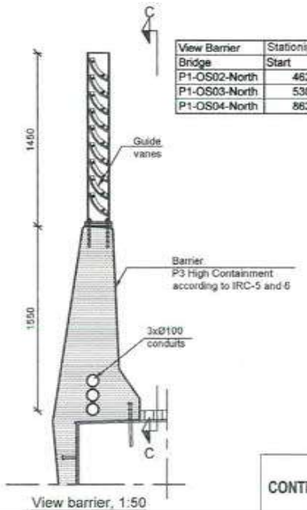


Detail 1, 1:50



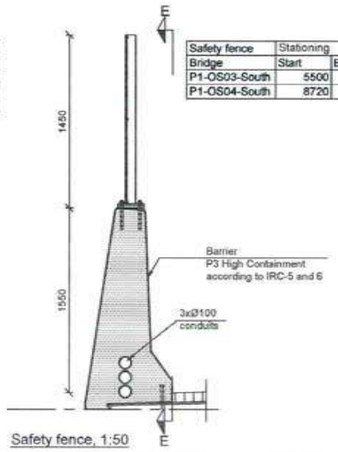
Noise Barrier	Stationing	
Bridge	Start	End
P1-OS01-North	3395	3715
P1-OS01-South	3395	3715
P1-OS02-South	4625	5308
P1-OS03-South	5308	5500

Noise barrier, 1:50



View Barrier	Stationing	
Bridge	Start	End
P1-OS02-North	4625	5308
P1-OS03-North	5308	6078
P1-OS04-North	8620	9180

View barrier, 1:50



Safety fence	Stationing	
Bridge	Start	End
P1-OS03-South	5500	6078
P1-OS04-South	8720	9080

Safety fence, 1:50

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters (Chart Datum).

Abbreviations: NG/SG: North girder/ south girder; P1-OS03: Package/ -Orthotropic steel bridge

Legend:

- In-situ concrete
- Pavement
- Steel

References:

MTHL-CO-C-P1-GN-ST-0005 GENERAL NOTES

L&T-IHI CONSORTIUM CHENNAI (INDIA)

MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: BRIDGE FURNITURE
STEEL BRIDGES GENERAL LAYOUT

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – M S – F B – 0 4 0 2

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

FOR TENDER PURPOSE

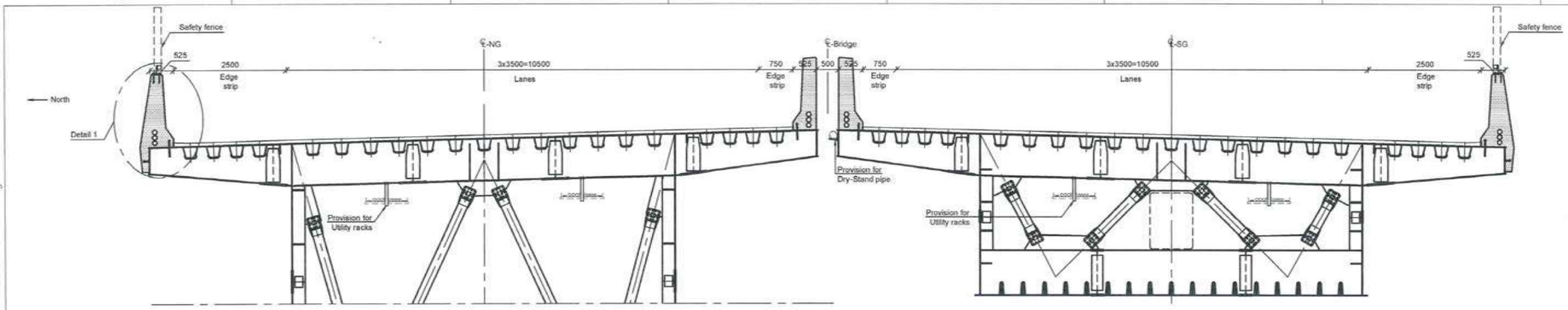
	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

PROJECTION

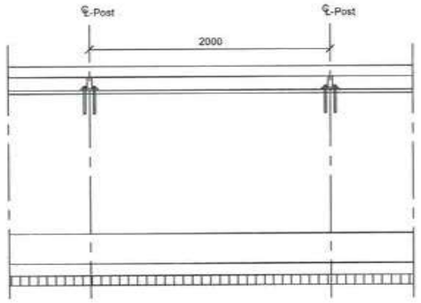
7242

7243

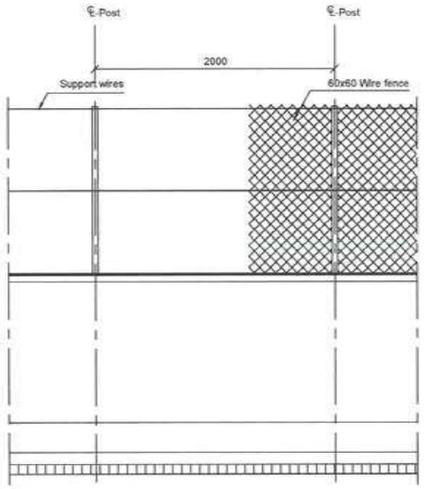


Bridge deck, steel girder, 1:200

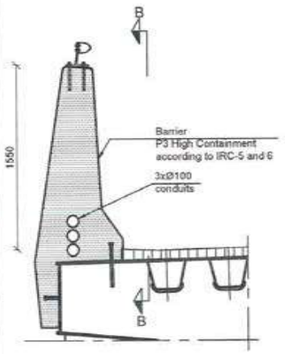
Looking East.



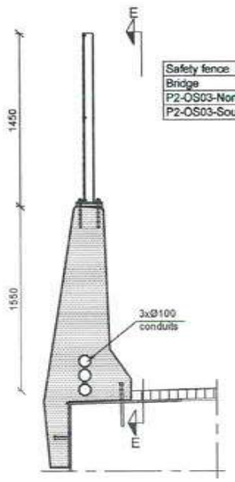
Section B-B, 1:50



Section E-E, 1:50



Detail 1, 1:50



Safety fence	Stationing	
Bridge	Start	End
P2-OS03-North	13138	13510
P2-OS03-South	13138	13510

Safety fence, 1:50

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters (Chart Datum).

Abbreviations: NS/SS: North side/ south side; NG/SG: North girder/ south girder; P2-OS03: Package/ -Orthotropic steel bridge

Legend:

In-situ concrete

Prefabricated concrete

Pavement

References:

MTHL-CO-C-P2-GN-ST-0005 GENERAL NOTES

L&T-IHI CONSORTIUM CHENNAI (INDIA)

MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

L&T-IHI CONSORTIUM CHENNAI (INDIA)

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

PROJECTION

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: BRIDGE FURNITURE STEEL BRIDGES GENERAL LAYOUT

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – M S – F B – 0 4 0 4

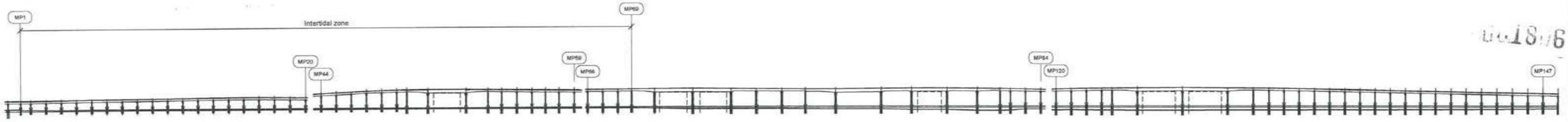
RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

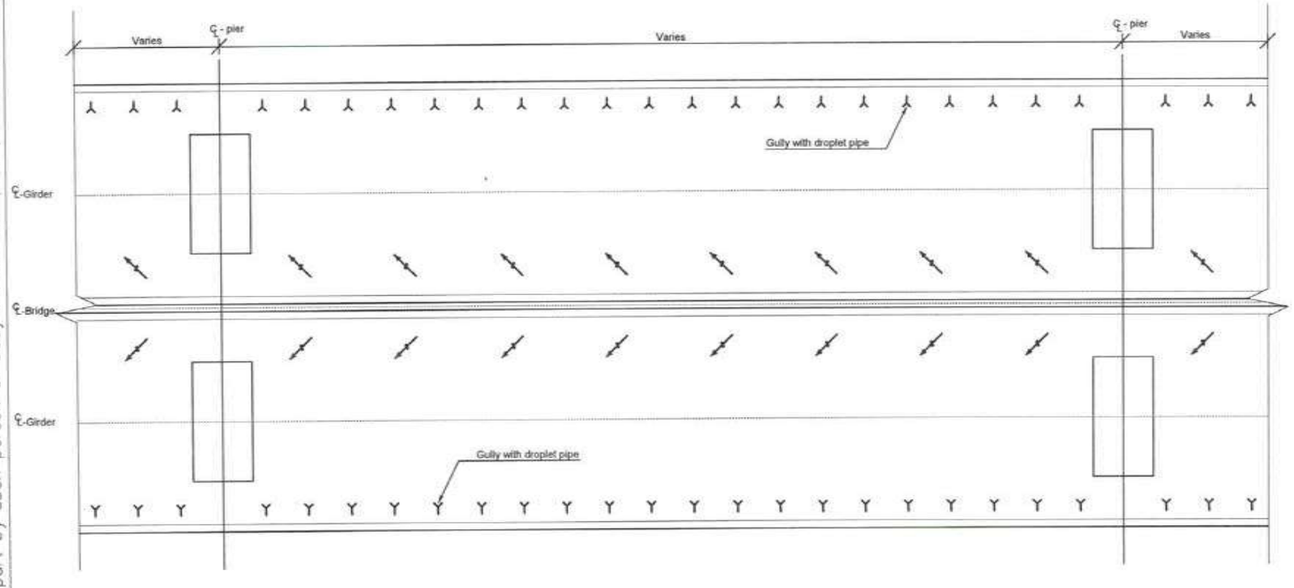
PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7245



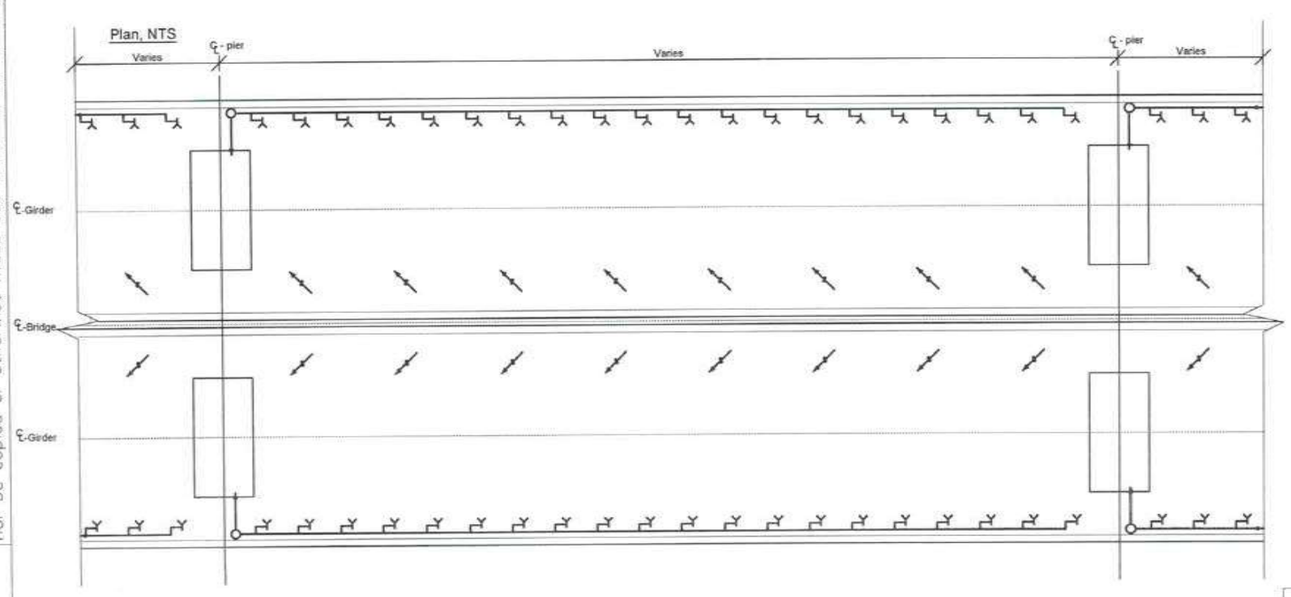
Elevation, 1:8000



Drainage principle for bridge deck
Drainage with direct discharge to sea

Spacing of gullies for concrete bridges = 3.3 meters
Spacing of gullies for steel bridges = 2.0 meters

Plan, NTS



Bridge deck over Intertidal Zone (Mangrove)
Drainage with collection and discharge at ground level at each pier.

Spacing of gullies for concrete bridges = 3.3 meters
Spacing of gullies for steel bridges = 2.0 meters

Plan, NTS

Legend:

- Cross slope direction
- Gully with direct discharge
- Down pipe

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

PROJECTION

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: DRAINAGE SYSTEMS PRINCIPLE FLOW DIAGRAM

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – M S – F B – 0 5 0 1

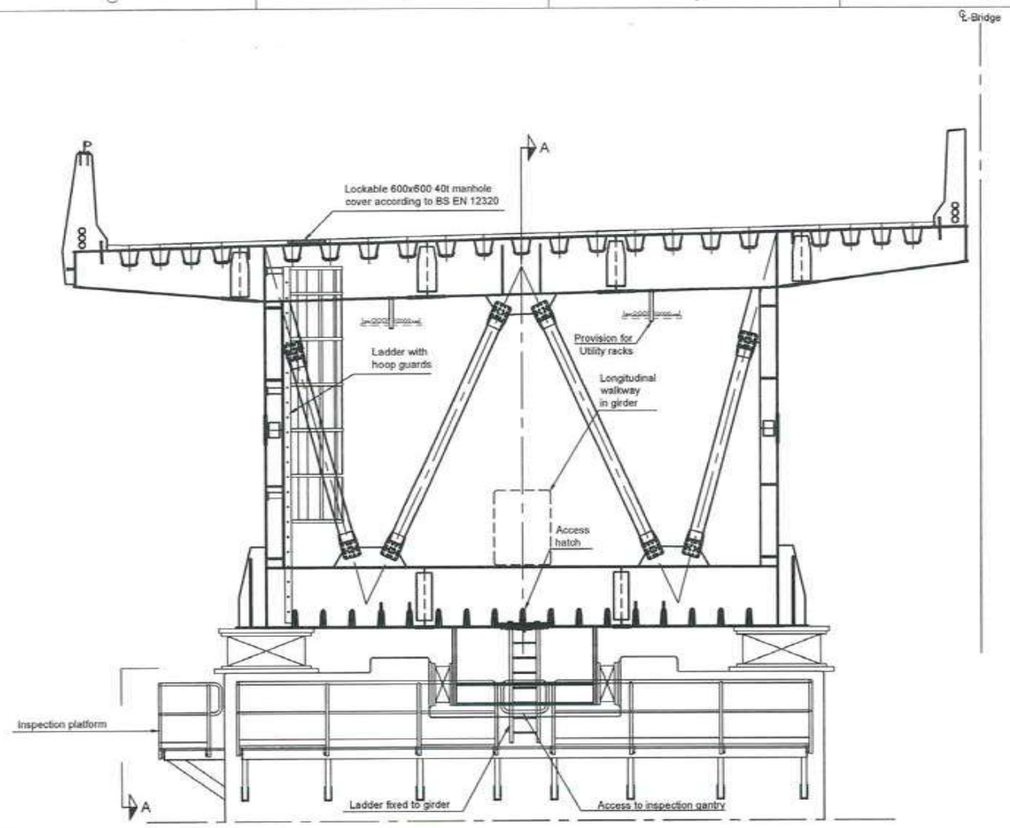
RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

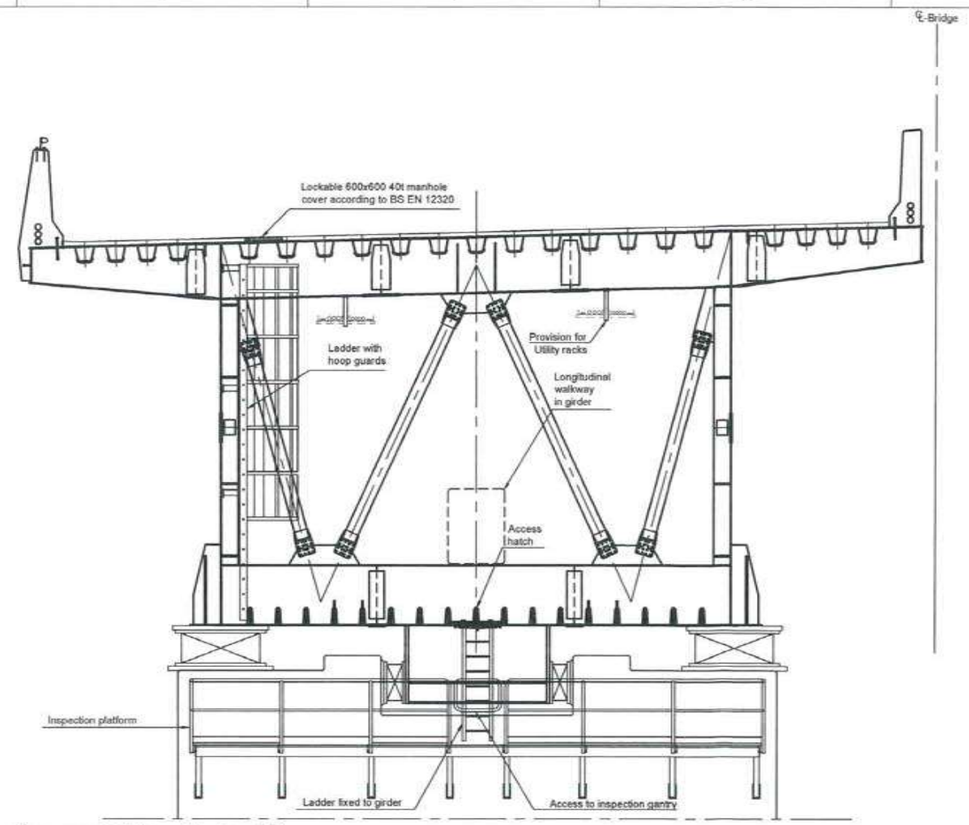
PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

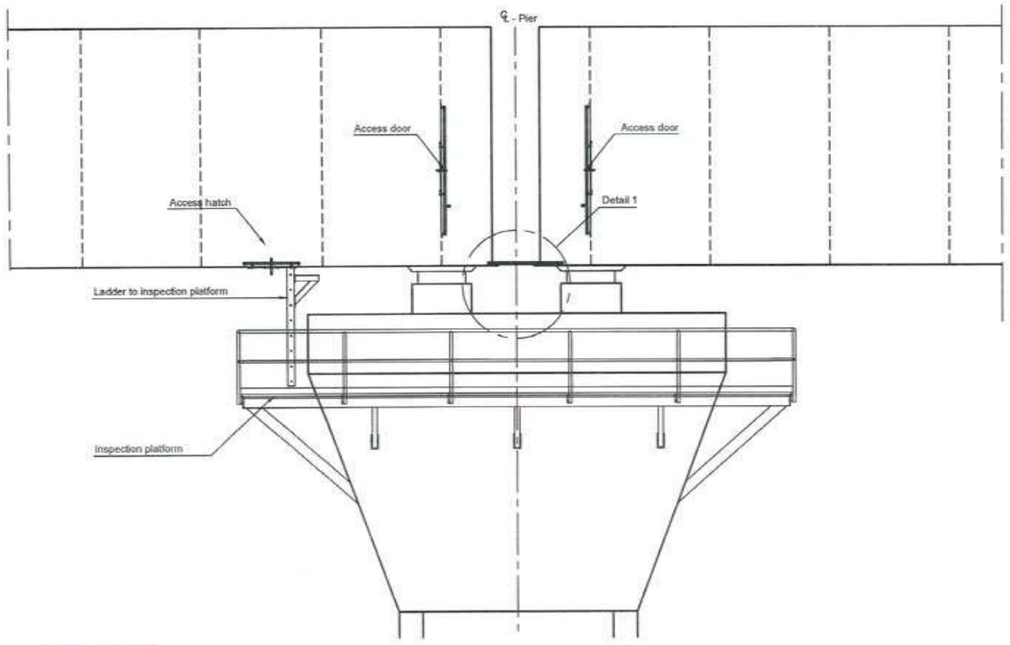
7247



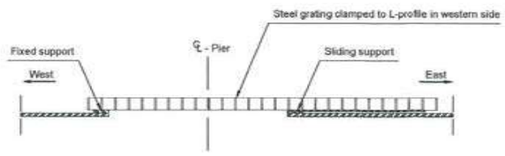
Pier access at every expansion joint, 1:50



Pier access at all intermediate piers, 1:50



Section A-A, 1:50



Detail 1, 1:10

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted. Levels are in meters (Chart Datum).

References:

MTHL-CO-C-P2-GN-ST-0005 GENERAL NOTES

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: ACCESS FACILITIES
STEEL BRIDGES - GENERAL

SCALE: AS SHOWN

DRAWING No M T H L – CO – C – P 1 – S B – G A – 0 7 0 2

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

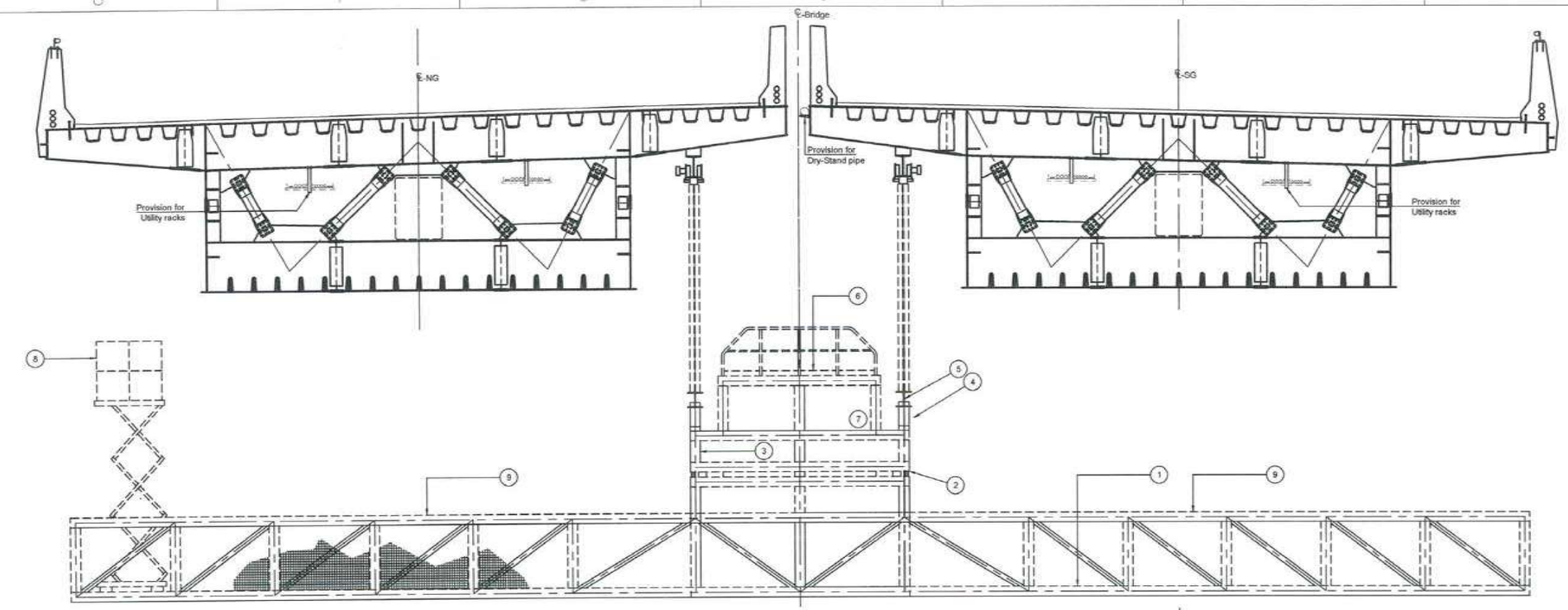
FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

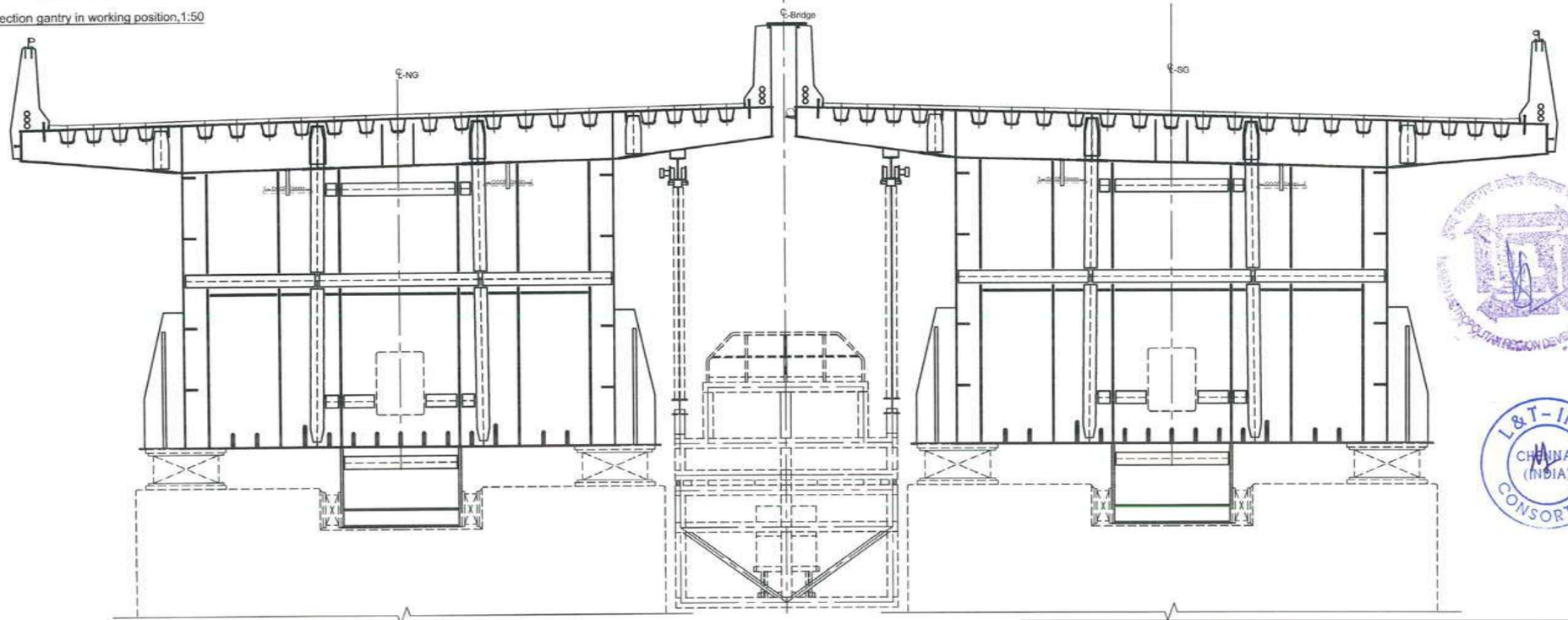
SHEET 1 OF 1 REV. A

PROJECTION

7249



Inspection gantry in working position,1:50



Inspection gantry in rotated position,1:50

The bridge deck gantry is described in the following items:

1. Base gantry, working width ≥ 4m
2. Gantry rotation (± 90 degree) ring Ø 4.4m
3. Gantry tower, plan size 4.4m x 4.4m², with two service platforms and ladders
4. Bogie with multiple hydraulic driving wheels and guiding wheels
5. Gantry rail beam fixed to bridge deck structure
6. Service platform with stationary and remote operation and safety panel and communication equipment
7. Location of mechanical equipment (diesel generator, fuel tank, hydraulic unit, air compressor, water tank & compressor, working tools container, fire & safety equipment, portable toilet, working table etc.
8. Movable telescopic platform
9. Access to pier top

L&T-IHI CHENNAI (INDIA) CONSORTIUM

Notes:

Dimensions:	Dimensions are in millimeters unless otherwise noted. Levels are in meters.	
Abbreviations:	NS/SS:	North side/ south side
	NG/SG:	North girder/ south girder
Capacity:	Live load:	5.0 kN/m²
	Point load:	75 kN/m

Legend:

Steel

Pavement

References:

MTHL-CO-C-P2-GN-ST-0005 GENERAL NOTES

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

SHEET 1 OF 1 REV. A

PROJECTION

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: RAILING PROVISIONS - STEEL BRIDGES INSPECTION GANTRIES

SCALE AS SHOWN

DRAWING No M T H L – CO – C – P 1 – S B – G A – 0 7 0 3

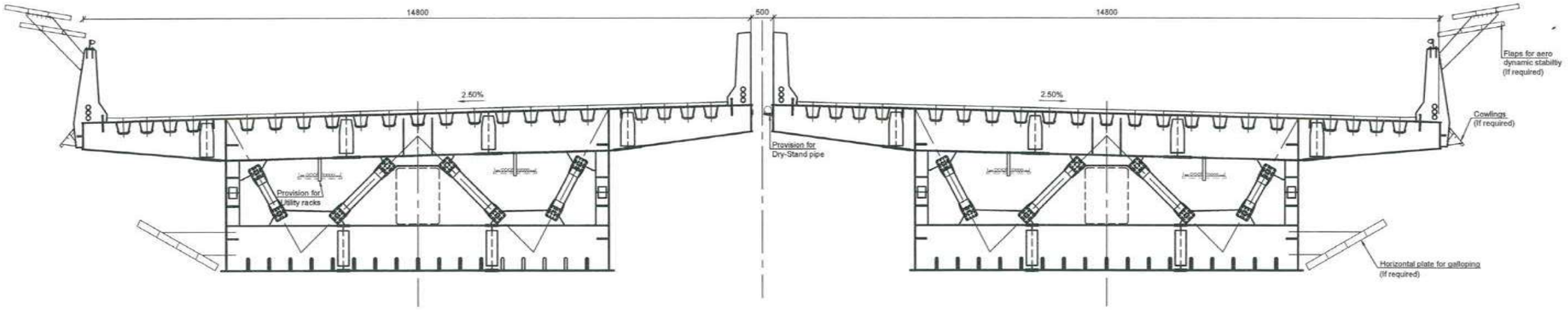
RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

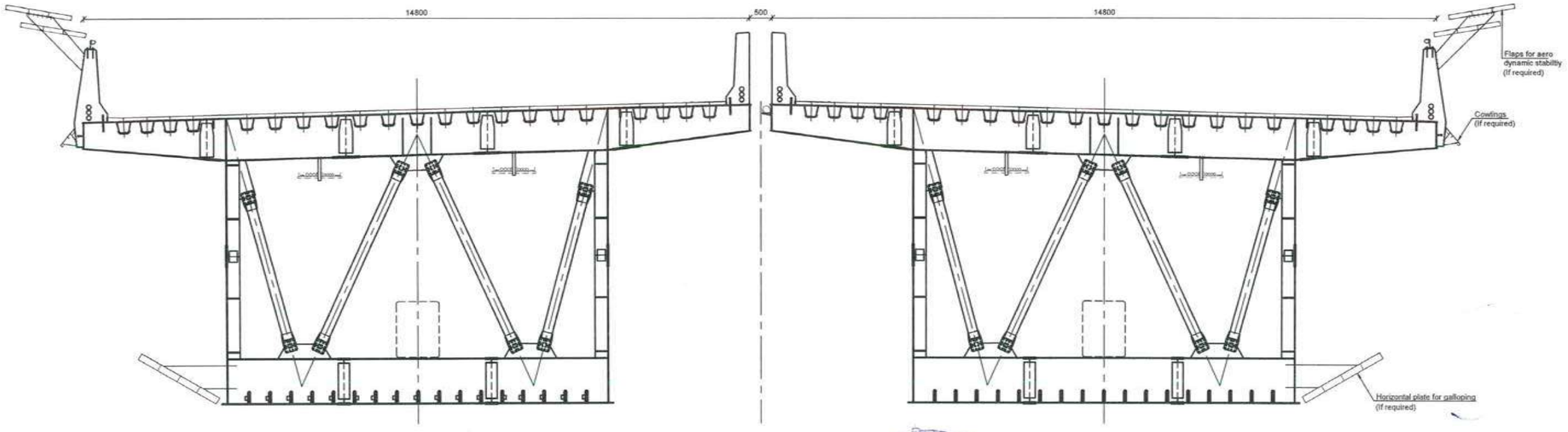
PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7251



Section at shorter spans
(Looking East)



Section at longer spans
(Looking East)

Notes:

Dimensions: Dimensions are in millimeters unless otherwise noted.
Levels are in meters.

Legend:

Steel

FOR TENDER PURPOSE

	NAME	DATE
DSGN		
DRWN		
CHKD		
APPD		14 JUL 2017

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: PROVISIONS - AERODYNAMIC STABILITY (IF REQUIRED)

SCALE: AS SHOWN

DRAWING No: M T H L – CO – C – P 1 – S B – G A – 0 2 0 0

SHEET 1 OF 1 REV. A

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

CLIENT: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT–PACKAGE 1

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

7253
461810

MMRDA
Mumbai Metropolitan Region Development Authority

MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE-1)
CH 0+000 TO CH 10+380

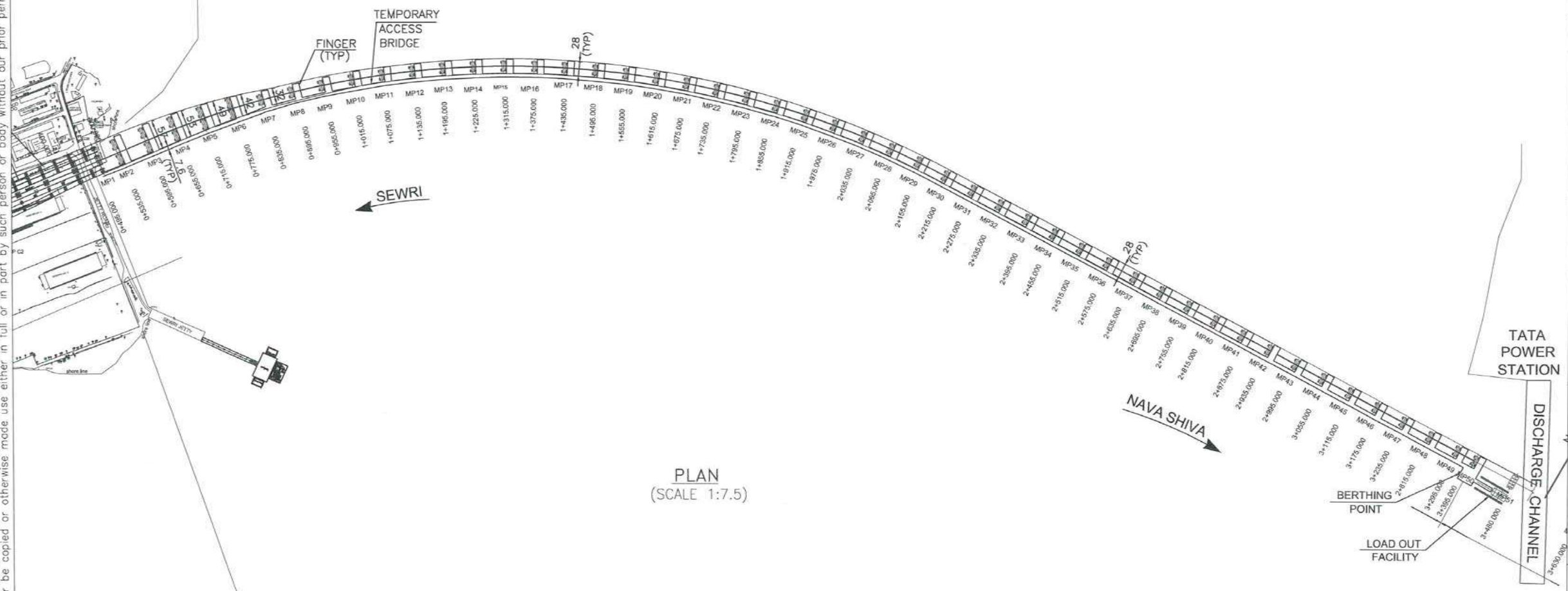
CONSTRUCTION METHOD TENDER DRAWING SUBMISSIONS
JULY 2017

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T Construction IHI

7255

461811



PLAN
(SCALE 1:7.5)

NOTES:
1. ALL DIMENSIONS ARE IN METER.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	GSK 15.07.17	NSS 15.07.17	EAK 15.07.17	VAD 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: ALIGNMENT PLAN OF TEMPORARY ACCESS BRIDGE WITH LOAD OUT FACILITY FOR PACKAGE –1 (CH +0.5 TO CH +3.395)

SCALE: AS SHOWN

DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 0 1

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

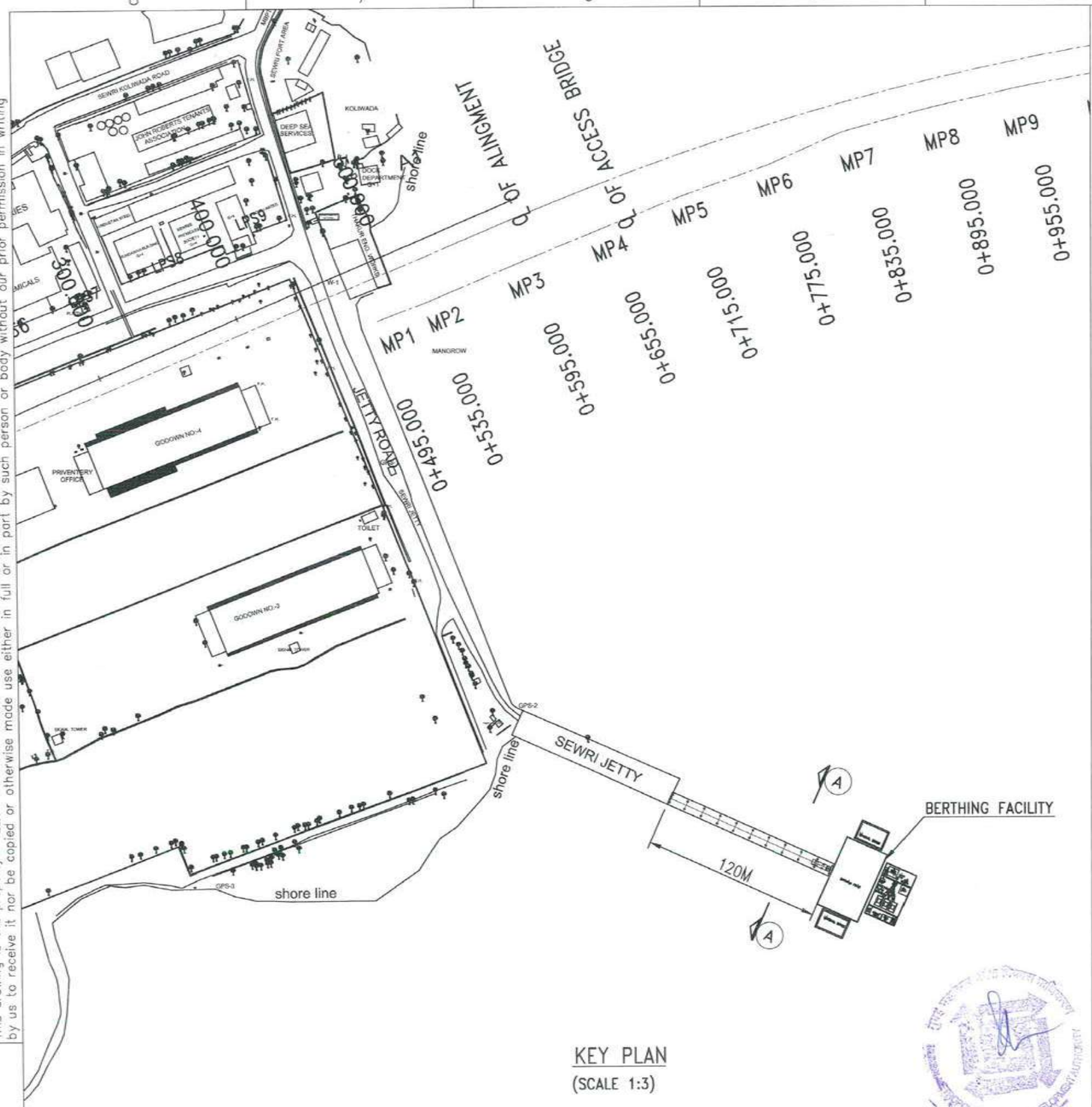
	NAME	DATE
DSGN	GSK	15.07.17
DRWN	NSS	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

SHEET 1 OF 1 REV. A

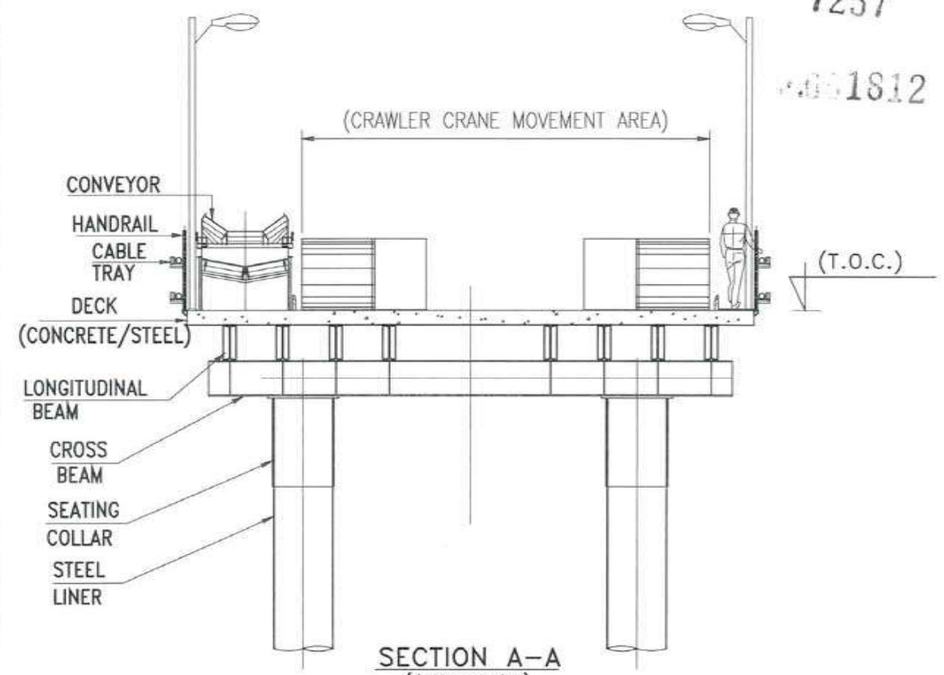
PROJECTION

7257

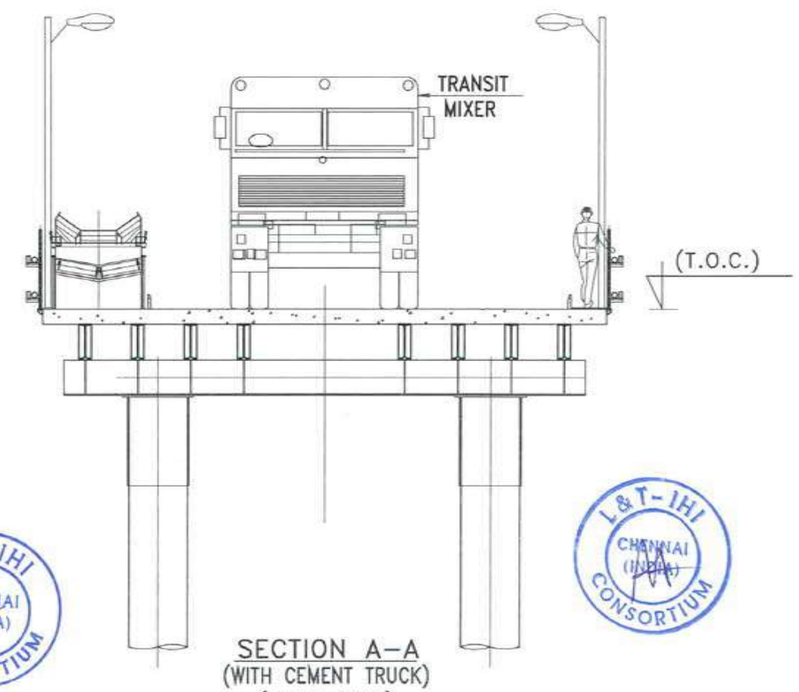
061812



KEY PLAN
(SCALE 1:3)



SECTION A–A
(WITH CRANE)
(SCALE 1:100)



SECTION A–A
(WITH CEMENT TRUCK)
(SCALE 1:100)

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

NOTES:
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	GSK 15.07.17	NSS 15.07.17	EAK 15.07.17	VAD 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: GA OF EXTENSION OF KEROSENE JETTY AT SEWRI JETTY

SCALE AS SHOWN

DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 0 2

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

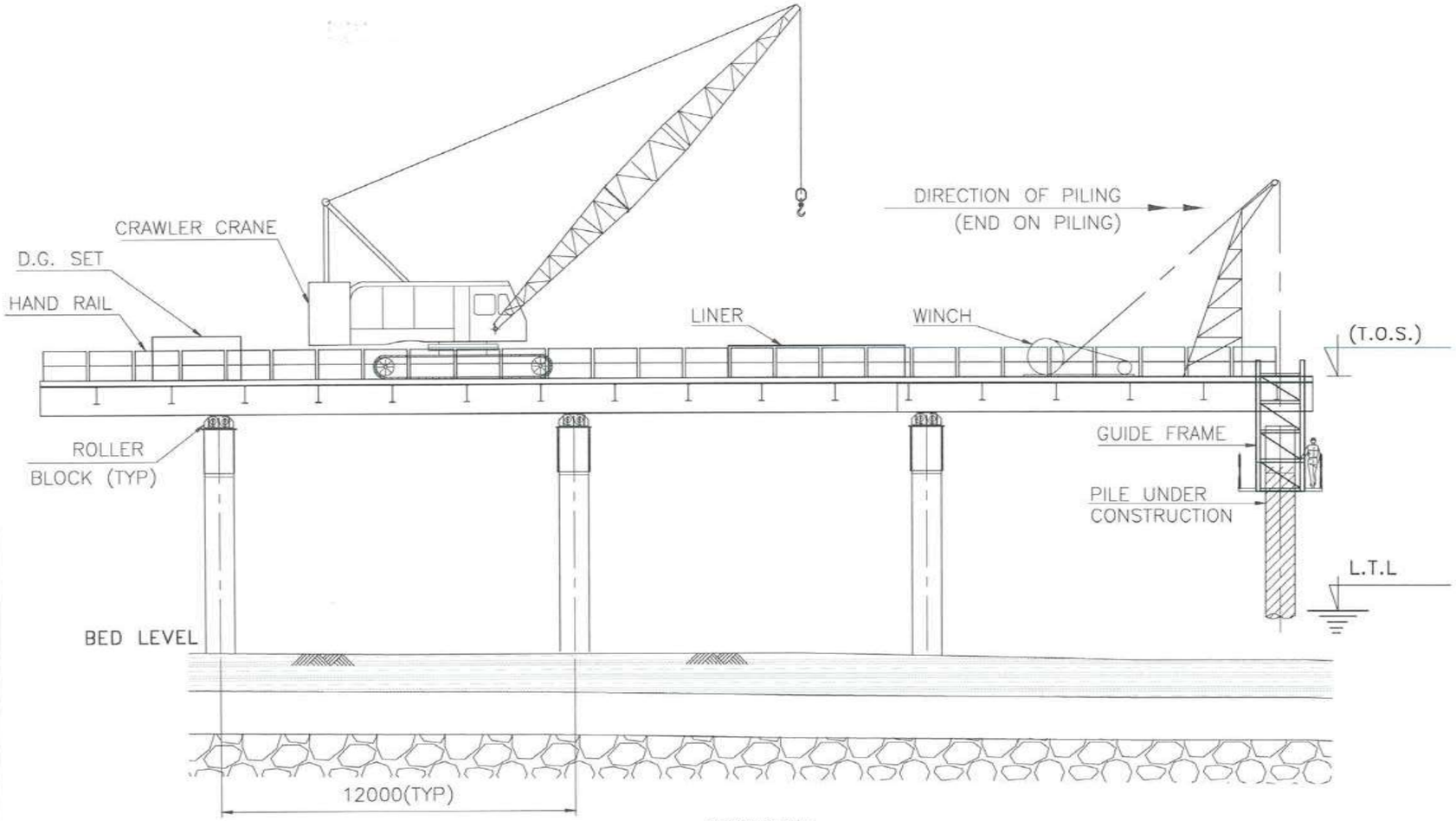
	NAME	DATE
DSGN	GSK	15.07.17
DRWN	NSS / SSZ	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

SHEET 1 OF 1 REV. A

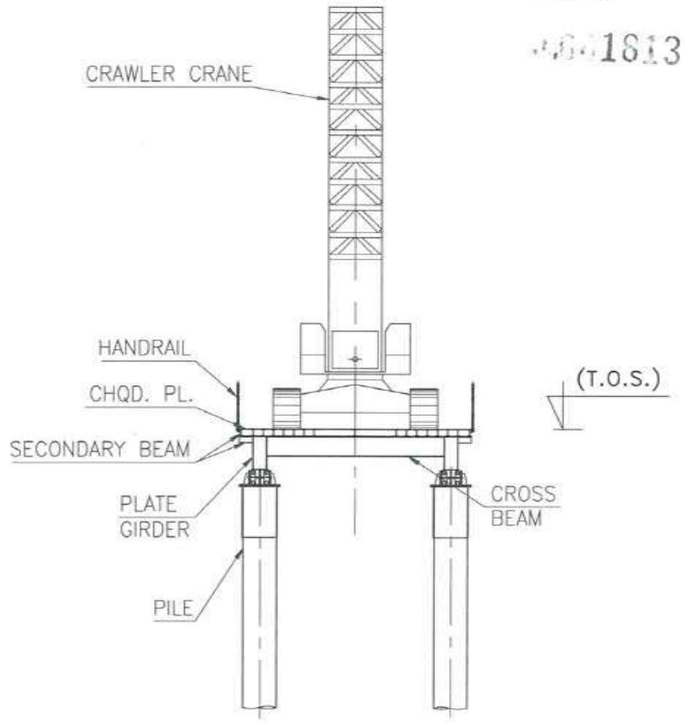
PROJECTION

7259

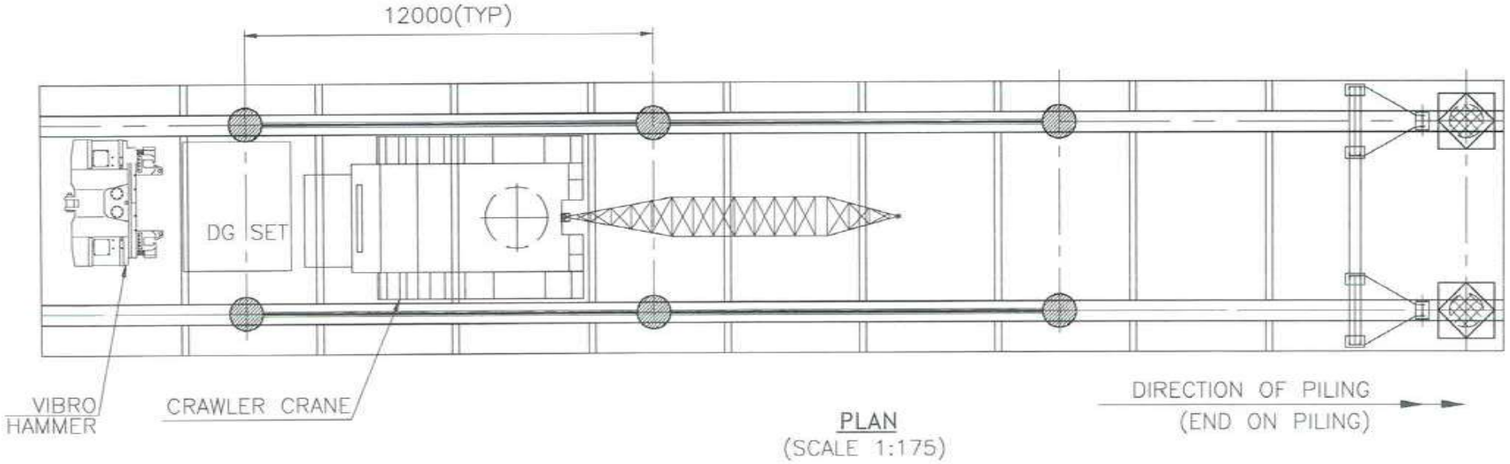
1813



ELEVATION
(SCALE 1:175)



SECTION
(SCALE 1:175)



PLAN
(SCALE 1:175)

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.

REV	DESCRIPTION	GSK 14.03.17 DSND	NSS 14.03.17 DRWN	EAK 14.03.17 CHKD	VAD 14.03.17 APPD
A	FOR TENDER				

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: GA OF CANTILEVERING PILING GANTRY FOR ACCESS BRIDGE & FINGER

SCALE: AS SHOWN

DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 0 3

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

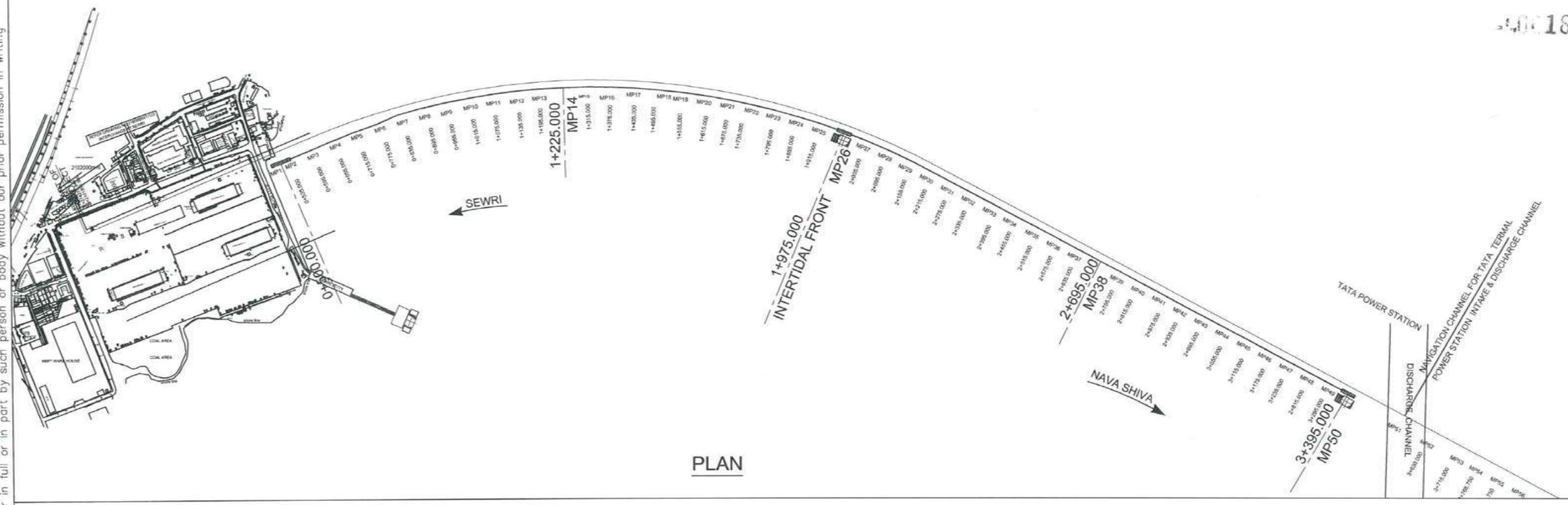
	NAME	DATE
DSGN	GSK	15.07.17
DRWN	NSS	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

SHEET 1 OF 1 REV. A

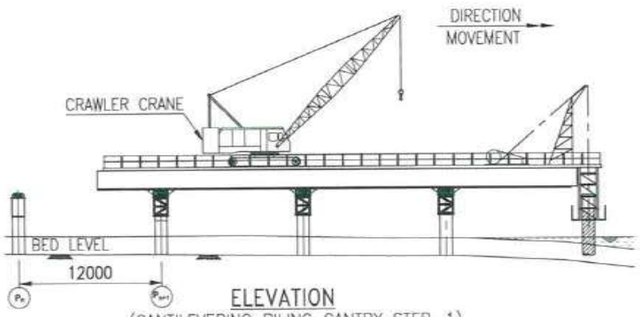
PROJECTION

7260

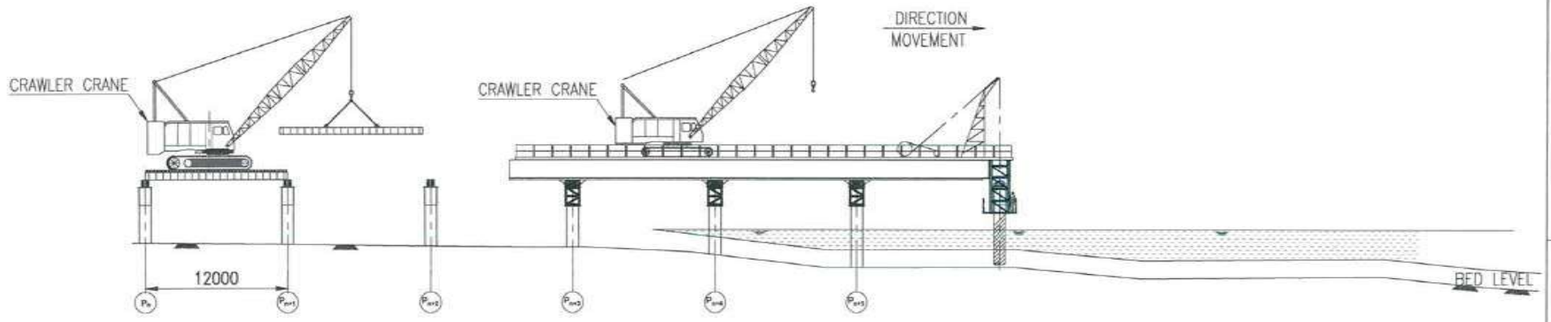
7261



PLAN



ELEVATION
(CANTILEVERING PILING GANTRY STEP-1)



ELEVATION
(CANTILEVERING PILING GANTRY STEP-2)

NOTES:
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	GSK 15.07.17	NSS 15.07.17	EAK 15.07.17	VAD 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: CONSTRUCTION SEQUENCE OF ACCESS BRIDGE WITH CANTILEVERING PILING GANTRY WITH A FRAME PILING RIG

SCALE: AS SHOWN

DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 0 4

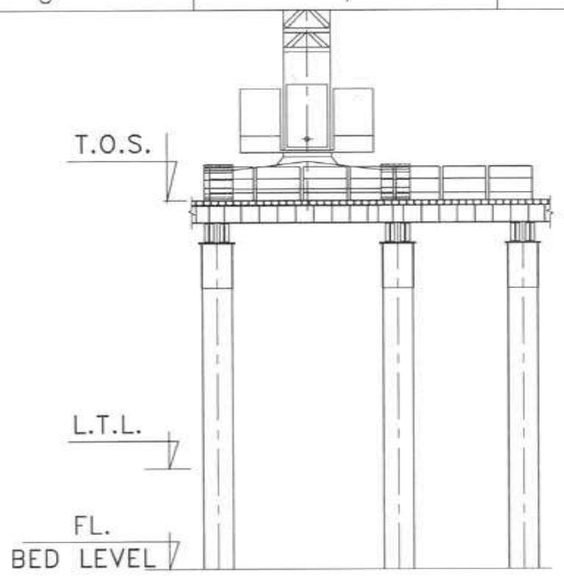
RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	GSK	15.07.17
DRWN	NSS	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

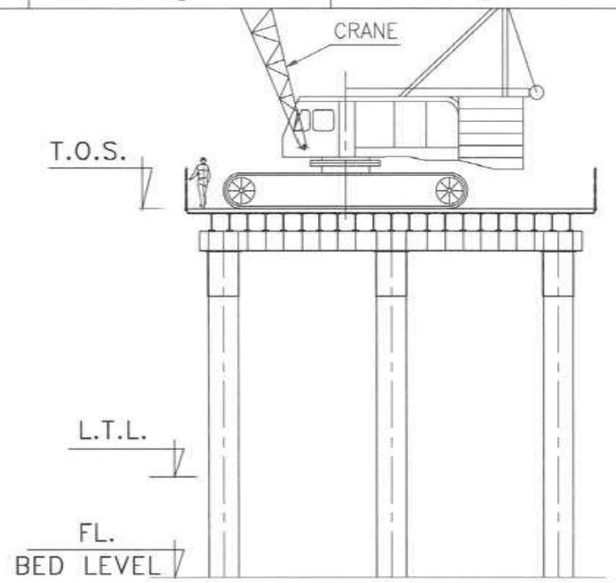
SHEET 1 OF 1 REV. A

PROJECTION

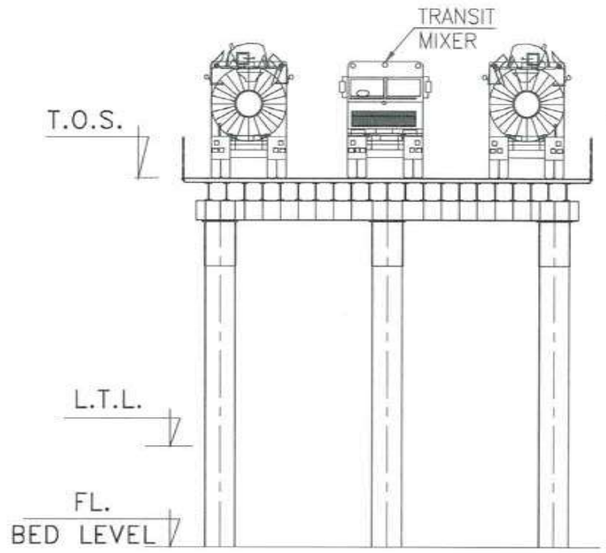
7263



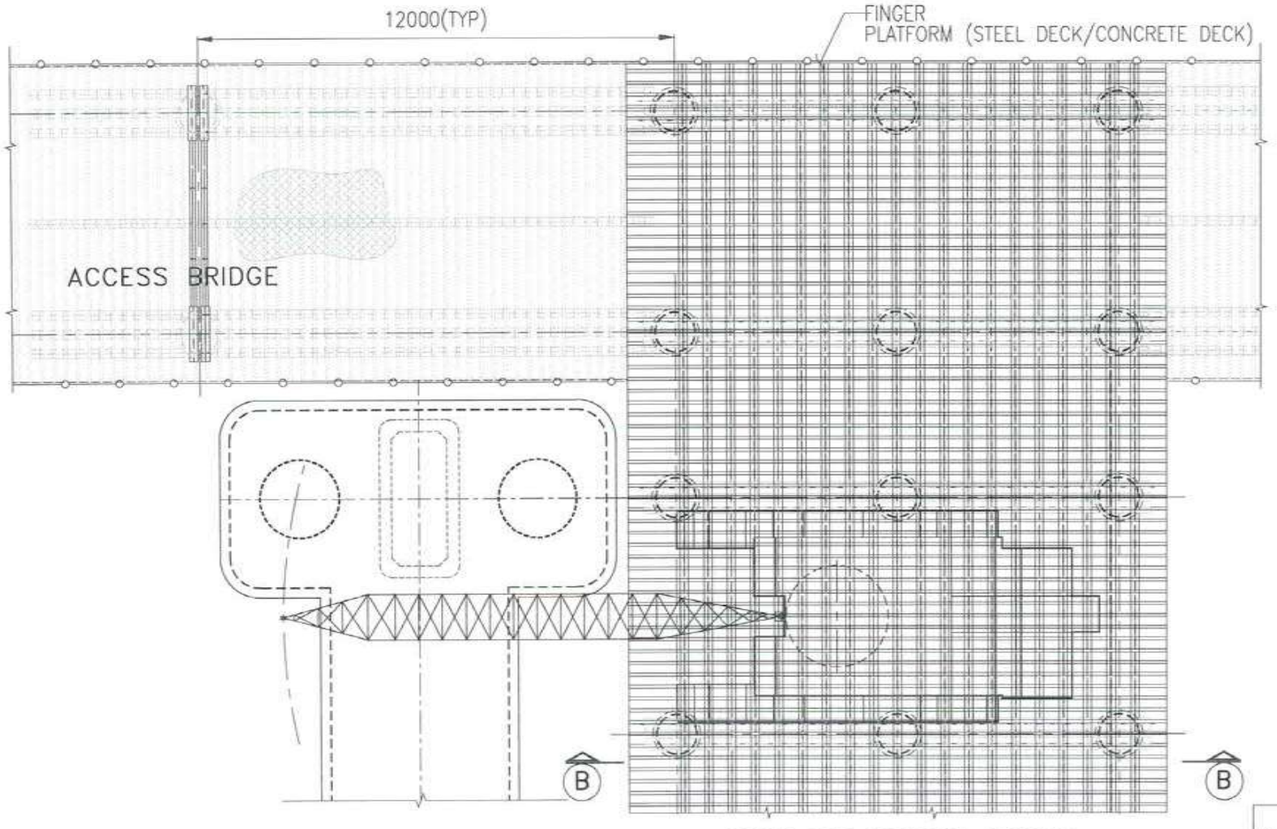
SECTION A–A
(SCALE 1:200)



SECTION B–B
(CRAWLER CRANE)
(SCALE 1:200)



SECTION B–B
(TRANSIT MIXER)
(SCALE 1:200)



PLAN OF ACCESS BRIDGE
(SCALE 1:150)

NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	GSK 15.07.17	NSS 15.07.17	EAK 15.07.17	VAD 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: GA OF FINGER PROJECTION IN ACCESS BRIDGE

SCALE: AS SHOWN

DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 0 5

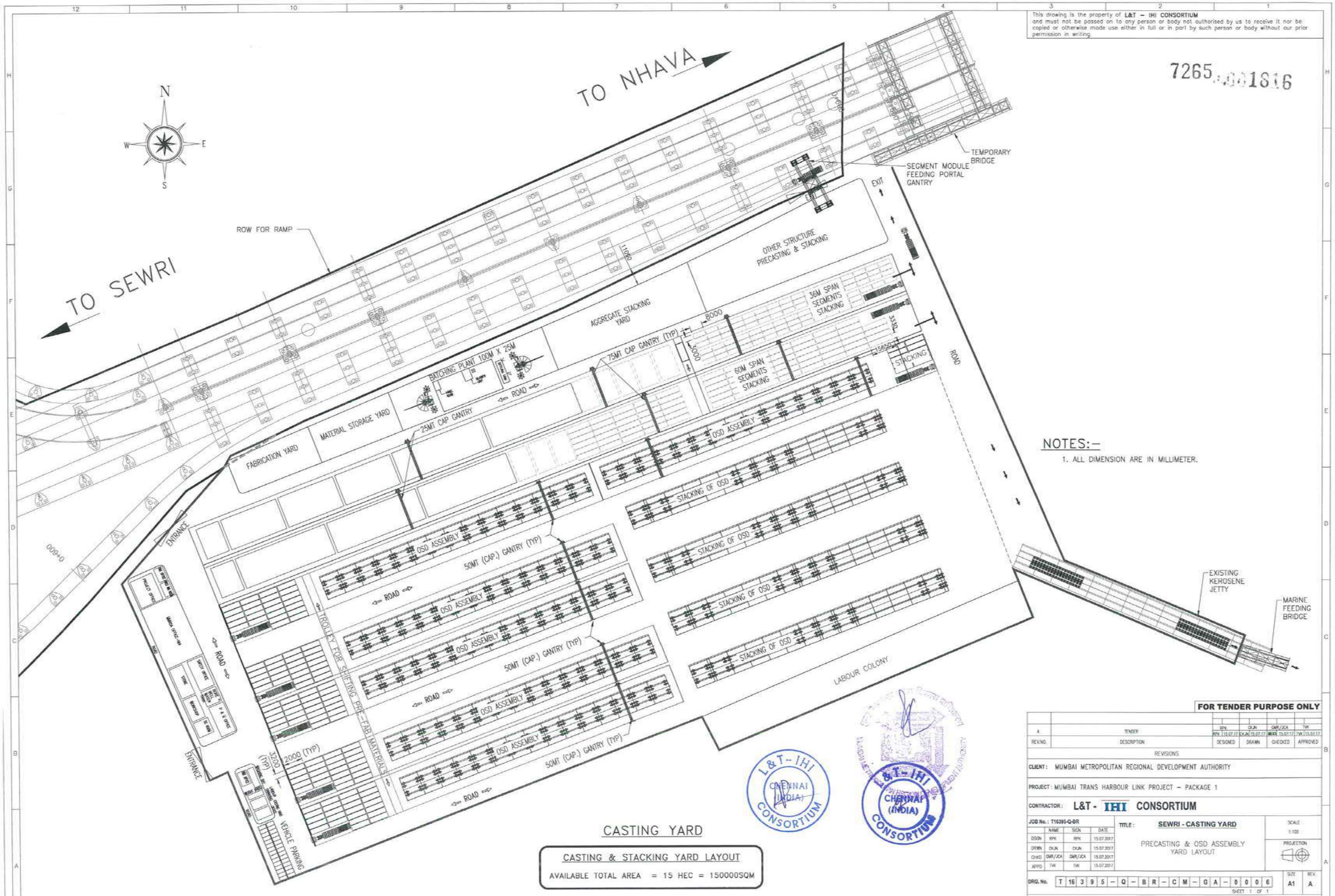
RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	GSK	15.07.17
DRWN	NSS	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

SHEET 1 OF 1 REV. A

PROJECTION

7265 001616



NOTES:–

1. ALL DIMENSION ARE IN MILLIMETER.

CASTING YARD

CASTING & STACKING YARD LAYOUT

AVAILABLE TOTAL AREA = 15 HEC = 150000SQM

FOR TENDER PURPOSE ONLY

REV.NO.	DESCRIPTION	DESIGNED	DRAWN	CHECKED	APPROVED
A	TENDER	RPK 15.07.17	CKJN 15.07.17	GMR/JCA 15.07.17	TVK 15.07.17

REVISIONS

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

JOB No.: T16395-Q-BR

	NAME	SIGN	DATE
DSGN	RPK	RPK	15.07.2017
DRWN	CKJN	CKJN	15.07.2017
CHKD	GMR/JCA	GMR/JCA	15.07.2017
APPD	TVK	TVK	15.07.2017

TITLE: **SEWRI - CASTING YARD**

PRECASTING & OSD ASSEMBLY YARD LAYOUT

SCALE 1:100

PROJECTION

DRG. No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 0 6

SHEET 1 OF 1

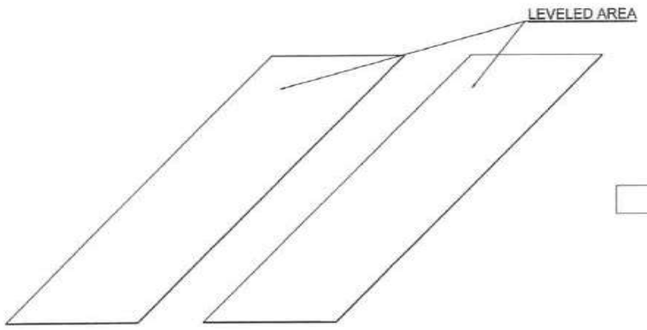
SIZE A1 REV. A

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

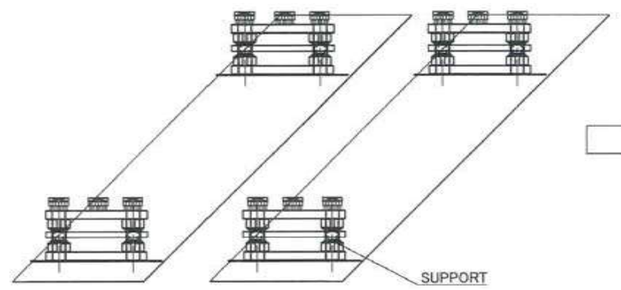
7267

Girder Assembly Procedure

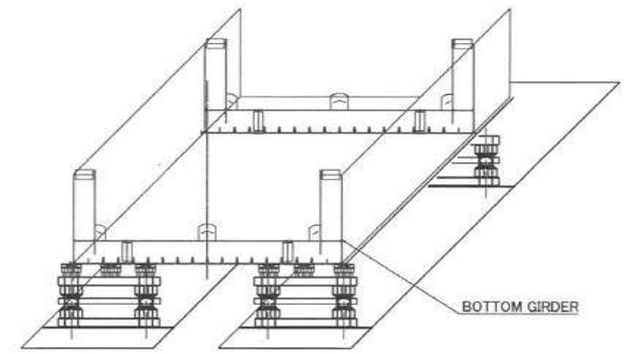
STEP-1 SURFACE PREPARATION



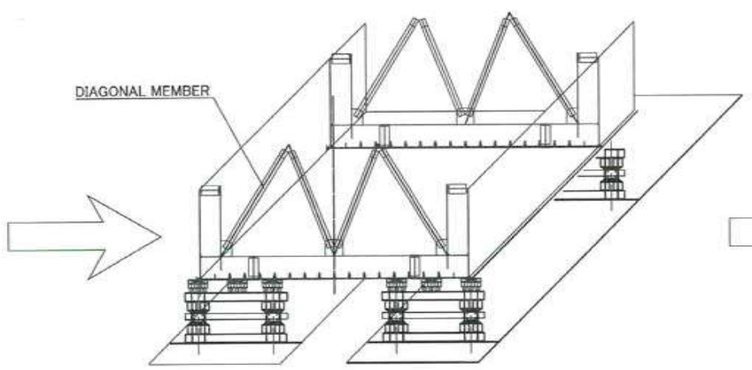
STEP-2 SETTING THE SUPPORT



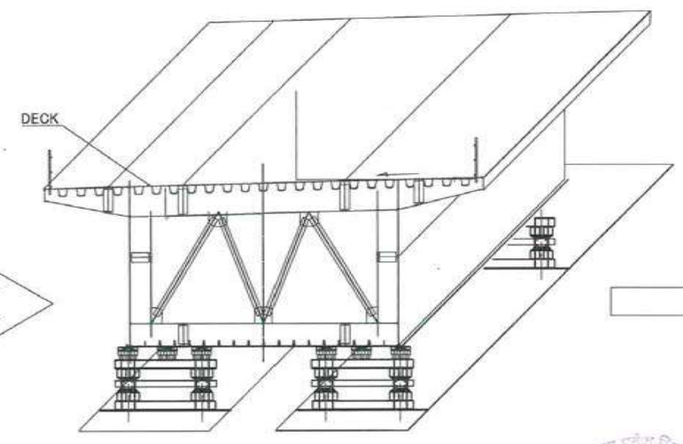
STEP-3 SETTING OF BOTTOM GIRDER



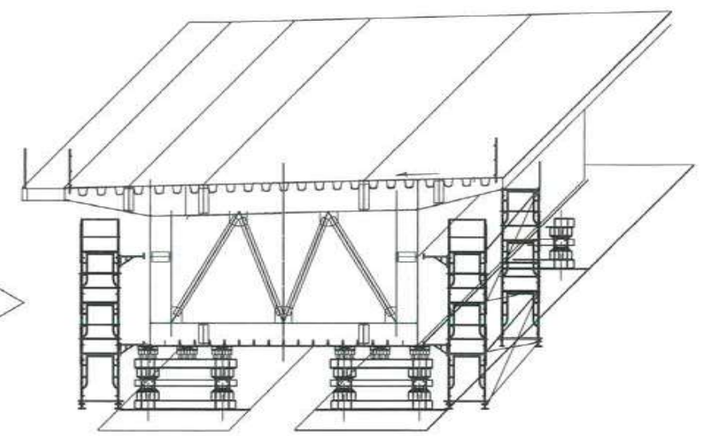
STEP-4 SETTING OF DIAGONAL MEMBER



STEP-5 SETTING OF DECK



STEP-6 COMPLETION OF THE ASSEMBLYING



FOR TENDER PURPOSE ONLY

A	FOR TENDER	RPK 15.07.17	CKJN 15.07.17	GMR/JCA 15.07.17	TVK 15.07.17
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: OSD ASSEMBLY PROCEDURE AT ASSEMBLY YARD

SCALE 1:350

DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 0 6A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

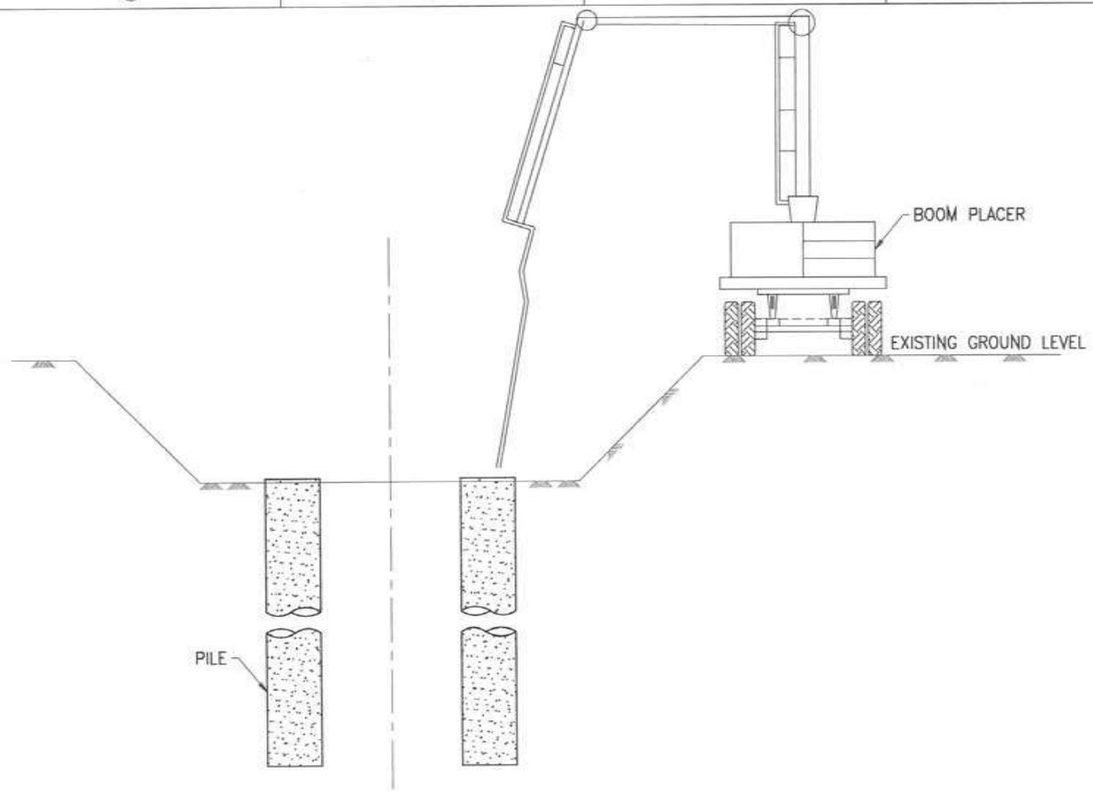
	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	CKJN	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

SHEET 1 OF 1 REV. A

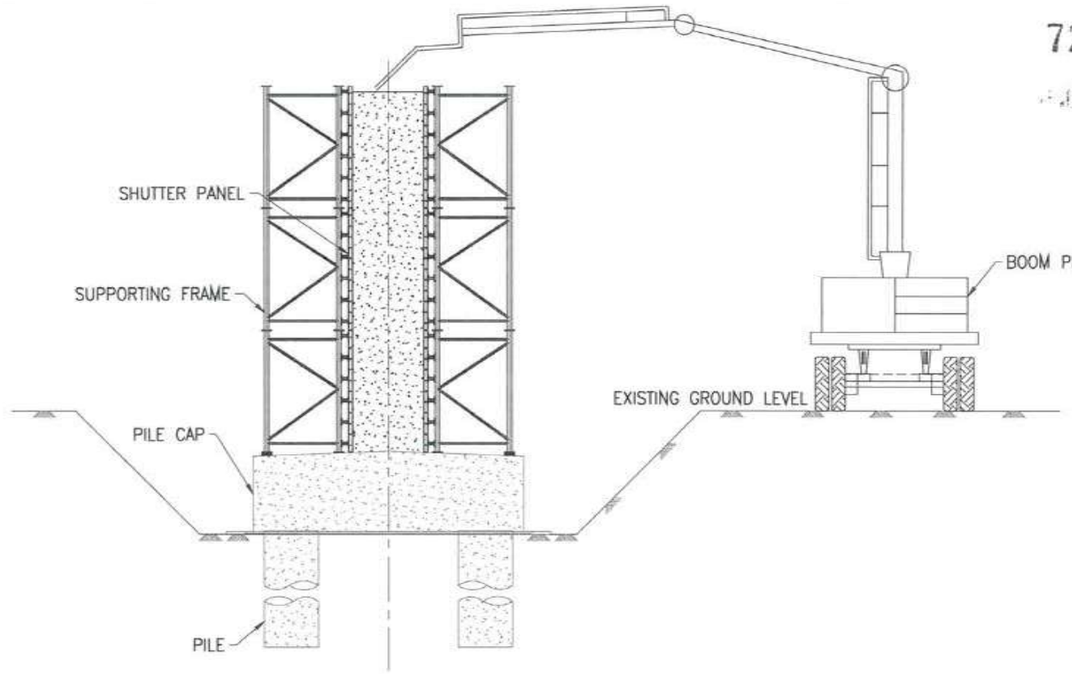
PROJECTION

7269

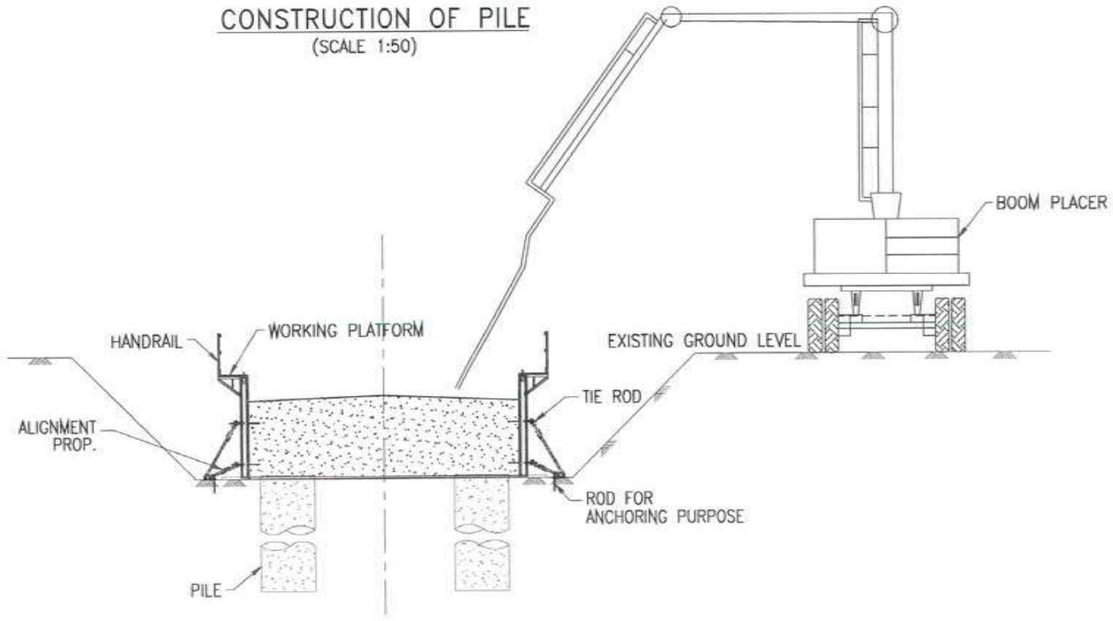
1818



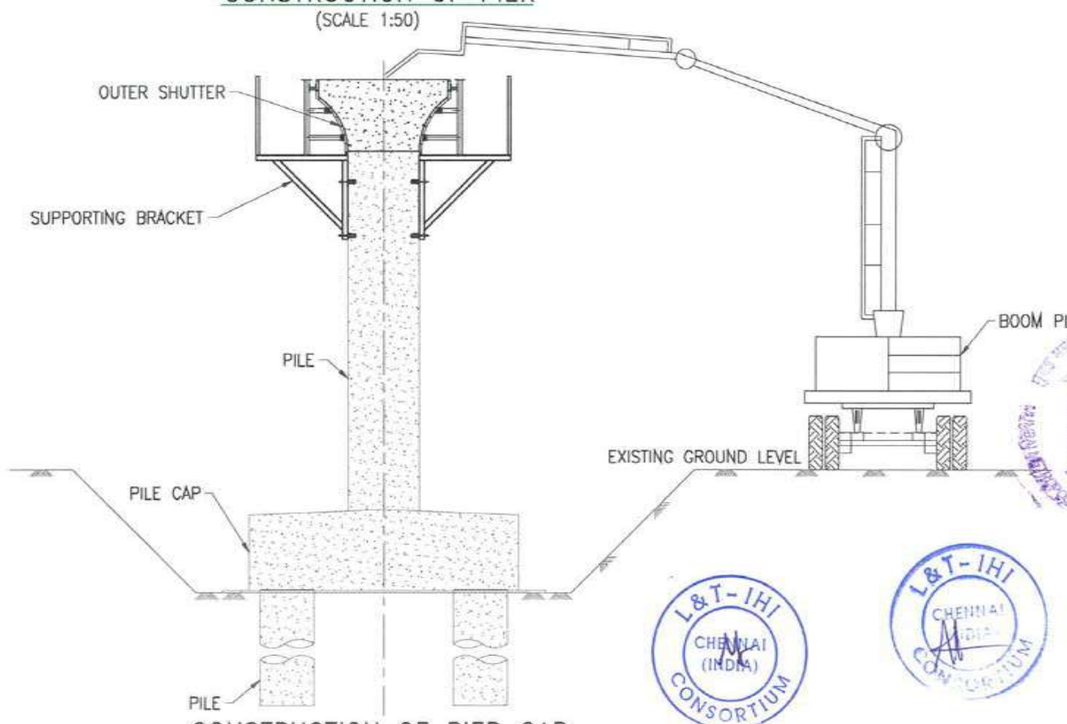
CONSTRUCTION OF PILE
(SCALE 1:50)



CONSTRUCTION OF PIER
(SCALE 1:50)



CONSTRUCTION OF PILE CAP
(SCALE 1:50)



CONSTRUCTION OF PIER CAP
(SCALE 1:50)

FOR TENDER PURPOSE ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	CKJN 15.07.17	GMR/JCA 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: PILE, PILE CAP, PIER AND PIER CAP CONSTRUCTION IN LAND ZONE

SCALE 1:350

DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 0 7

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	CKJN	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

SHEET 1 OF 1 REV. A

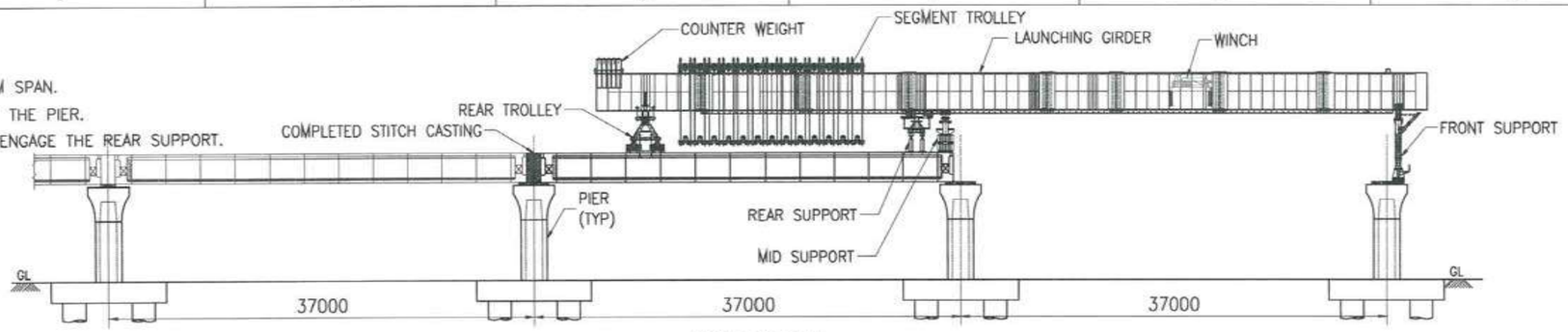
PROJECTION

7271

1819

STAGE-1

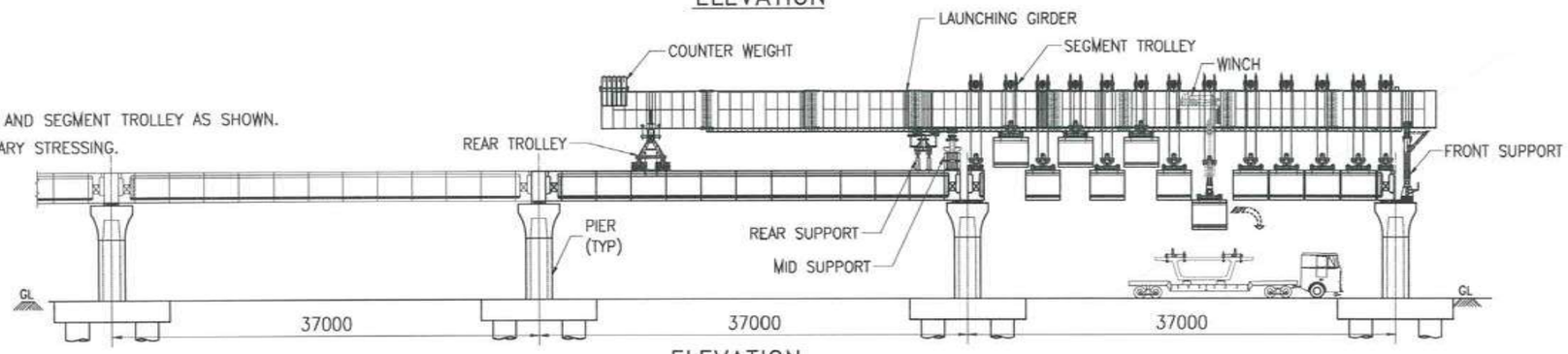
1. AUTO LAUNCH THE LG TO NEXT 37M SPAN.
2. ANCHOR THE FRONT SUPPORT OVER THE PIER.
3. ENGAGE THE MID SUPPORT AND DISENGAGE THE REAR SUPPORT.



ELEVATION

STAGE-2

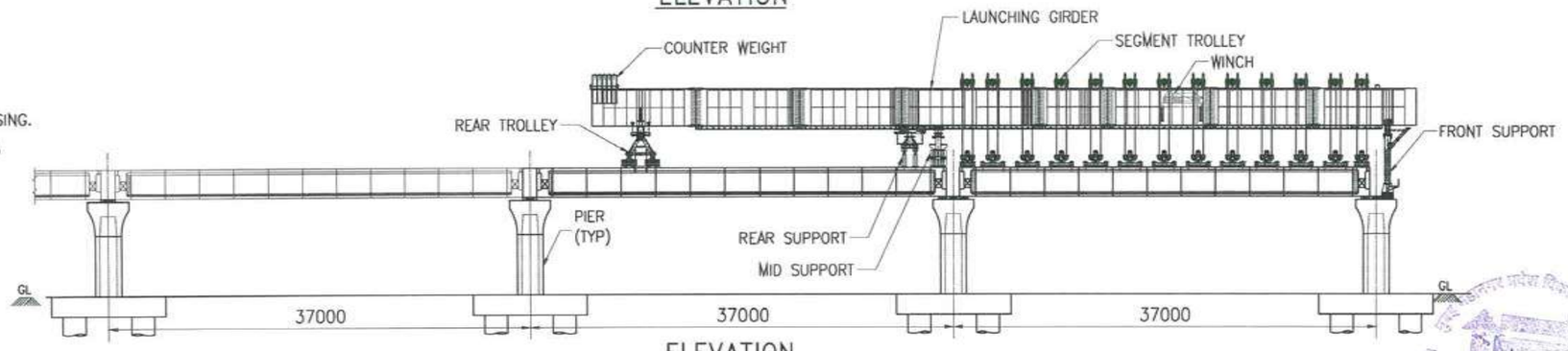
1. LIFT THE SEGMENTS USING WINCH AND SEGMENT TROLLEY AS SHOWN.
2. ALIGN HE SEGMENTS FOR TEMPORARY STRESSING.



ELEVATION

STAGE-3

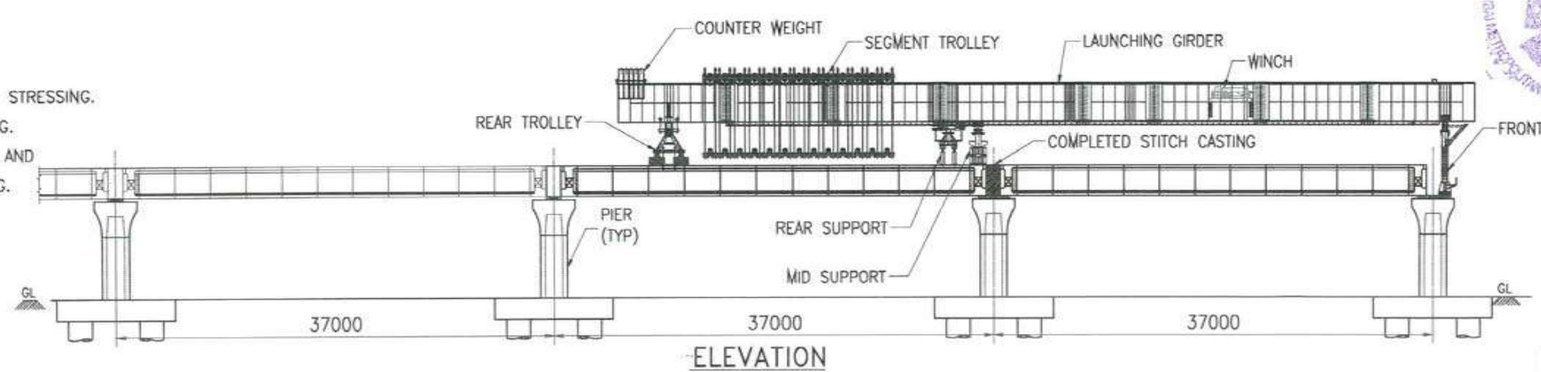
1. TEMPORARY STRESS THE SEGMENTS.
2. COMPLETE FIRST STAGE OF STRESSING.
3. ONCE THE SPAN ATTAIN STRENGTH, LOWER THE ENTIRE SPAN ON TEMPORARY BEARING.



ELEVATION

STAGE-4

1. COMPLETE THE SECOND STAGE OF STRESSING.
2. LG IS READY FOR AUTO LAUNCHING.
3. INSTALL THE PERMANENT BEARING AND COMPLETE THE STITCH CONCRETING.



ELEVATION

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	CKJN 15.07.17	GMR/JCA 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: SEQUENCE OF AUTO LAUNCHING AND SEGMENT ERECTION AT LAND ZONE

SCALE 1:500

DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 0 8

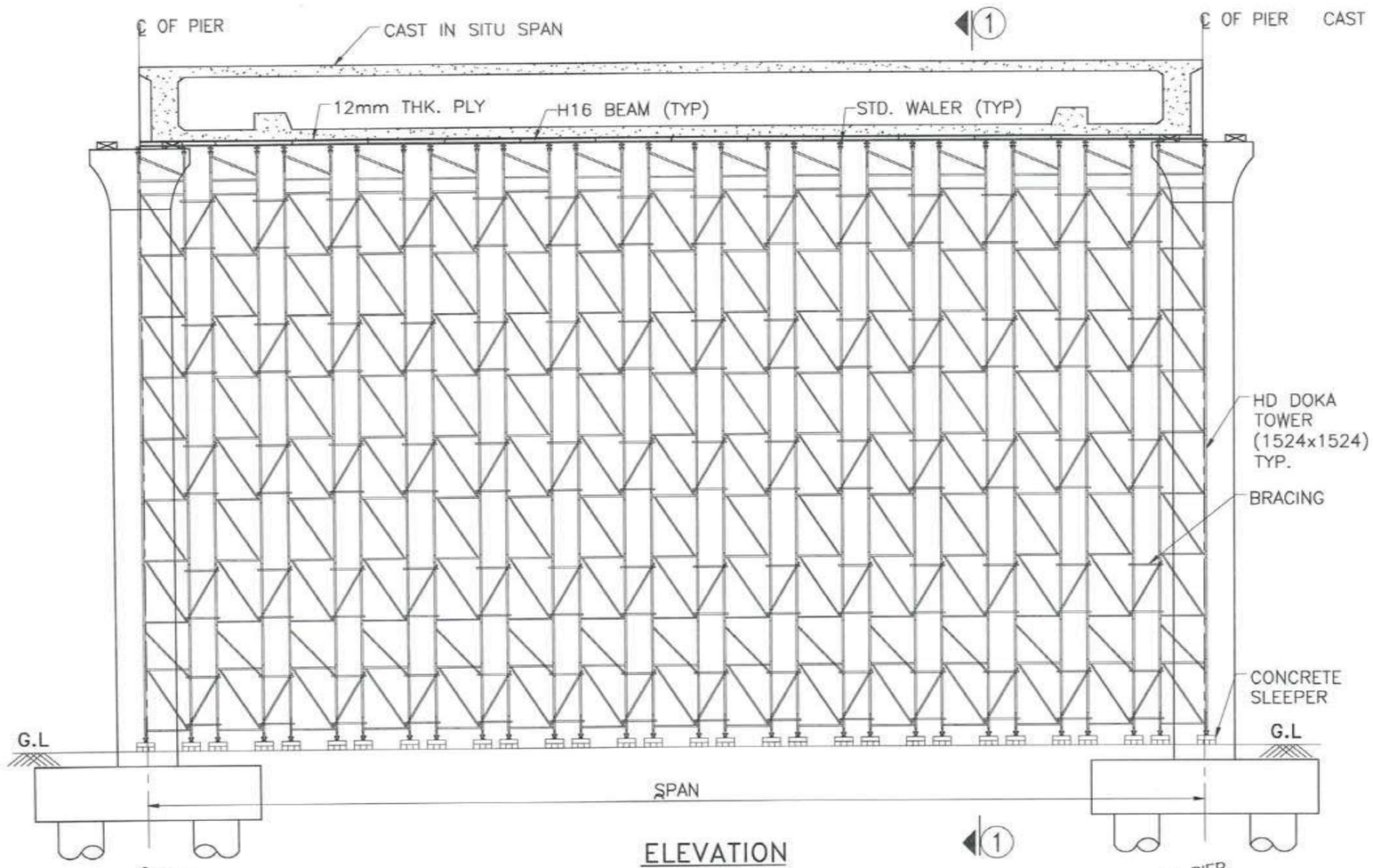
RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	CKJN	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

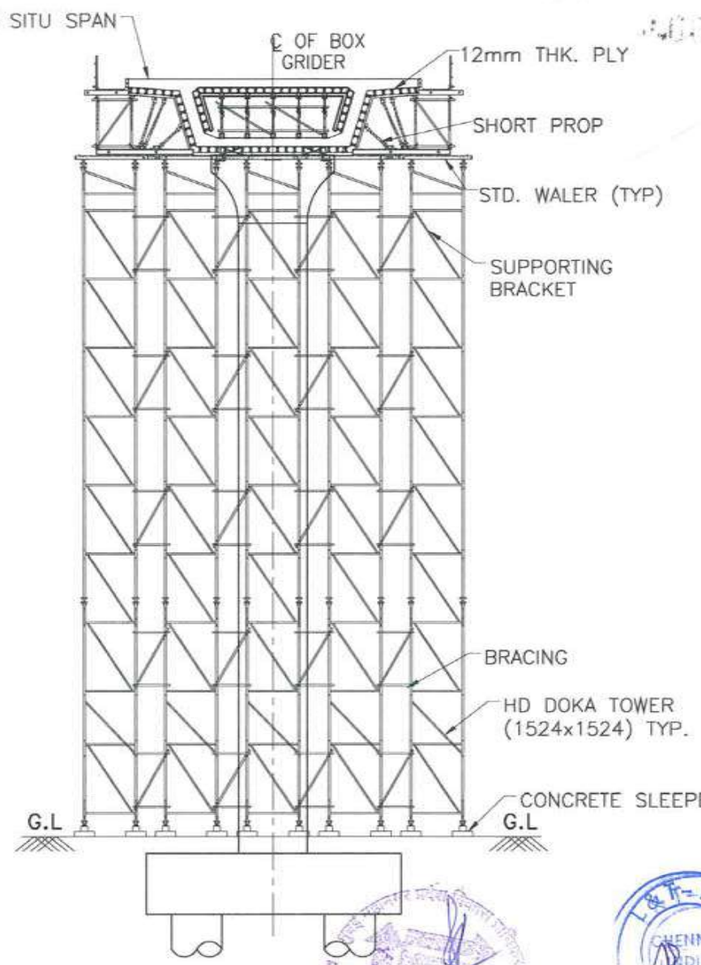
SHEET 1 OF 1 REV. A

PROJECTION

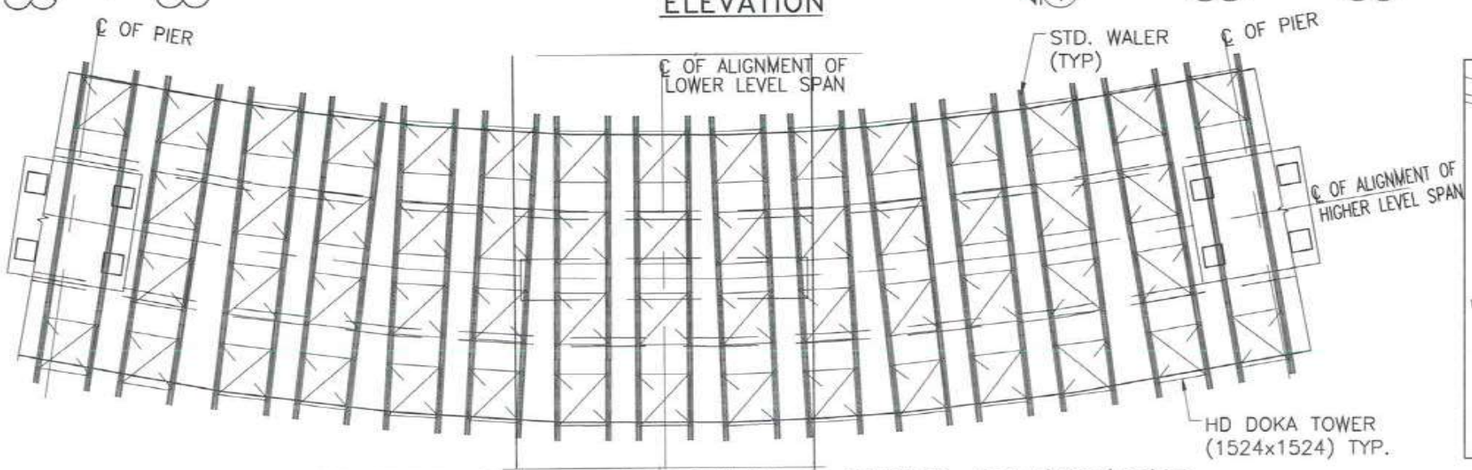
7273



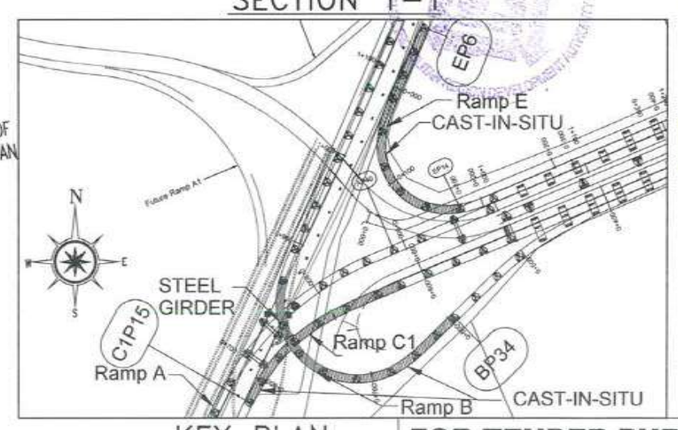
ELEVATION



SECTION 1-1



PLAN SHOWING DOKA TOWER & WALER ARRANGEMENT



KEY PLAN

FOR TENDER PURPOSE ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	CKJN 15.07.17	GMR/JCA 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: STAGING & SHUTTERING ARRANGEMENT FOR CAS-IN-SITU BOX GIRDER AT LOOP INTERCHANGE IN SEWRI

SCALE 1:350

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	CKJN	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

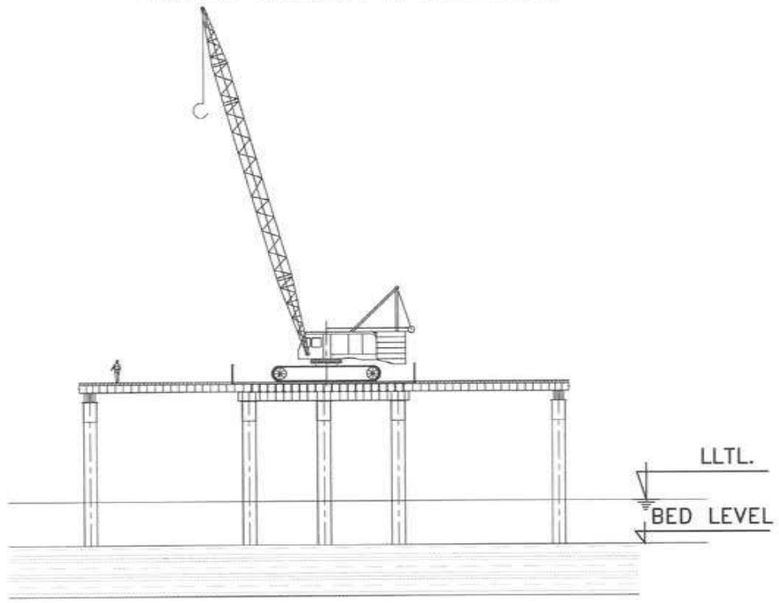
DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 0 9

SHEET 1 OF 1 REV. A

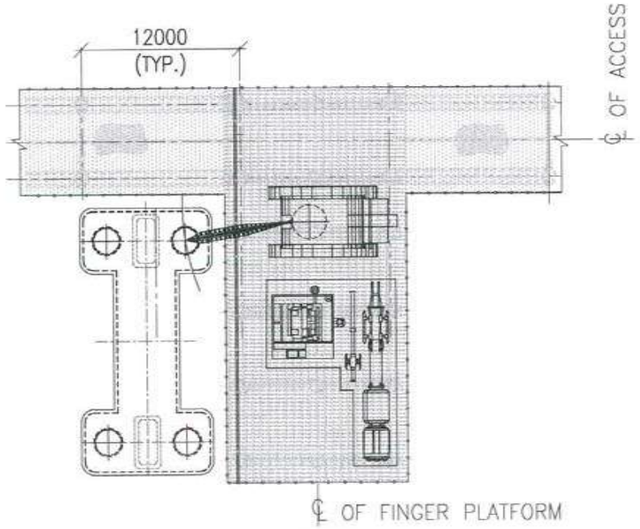
RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

STAGE–1 . CONSTRUCTION OF TEMPORARY ACCESS BRIDGE AND FINGER PROJECTION IS COMPLETED.

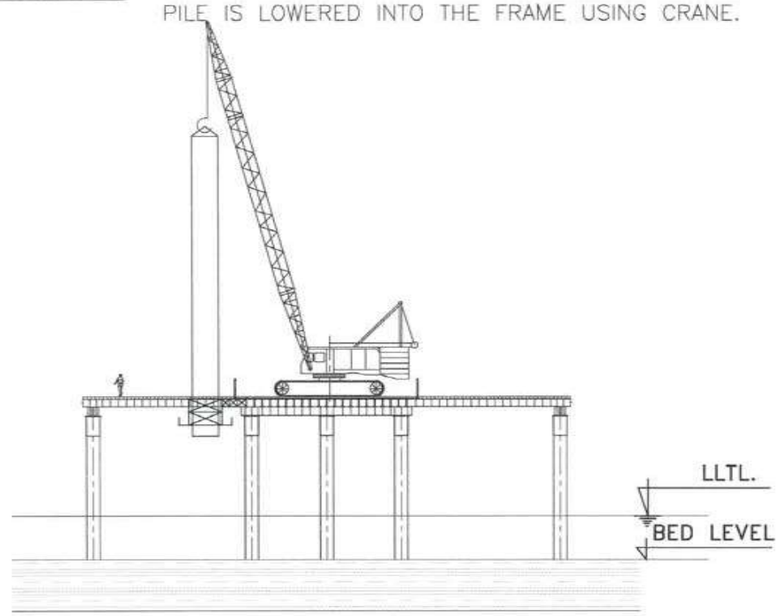


ELEVATION
(SCALE 1:450)

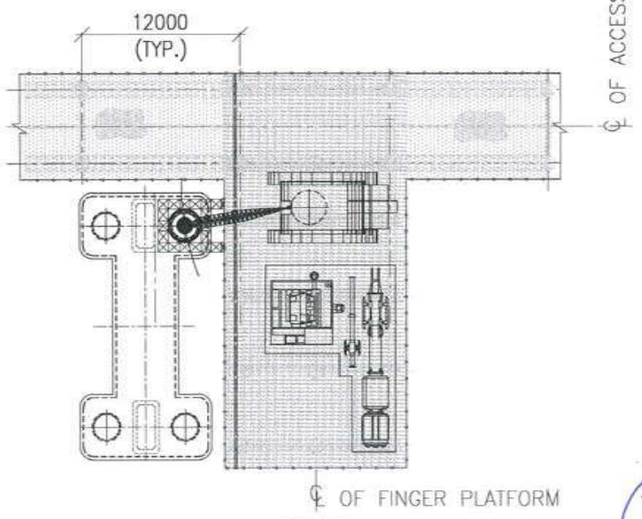


PLAN
(SCALE 1:450)

STAGE–2 . GUIDE FRAME IS FIXED AT THE REQUIRED LOCATION. PILE IS LOWERED INTO THE FRAME USING CRANE.



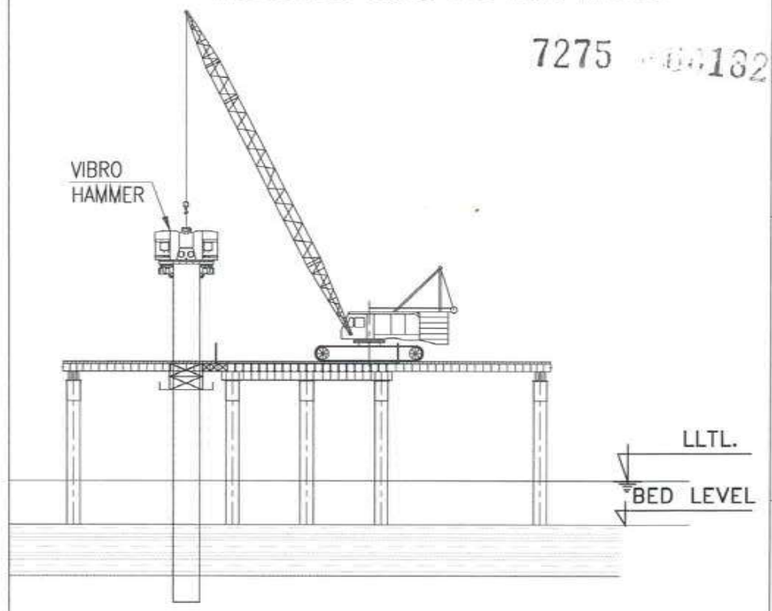
ELEVATION
(SCALE 1:450)



PLAN
(SCALE 1:450)

STAGE–3 . PILE IS DRIVEN TO THE EXTENT POSSIBLE IN THE SEABED USING THE VIBRO HAMMER

7275 - 001321



ELEVATION
(SCALE 1:450)

NOTE:–

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. ALL THE EQUIPMENTS NOT SHOWN SIMULTANEOUSLY FOR CLARITY.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	GSK 15.07.17	SSZ 15.07.17	EAK 15.07.17	VAD 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: SCHEME FOR PILE CONSTRUCTION AT INTERTIDAL ZONE

SCALE: AS SHOWN

DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 1 0

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

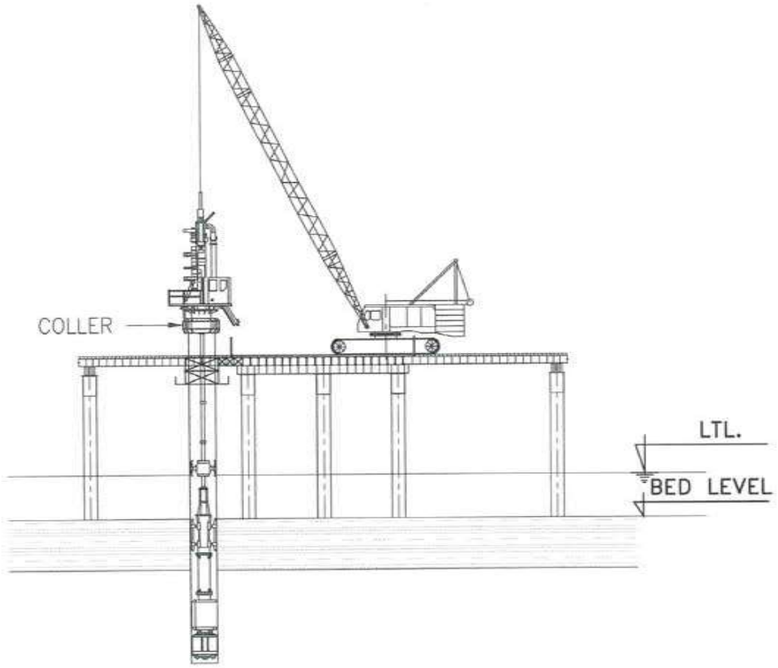
	NAME	DATE
DSGN	GSK / KS	15.07.17
DRWN	SSZ	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

SHEET 1 OF 2 REV. A

PROJECTION

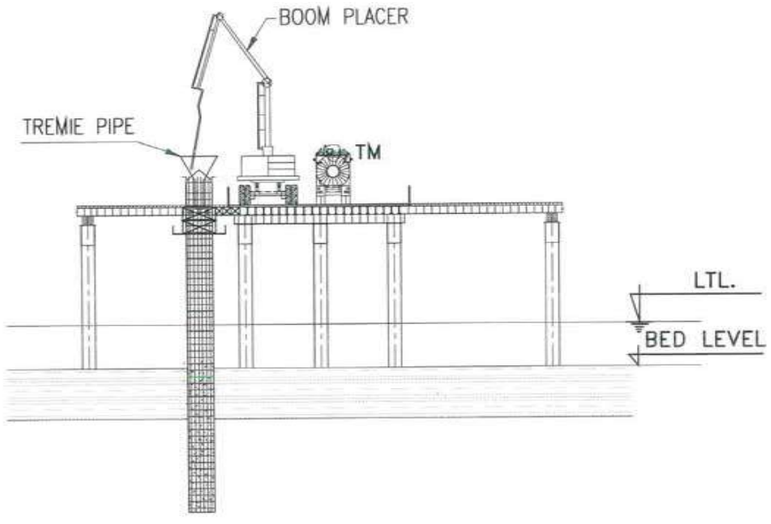
7276

STAGE–4 . MOUNT THE SUITABLE DRILLING RIG TO CARRY OUT THE DRILLING TILL FOUNDING LEVEL.



ELEVATION
(SCALE 1:450)

STAGE–5 1. REBAR CAGE IS LOWERED AND CONCRETING IN DONE USING PLACER BOOM.

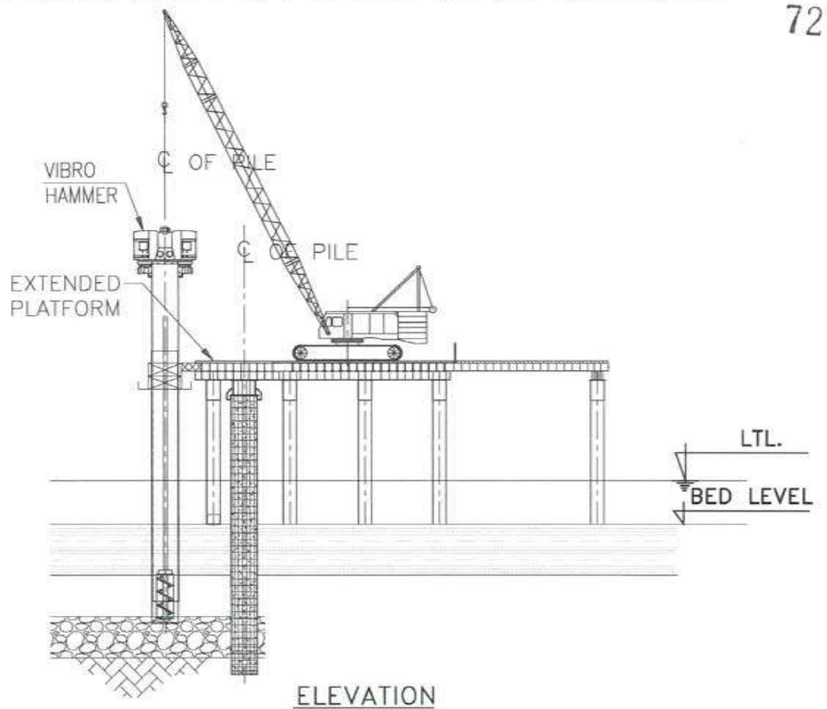


ELEVATION
(SCALE 1:450)

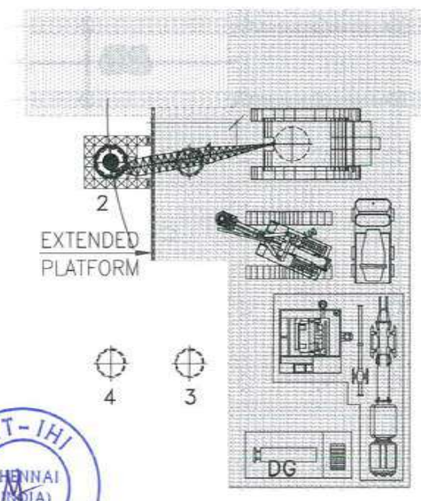
STAGE–6

1. EXTEND THE FINGER PROJECTION FURTHER IN THE DIRECTION OF PILE NO–2, RESTING THE SUPPORTING GIRDER OVER THE CONSTRUCTED PILE NO–1 AS SHOWN.
2. IF REQUIRED DRIVE ONE MORE LINER FOR THE INTERMEDIATE SUPPORT AS SHOWN.
3. FOLLOW STEPS 1 TO 5 TO CARRY OUT PILE CONSTRUCTION

7277
1822



ELEVATION
(SCALE 1:450)



PLAN
(SCALE 1:450)

NOTE:–
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. ALL THE EQUIPMENTS NOT SHOWN SIMULTANEOUSLY FOR CLARITY.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	GSK	SSZ	EAK	VAD
A	FOR TENDER	GSK 15.07.17	SSZ 15.07.17	EAK 15.07.17	VAD 15.07.17
		DSND	DRWN	CHKD	APPD

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : SCHEME FOR PILE CONSTRUCTION AT INTERTIDAL ZONE

SCALE AS SHOWN

DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 1 0

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

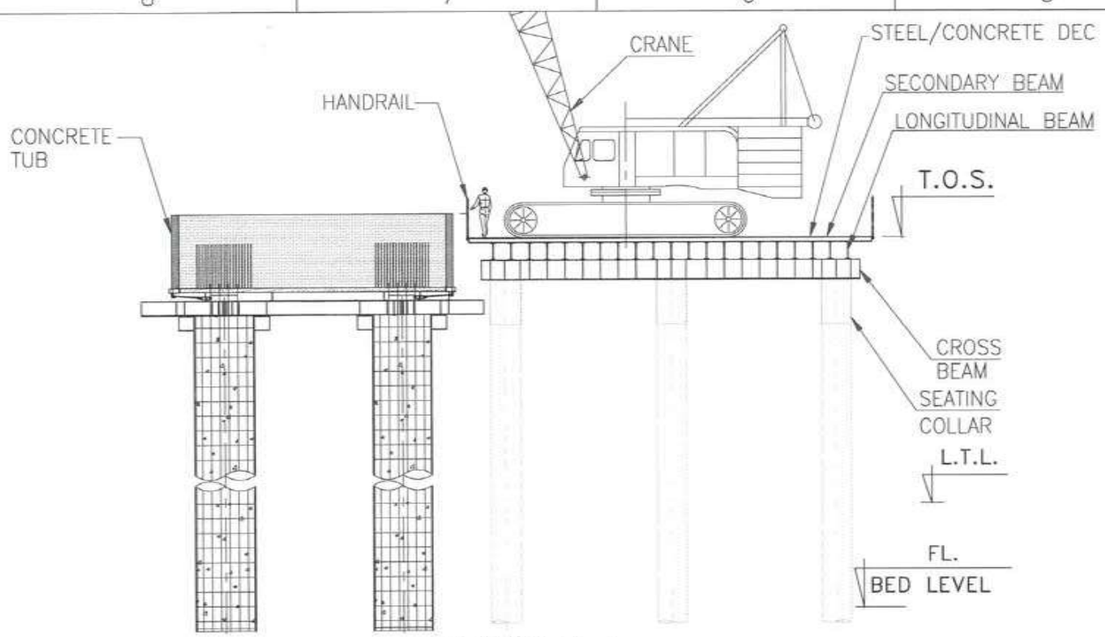
	NAME	DATE
DSGN	GSK / KS	15.07.17
DRWN	SSZ	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

SHEET 2 OF 2 REV. A

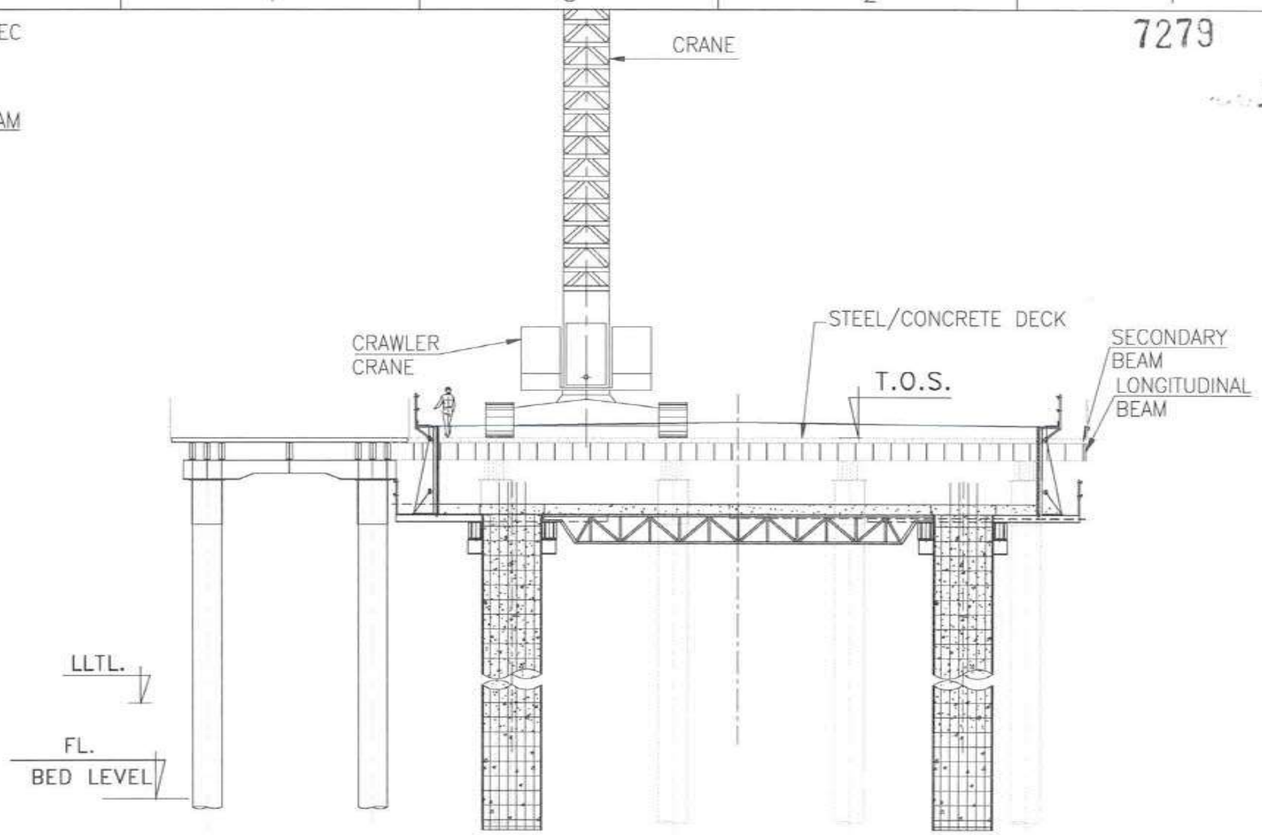
PROJECTION

7279

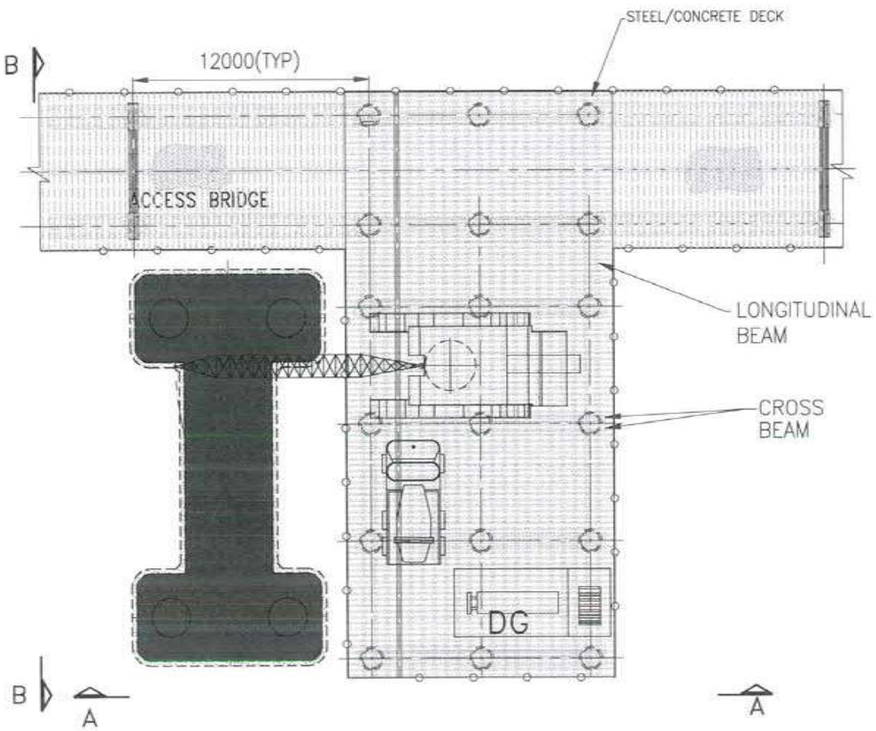
1823



SECTION A–A
(SCALE 1:200)



SECTION B–B
(SCALE 1:200)



PLAN OF TEMPORARY ACCESS BRIDGE
(SCALE 1:300)

NOTE:–

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. ALL THE EQUIPMENTS NOT SHOWN SIMULTANEOUSLY FOR CLARITY.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	KS 15.07.17	SSZ 15.07.17	EAK 15.07.17	VAD 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: MTHL–CONSTRUCTION OF PILE CAP IN INTERTIDAL ZONE USING FINGER PLATFORM

SCALE AS SHOWN

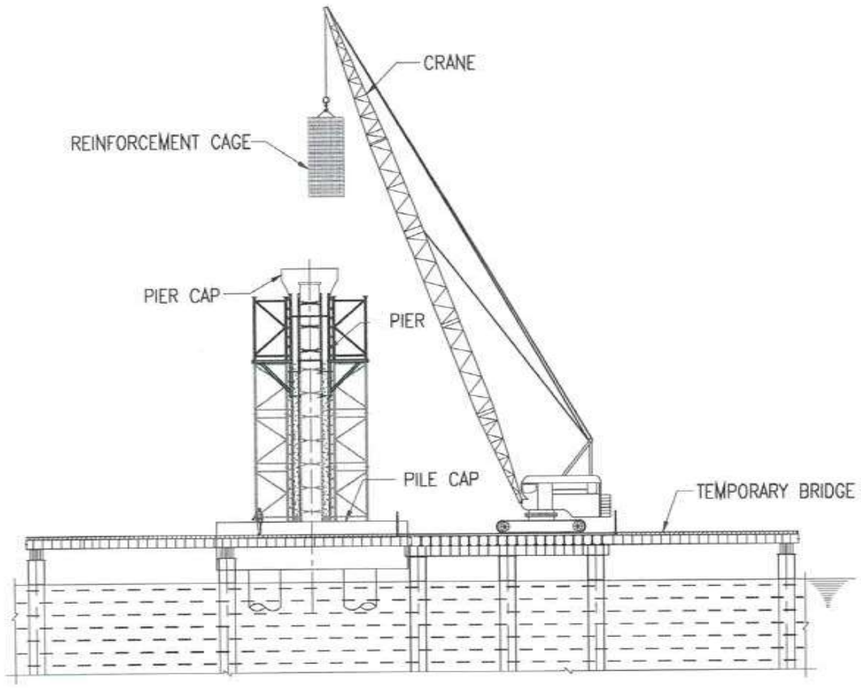
DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 1 1

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

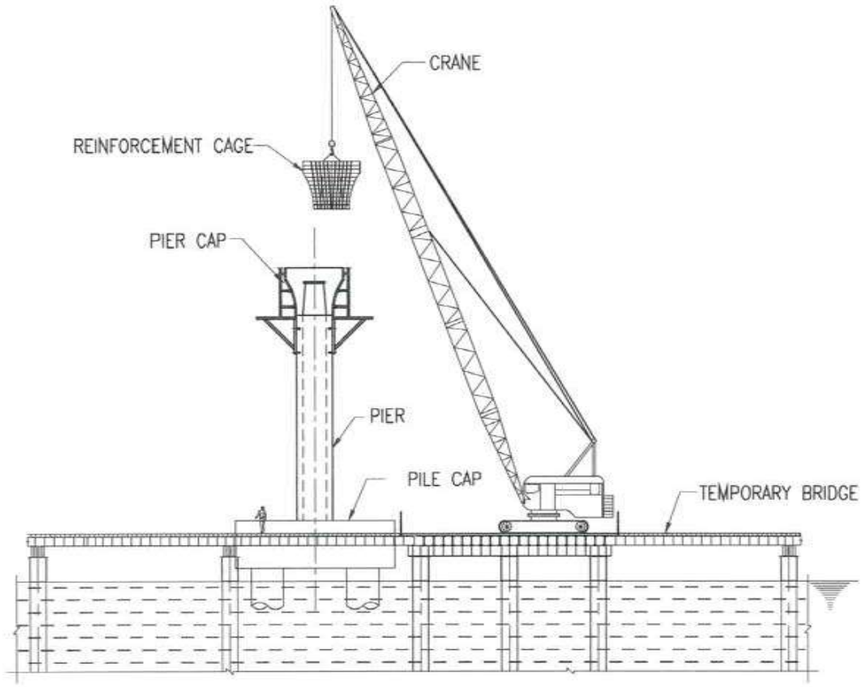
	NAME	DATE
DSGN	KS	15.07.17
DRWN	SSZ	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

SHEET 1 OF 1 REV. A

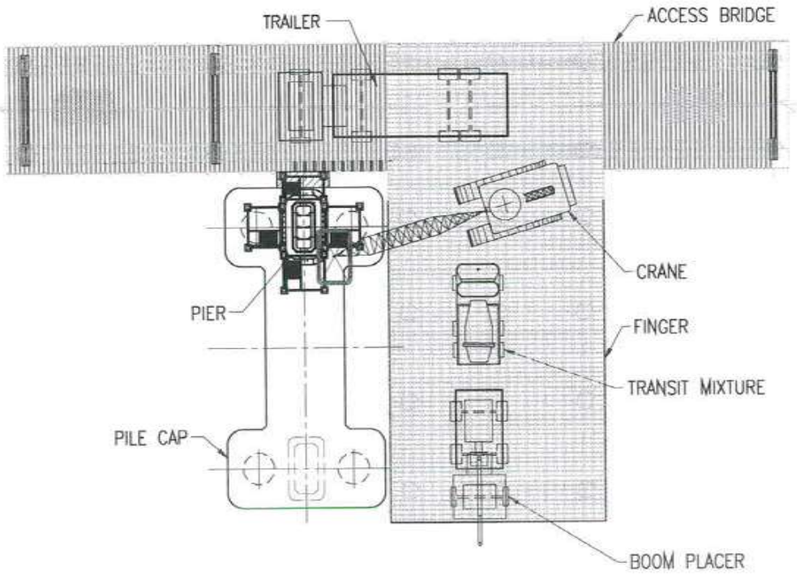
PROJECTION



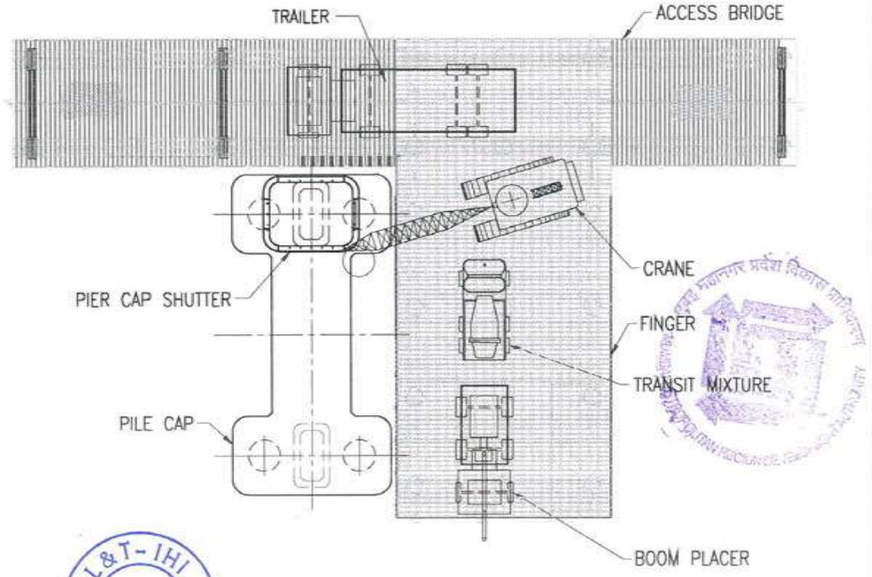
ELEVATION



ELEVATION



PLAN



PLAN

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER.

1824

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L&T - IHI CONSORTIUM CHENNAI (INDIA)

L&T - IHI CONSORTIUM CHENNAI (INDIA)

FOR TENDER PURPOSE ONLY

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	CKJN	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: PIER AND PIER CAP CONSTRUCTION IN INTER-TIDAL ZONE

SCALE 1:350

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 2

SHEET 1 OF 1 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

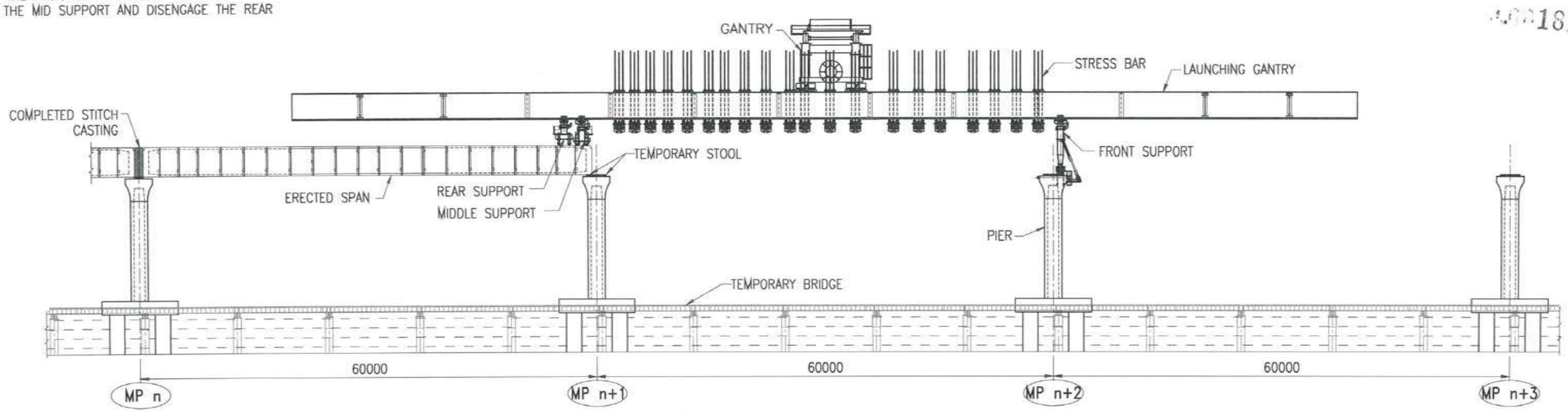
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	CKJN 15.07.17	GMR/JCA 15.07.17	TVK 15.07.17

7283

1825

STAGE–1

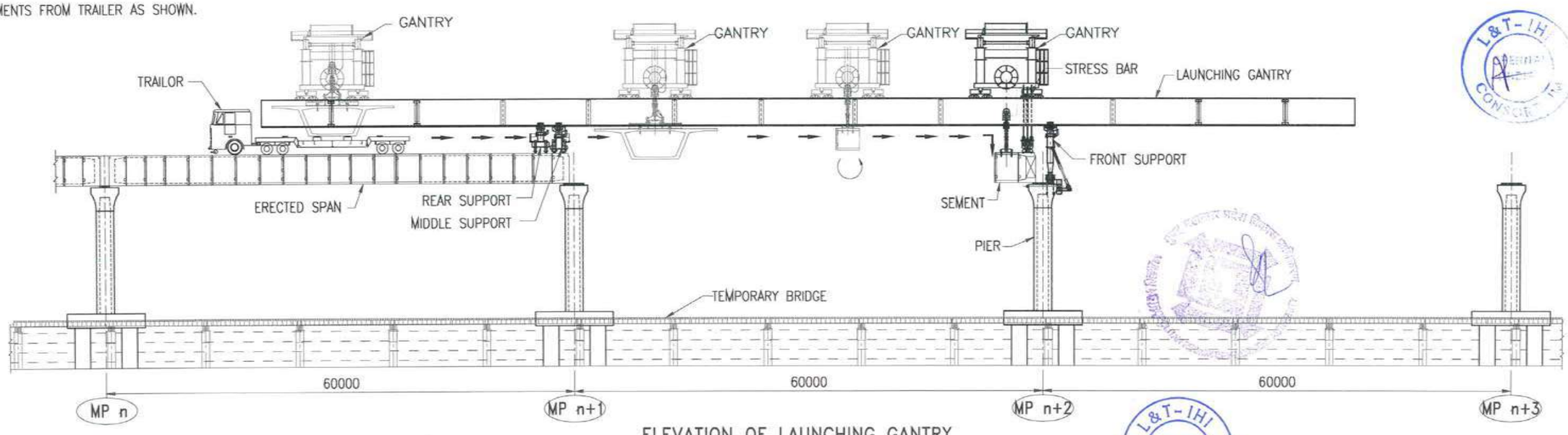
1. AUTO LAUNCH THE LG TO NEXT 60M SPAN.
2. ANCHOR THE FRONT SUPPORT OVER THE PIER.
3. ENGAGE THE MID SUPPORT AND DISENGAGE THE REAR SUPPORT.



ELEVATION OF LAUNCHING GANTRY

STAGE–2

1. FEED THE SEGMENT FROM REAR END OF L.G BY TRAILER/SPMT.
2. LIFT THE SEGMENTS FROM TRAILER AS SHOWN.



ELEVATION OF LAUNCHING GANTRY

L&T-IHI CONSORTIUM CHENNAI (INDIA)

FOR TENDER PURPOSE ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	SKRT 15.07.17	CKJN 15.07.17	JCA/GMR 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: LAUNCHING GANTRY
SEGMENT ERECTION WITH LAUNCHING GIRDER AT INTER–TIDAL ZONE

SCALE –

DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 1 3

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	SKRT	15.07.2017
DRWN	CKJN	15.07.2017
CHKD	JCA/GMR	15.07.2017
APPD	TVK	15.07.2017

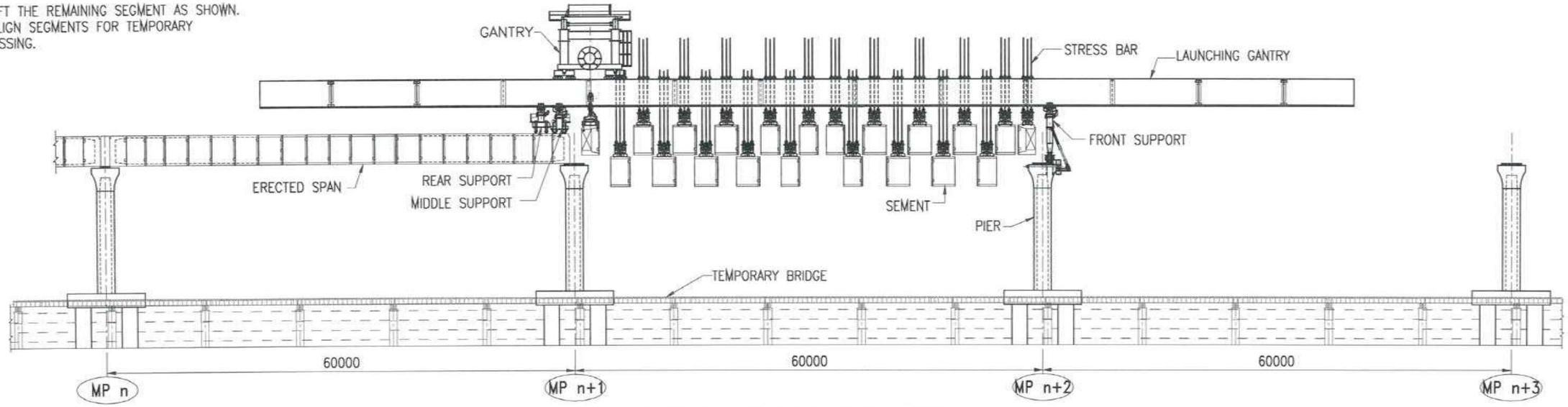
SHEET 1 OF 3 REV. A

PROJECTION

7285

STAGE-3

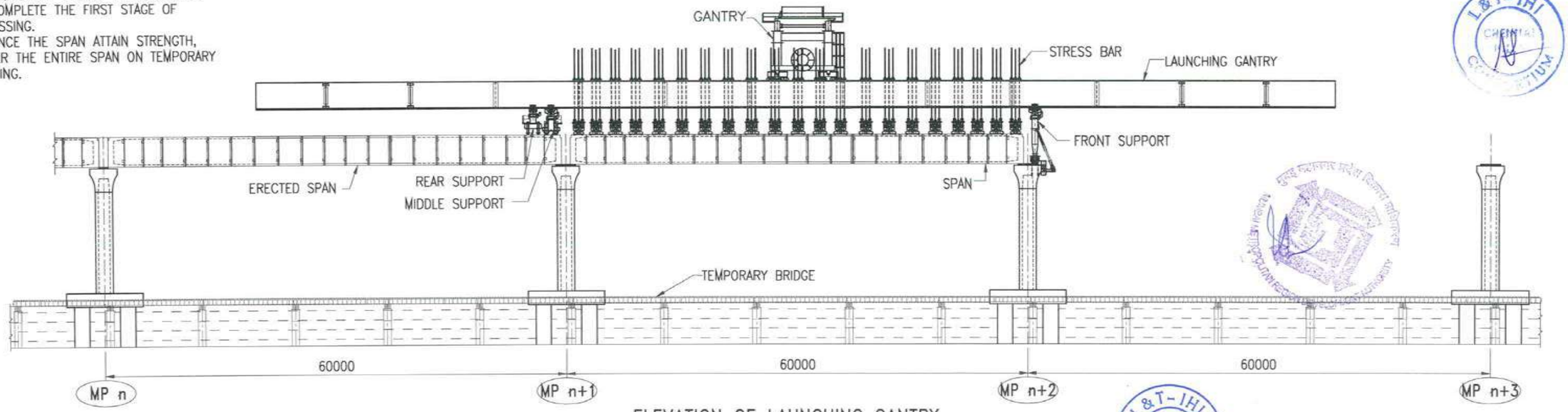
1. LIFT THE REMAINING SEGMENT AS SHOWN.
2. ALIGN SEGMENTS FOR TEMPORARY STRESSING.



ELEVATION OF LAUNCHING GANTRY

STAGE-4

1. TEMPORARY STRESS THE SEGMENTS.
2. COMPLETE THE FIRST STAGE OF STRESSING.
3. ONCE THE SPAN ATTAIN STRENGTH, LOWER THE ENTIRE SPAN ON TEMPORARY BEARING.



ELEVATION OF LAUNCHING GANTRY

L&T-IHI CHENNAI CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	SKRT 15.07.17	CKJN 15.07.17	GMR 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: LAUNCHING GANTRY
SEGMENT ERECTION WITH LAUNCHING GIRDER AT INTER-TIDAL ZONE

SCALE: –

	NAME	DATE
DSGN	SKRT	15.07.2017
DRWN	CKJN	15.07.2017
CHKD	JCA/GMR	15.07.2017
APPD	TVK	15.07.2017

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 3

SHEET 2 OF 3 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

7286

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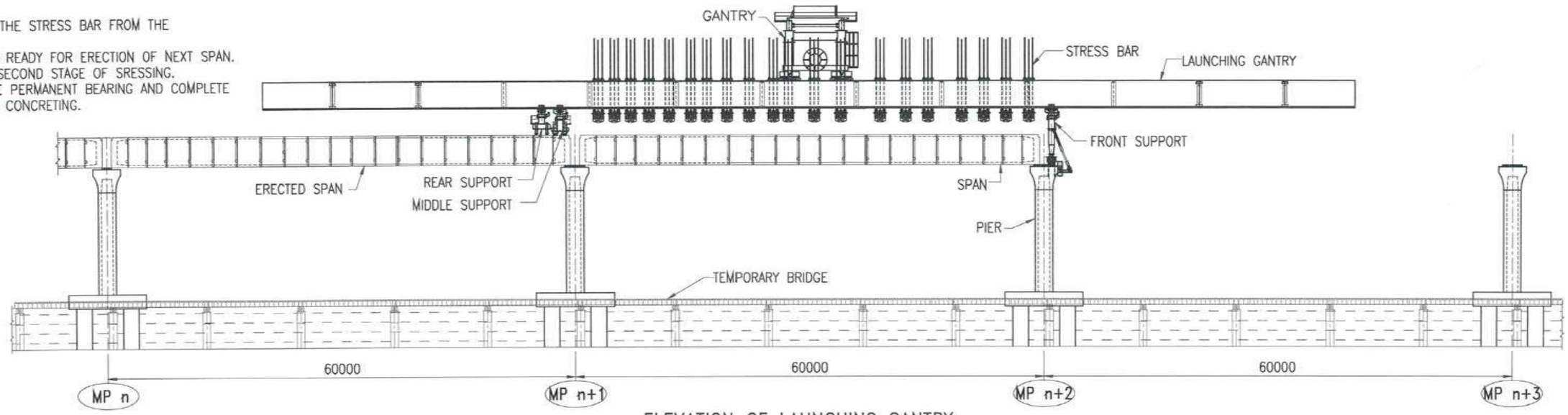
STAGE-5

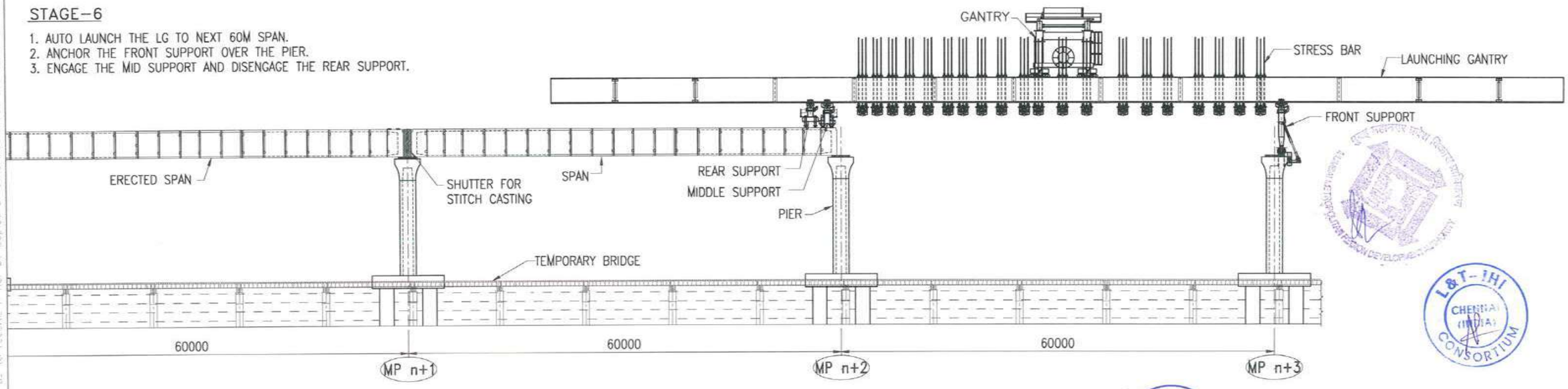
1. DISENGAGE THE STRESS BAR FROM THE SEGMENTS
2. NOW L.G IS READY FOR ERECTION OF NEXT SPAN.
3. COMPLETE SECOND STAGE OF SRESSING.
4. INSTALL THE PERMANENT BEARING AND COMPLETE THE STITCH CONCRETING.



ELEVATION OF LAUNCHING GANTRY

STAGE-6

1. AUTO LAUNCH THE LG TO NEXT 60M SPAN.
2. ANCHOR THE FRONT SUPPORT OVER THE PIER.
3. ENGAGE THE MID SUPPORT AND DISENGAGE THE REAR SUPPORT.



ELEVATION OF LAUNCHING GANTRY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	SKRT 15.07.17	CKJN 15.07.17	GMR 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

FOR TENDER PURPOSE ONLY

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: LAUNCHING GANTRY
SEGMENT ERECTION WITH LAUNCHING GIRDER AT INTER-TIDAL ZONE

SCALE: –

	NAME	DATE
DSGN	SKRT	15.07.2017
DRWN	CKJN	15.07.2017
CHKD	JCA/GMR	15.07.2017
APPD	TVK	15.07.2017

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 3 | SHEET 3 OF 3 | REV. A

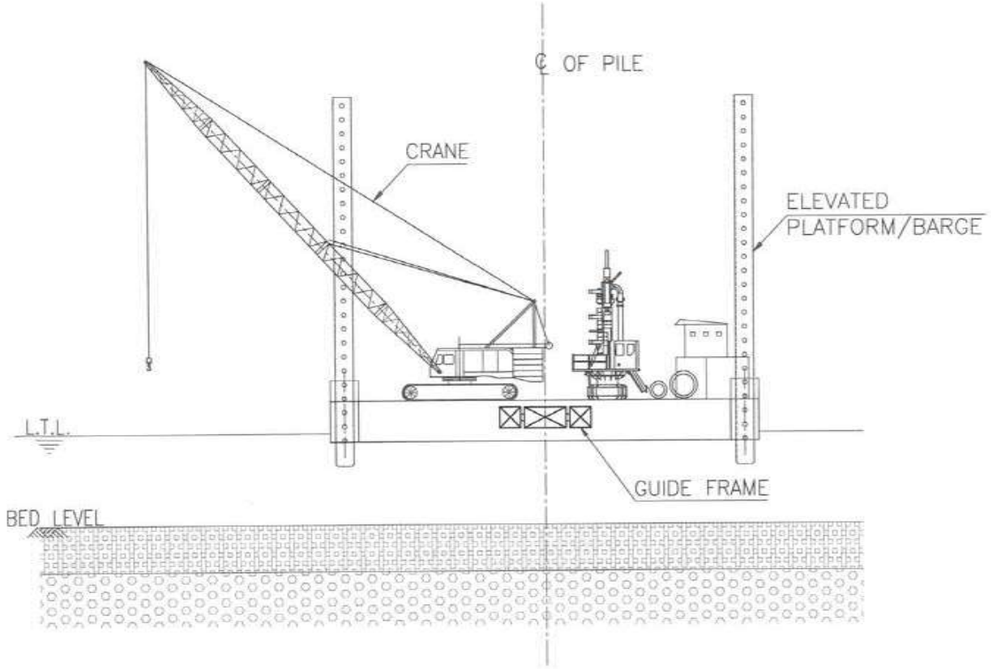
RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION | PROJECTION

7289

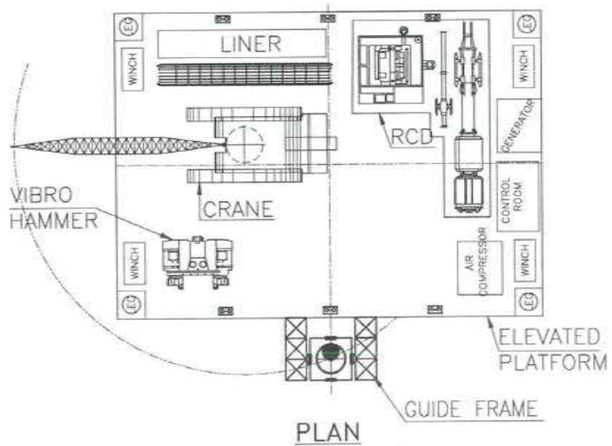
1828

STAGE – 1

1. BRING THE ELEVATED PLATFORM AT THE PILE LOCATION AND POSITION THE BARGE FROM THE FIXED SURVEY POINT USING TOTAL STATION.



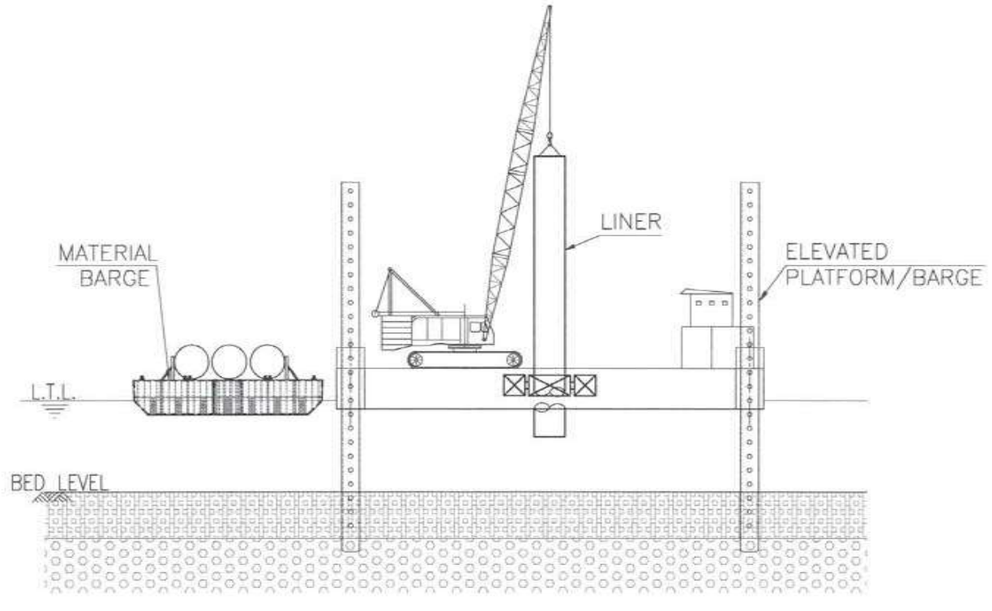
ELEVATION
(SCALE 1:425)



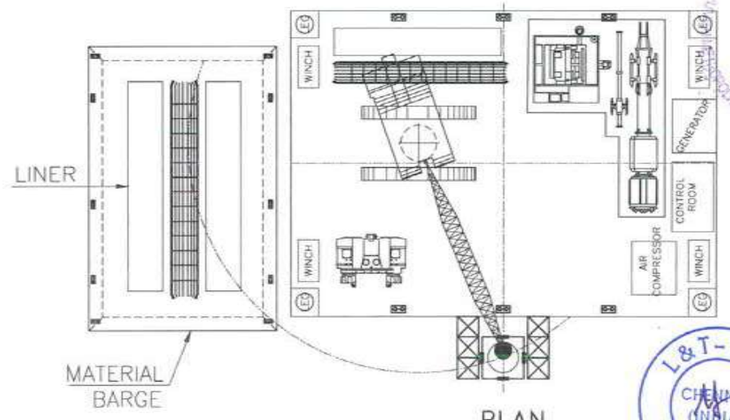
PLAN
(SCALE 1:425)

STAGE – 2

1. LINERS ARE TRANSPORTED USING MATERIAL BARGE AND INSERTED THROUGH THE GUIDE FRAME USING CRANE.



ELEVATION
(SCALE 1:425)



PLAN
(SCALE 1:425)

NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	KS 15.07.17	NSS 15.07.17	EAK 15.07.17	VAD 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: SCHEME FOR PILE CONSTRUCTION AT SEA IN MARINE ZONE

SCALE: AS SHOWN

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 4

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	KS	15.07.17
DRWN	NSS	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

SHEET 1 OF 3 REV. A

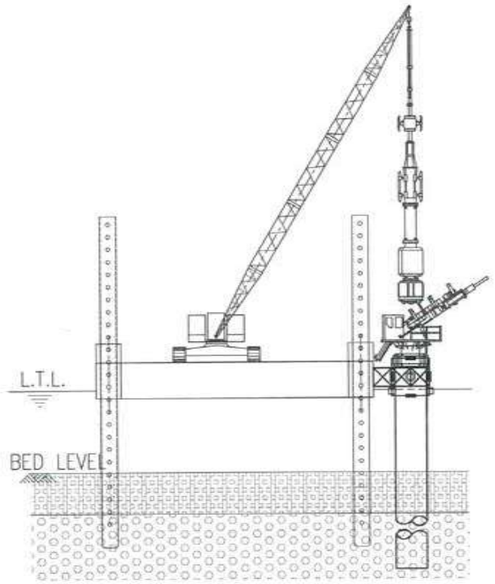
PROJECTION

7291

1829

STAGE – 3

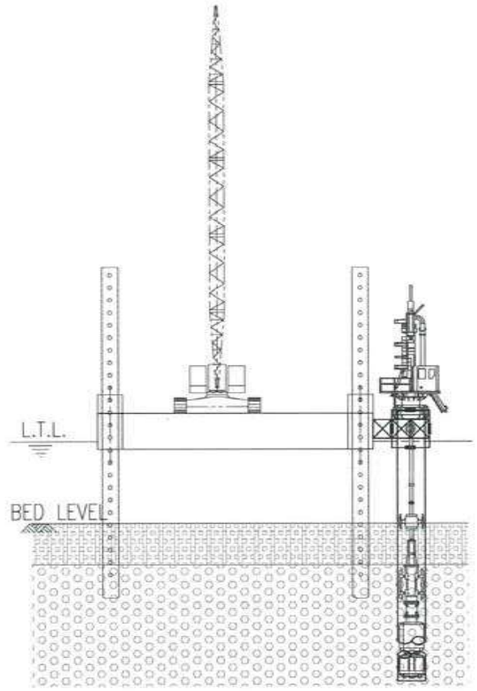
1. PLACE THE WORKING PLATFORM WITH CONTROL ROOM.
2. USE SUITABLE RIG FOR PILE DRILING.



SECTION
(SCALE 1:475)

STAGE – 4

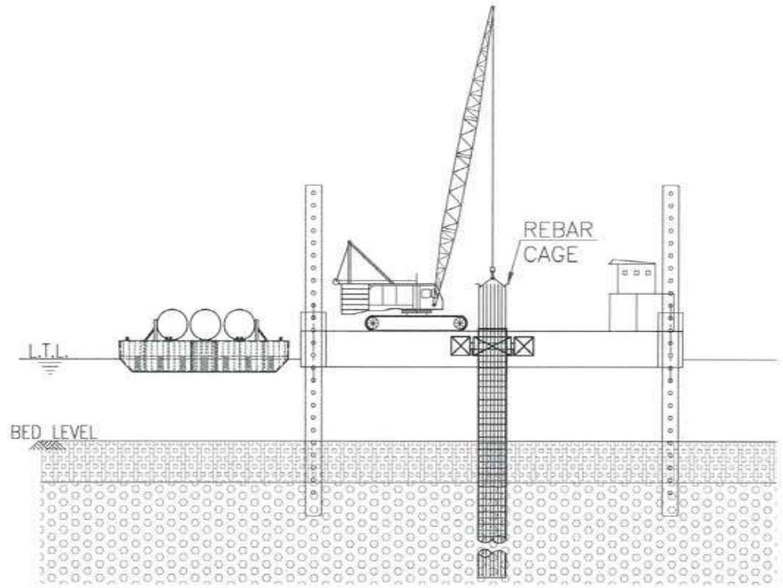
1. CARRYOUT THE DRILLING TILL FOUNDING LEVEL.



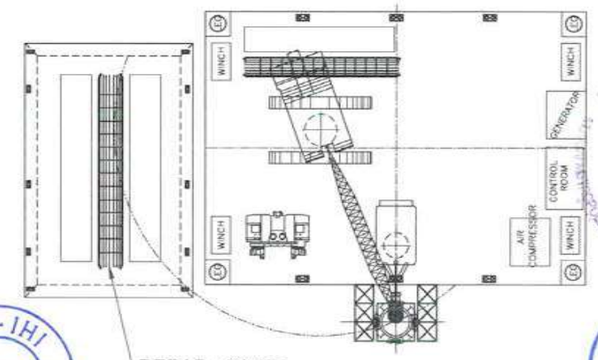
SECTION
(SCALE 1:475)

STAGE – 5

1. THE REBAR CAGE IS LIFTED FROM THE MATERIAL BARGE AND IS LOWERED INTO THE PILE.



ELEVATION
(SCALE 1:425)



PLAN
(SCALE 1:475)

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI INDIA CONSORTIUM

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	KS	NSS	EAK	VAD
A	FOR TENDER	KS 15.07.17	NSS 15.07.17	EAK 15.07.17	VAD 15.07.17
		DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: SCHEME FOR PILE CONSTRUCTION AT SEA IN MARINE ZONE

SCALE: AS SHOWN

	NAME	DATE
DSGN	KS	15.07.17
DRWN	NSS	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 4

SHEET 2 OF 3 REV. A

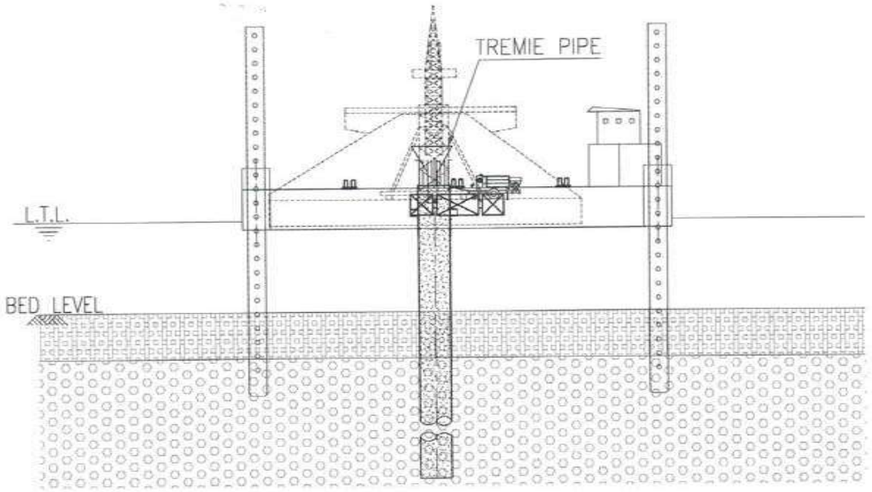
RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

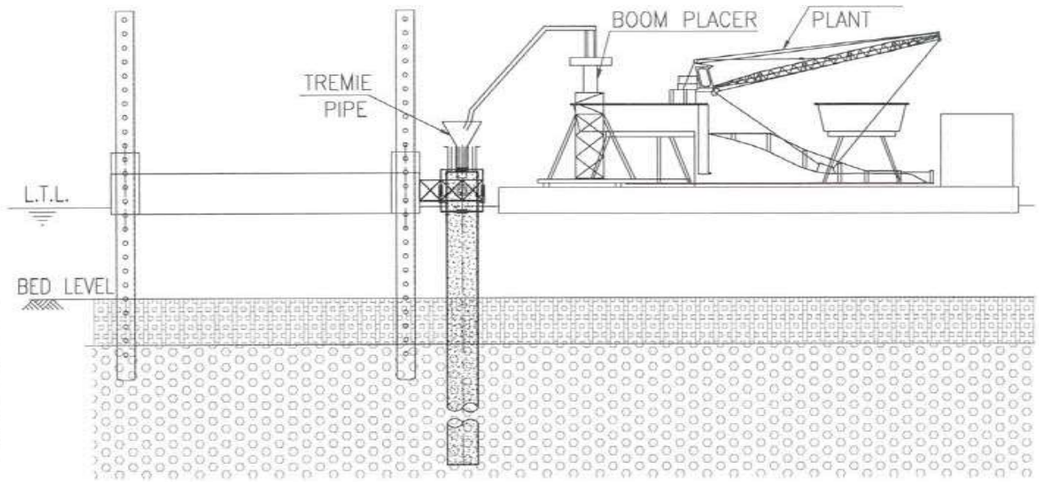
BATCHING

7293

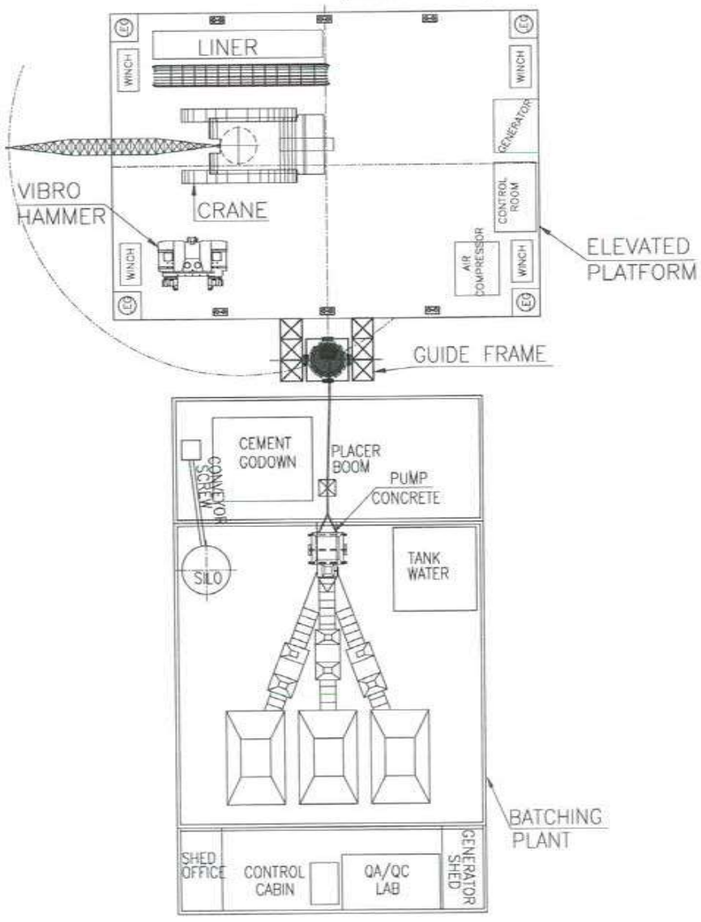
1830



ELEVATION
(SCALE 1:425)



SECTION
(SCALE 1:425)



PLAN
(SCALE 1:425)

STAGE – 6

1. BARGE LOADED WITH THE BATCHING PLANT IS BROUGHT TO THE REQUIRED LOCATION.
2. CONCRETING IS DONE USING STATIC PLACER BOOM WITH TREMIE PIPE.
3. CARRYOUT THE FURTHER PILING IN REQUIRED SEQUENCE FOLLOWING STAGE–1 TO STAGE–6

NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	KS 15.07.17	NSS 15.07.17	EAK 15.07.17	VAD 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: SCHEME FOR PILE CONSTRUCTION AT SEA IN MARINE ZONE

SCALE AS SHOWN

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 4

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	KS	15.07.17
DRWN	NSS	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

SHEET 3 OF 3 REV. A

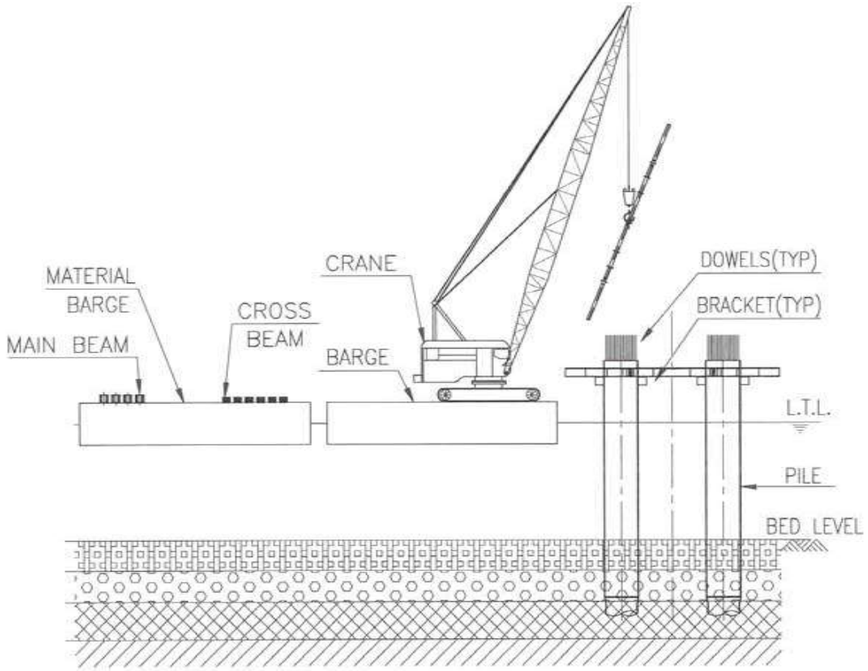
PROJECTION

7295

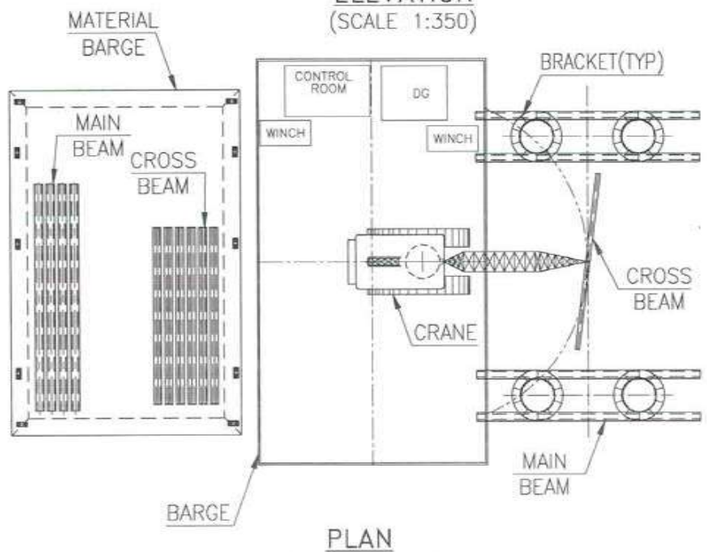
1831

STAGE – 1

1. AFTER COMPLETION OF PILING MOBILIZE CRANE MOUNTED ON BARGE AT THE PILING LOCATION.
2. BRING FABRICATED MAIN/CROSS BEAMS ON MATERIAL BARGE.
3. FIX BRACKETS AT REQ LEVEL IN PILE.
4. PRECAST TUB WILL BE PLACED ON COLLER DIRECTLY.



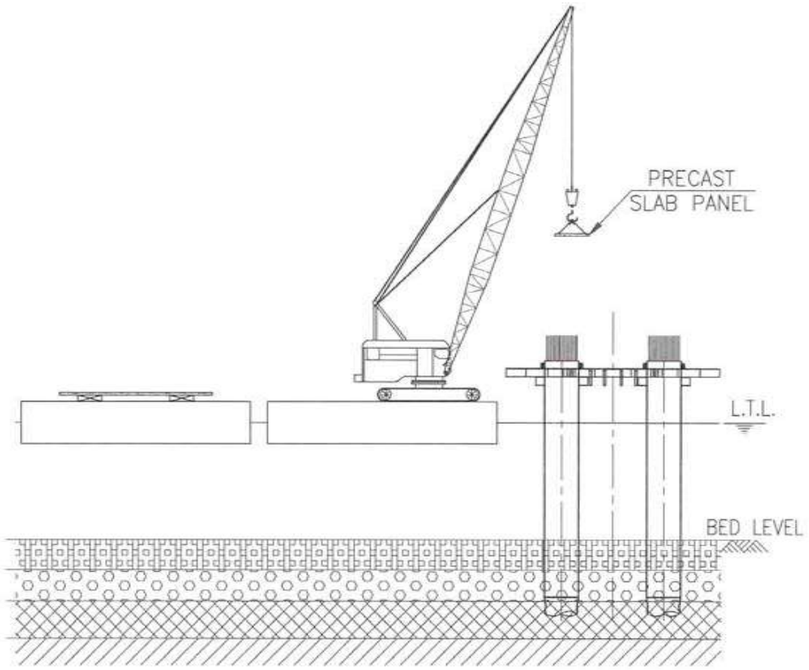
ELEVATION
(SCALE 1:350)



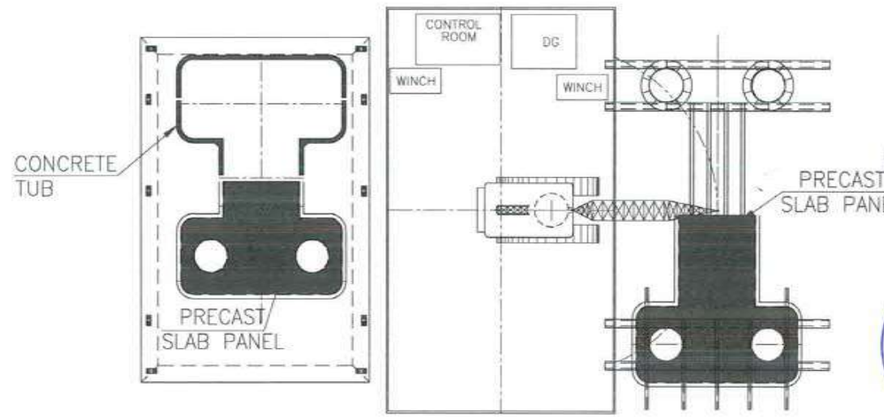
PLAN
(SCALE 1:350)

STAGE – 2

1. BRING CONCRETE TUB ON MATERIAL BARGE.
2. PLACE THE CONCRETE TUB ONE BY ONE ON THE CROSS BEAMS IN A SEQUENCE



ELEVATION
(SCALE 1:350)



PLAN
(SCALE 1:350)

FOR TENDER PURPOSE ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. ALL THE EQUIPMENTS NOT SHOWN SIMULTANEOUSLY FOR CLARITY.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	KS 15.07.17	PNG 15.07.17	EAK 15.07.17	VAD 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: SCHEME FOR PILECAP CONSTRUCTION IN MARINE ZONE

SCALE: AS SHOWN

	NAME	DATE
DSGN	KS	15.07.17
DRWN	PNG	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 5

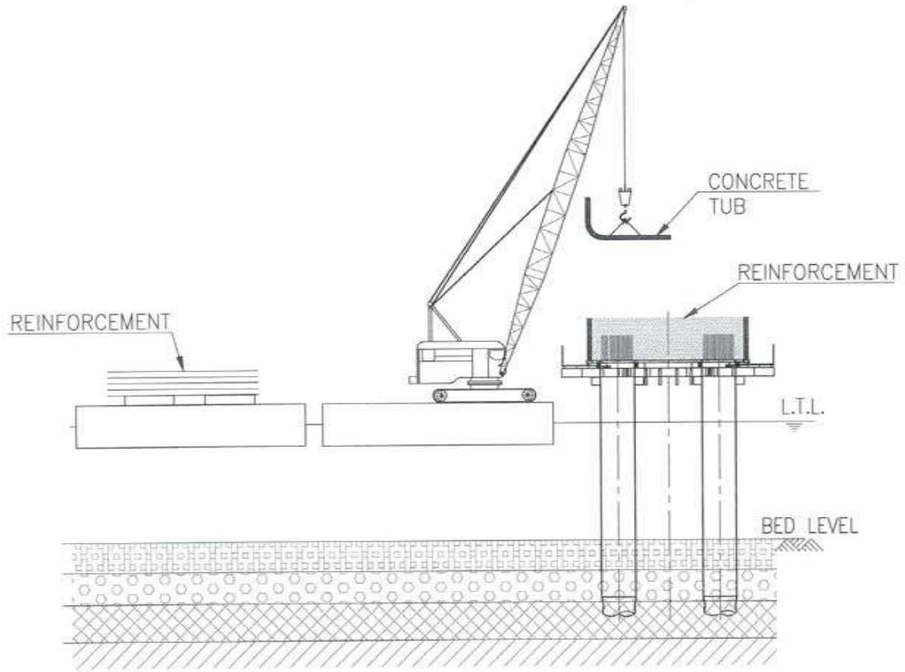
SHEET 1 OF 2 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

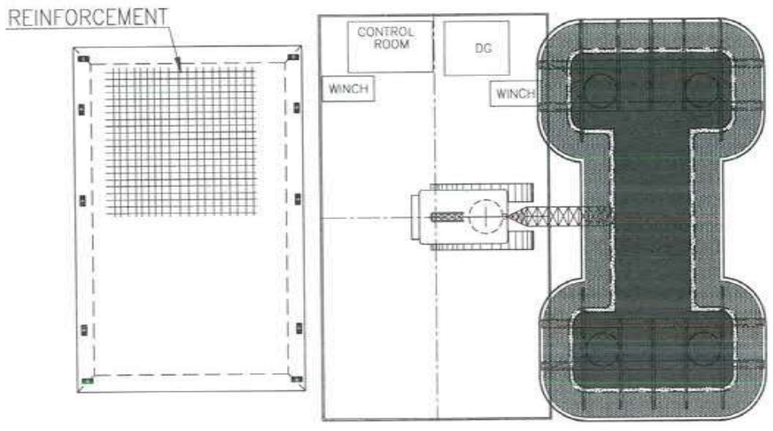
PROJECTION

STAGE – 3

1. APPLY DEBONDING AGENT.
2. TRANSPORT REBARS ON MATERIAL BARGE AND PLACE THE REINFORCEMENT



ELEVATION
(SCALE 1:350)

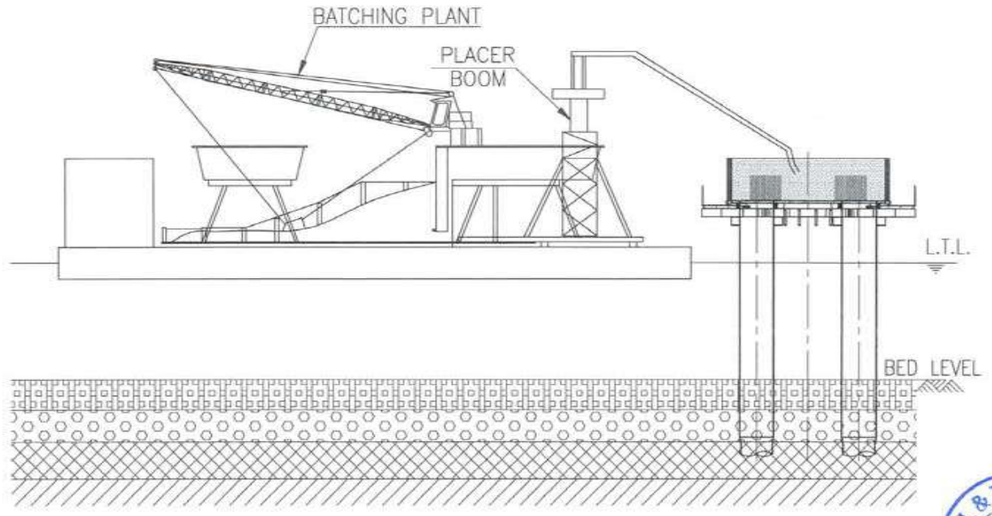


PLAN
(SCALE 1:350)

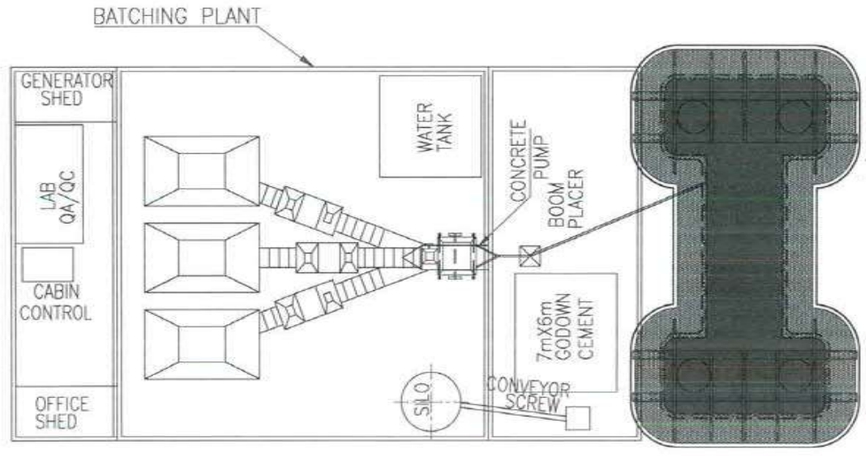
STAGE – 4

1. CARRY OUT CONCRETING

7297
1832



ELEVATION
(SCALE 1:350)



PLAN
(SCALE 1:350)

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. ALL THE EQUIPMENTS NOT SHOWN SIMULTANEOUSLY FOR CLARITY.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	KS 15.07.17	PNG 15.07.17	EAK 15.07.17	VAD 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE: SCHEME FOR PILECAP CONSTRUCTION IN MARINE ZONE

SCALE: AS SHOWN

	NAME	DATE
DSGN	KS	15.07.17
DRWN	PNG	15.07.17
CHKD	EAK	15.07.17
APPD	VAD	15.07.17

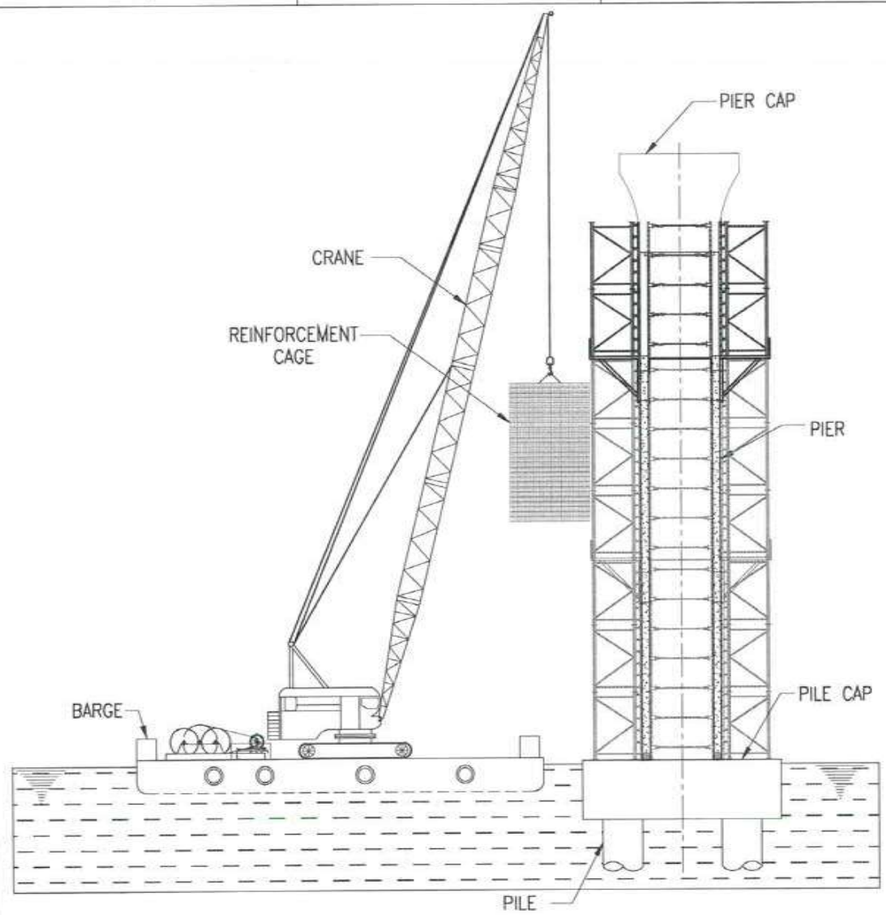
DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 5

SHEET 2 OF 2 REV. A

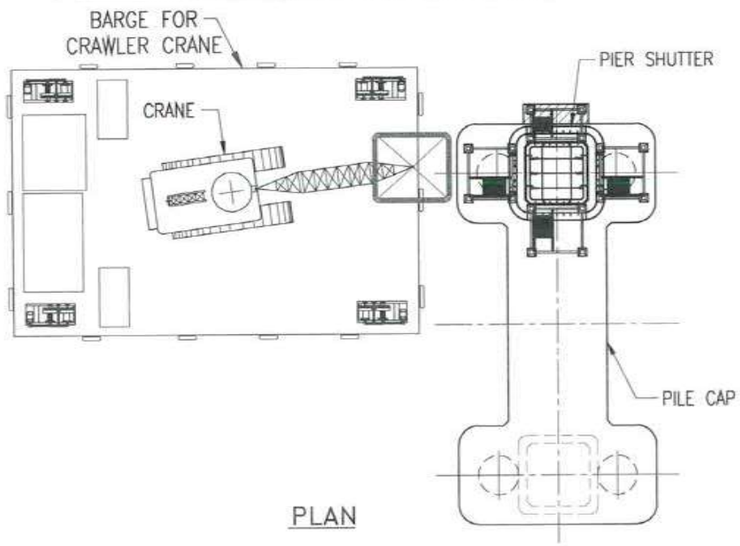
RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

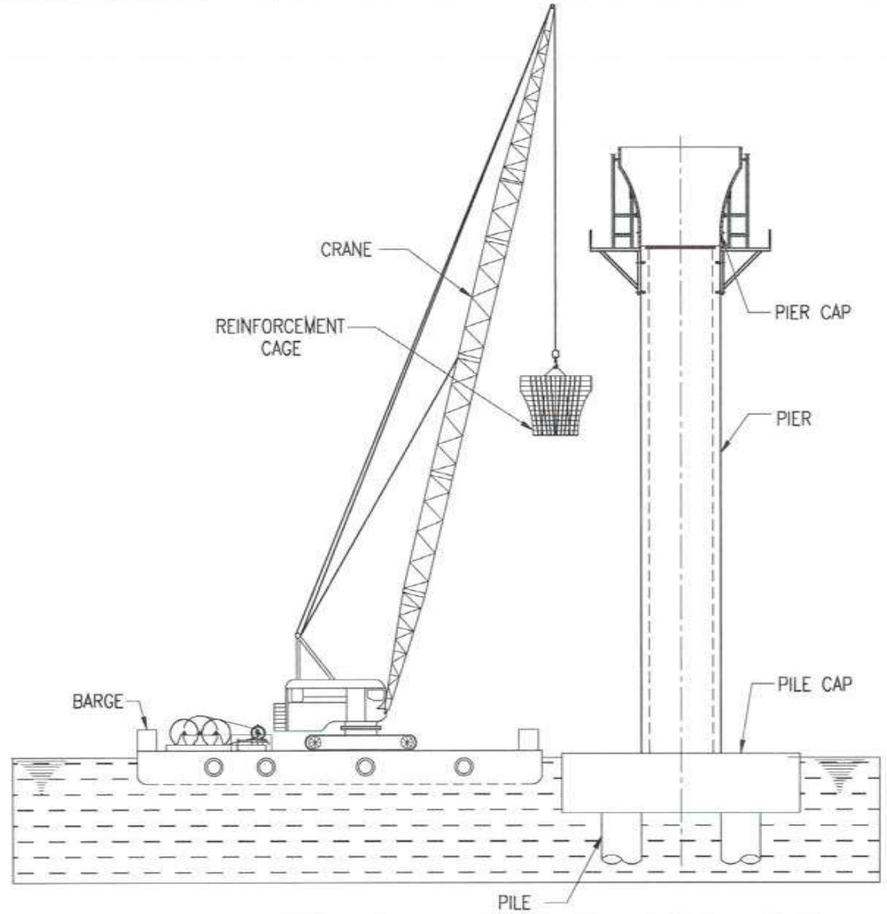
7298



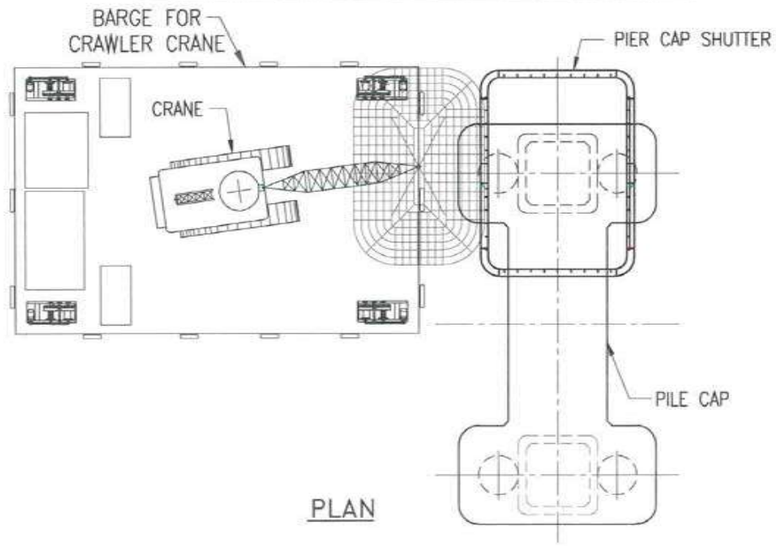
ELEVATION OF PIER CONSTRUCTION



PLAN



ELEVATION OF PIER CAP CONSTRUCTION



PLAN

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER.

7299

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	CKJN 15.07.17	GMR/JCA 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT - PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: PIER & PIER CAP CONSTRUCTION IN MARINE ZONE

SCALE 1:300

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 6

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	CKJN	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

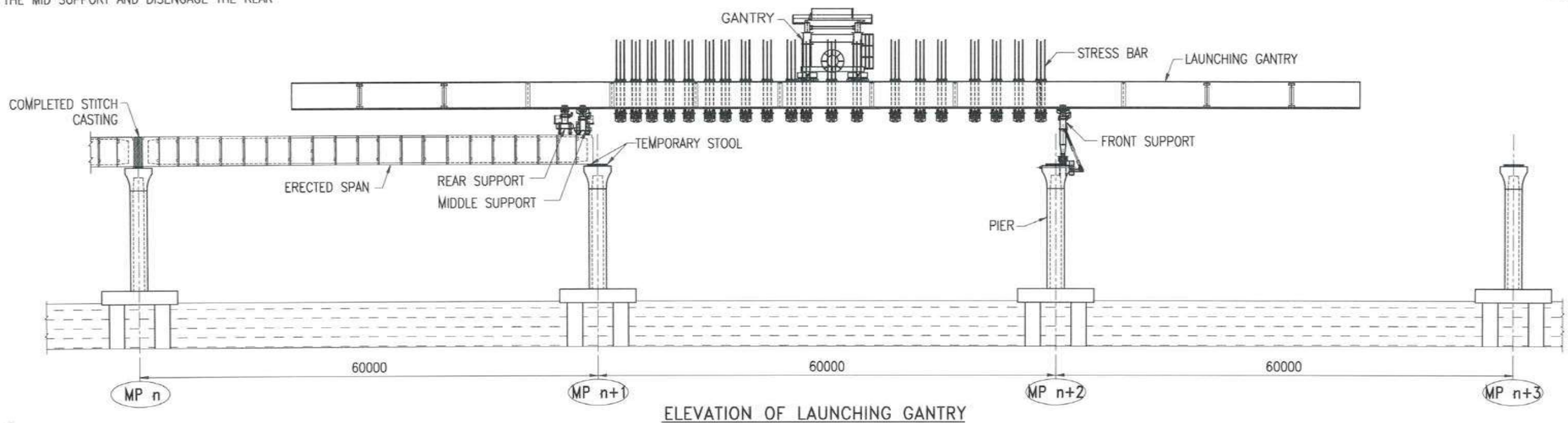
SHEET 1 OF 1 REV. A

PROJECTION

7301

STAGE–1

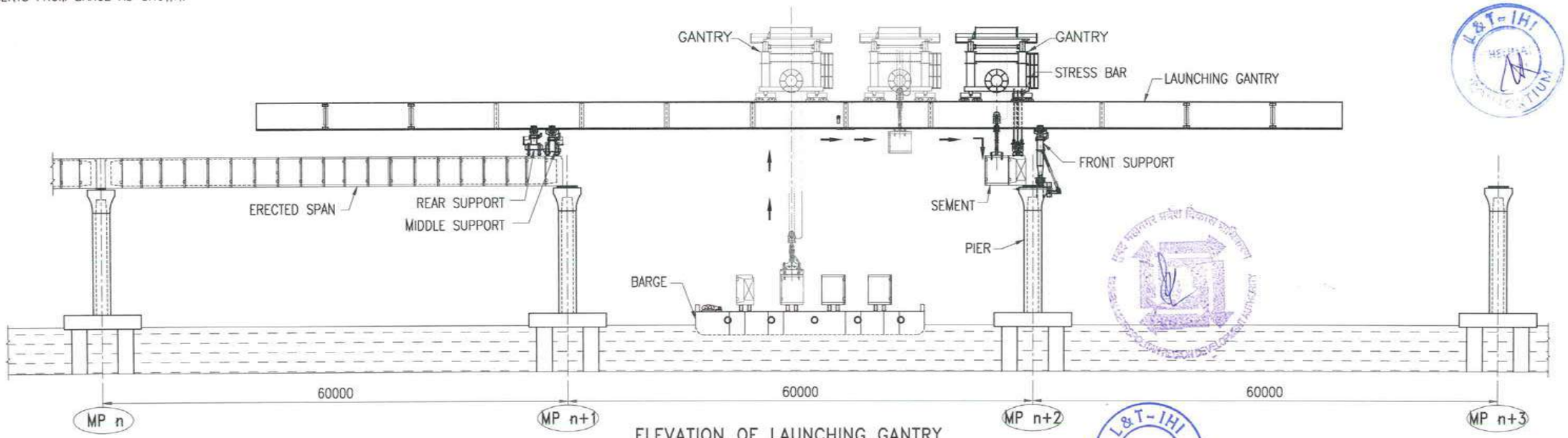
1. AUTO LAUNCH THE LG TO NEXT 60M SPAN.
2. ANCHOR THE FRONT SUPPORT OVER THE PIER.
3. ENGAGE THE MID SUPPORT AND DISENGAGE THE REAR SUPPORT.



ELEVATION OF LAUNCHING GANTRY

STAGE–2

1. FEED THE SEGMENT FROM BY BARGE.
2. LIFT THE SEGMENTS FROM BARGE AS SHOWN.



ELEVATION OF LAUNCHING GANTRY

L&T-IHI CONSORTIUM CHENNAI (INDIA)

FOR TENDER PURPOSE ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	SKRT 15.07.17	CKJN 15.07.17	GMR 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: LAUNCHING GANTRY
SEGMENT ERECTION WITH LAUNCHING GIRDER AT MARINE ZONE

SCALE –

DRAWING No. T 16 3 9 5 – Q – B R – C M – G A – 0 0 1 7

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	SKRT	15.07.2017
DRWN	CKJN	15.07.2017
CHKD	JCA/GMR	15.07.2017
APPD	TVK	15.07.2017

SHEET 1 OF 3 REV. A

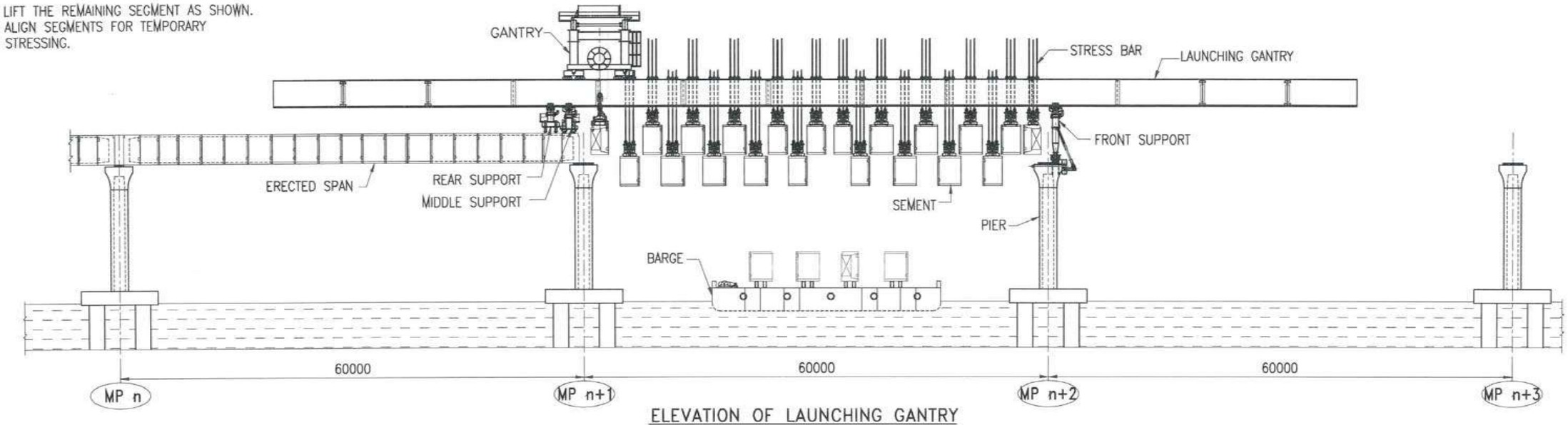
PROJECTION

7303

18.35

STAGE-3

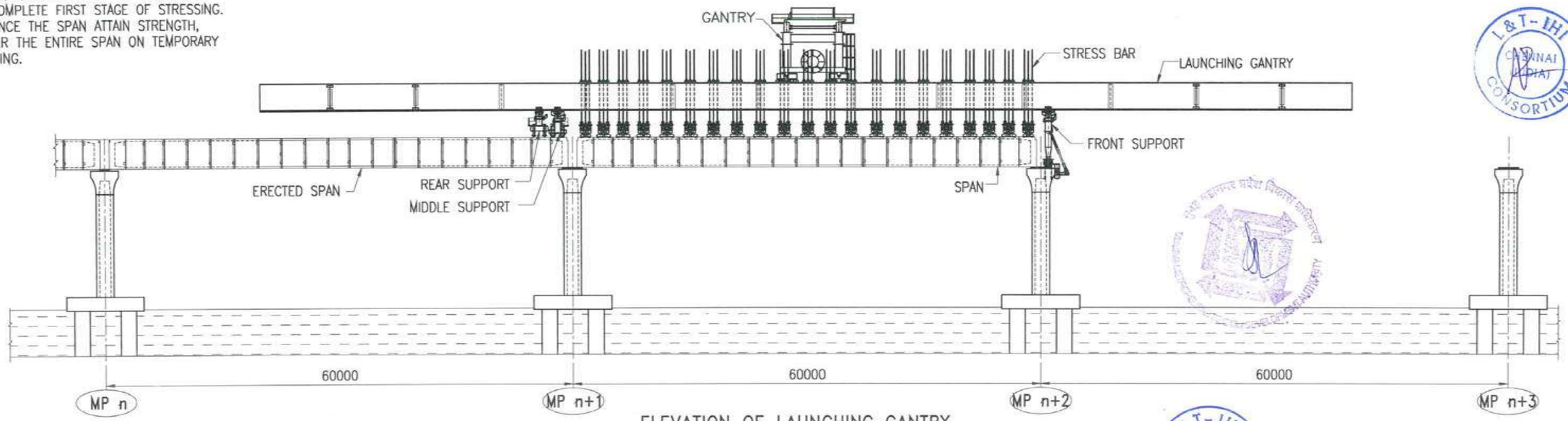
1. LIFT THE REMAINING SEGMENT AS SHOWN.
2. ALIGN SEGMENTS FOR TEMPORARY STRESSING.



ELEVATION OF LAUNCHING GANTRY

STAGE-4

1. TEMPORARY STRESS THE SEGMENTS.
2. COMPLETE FIRST STAGE OF STRESSING.
3. ONCE THE SPAN ATTAIN STRENGTH, LOWER THE ENTIRE SPAN ON TEMPORARY BEARING.



ELEVATION OF LAUNCHING GANTRY

L&T-IHI CONSORTIUM CHENNAI (INDIA)

L&T-IHI CONSORTIUM CHENNAI (INDIA)

FOR TENDER PURPOSE ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	SKRT 15.07.17	CKJN 15.07.17	GMR 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: LAUNCHING GANTRY
SEGMENT ERECTION WITH LAUNCHING GIRDER AT MARINE ZONE

SCALE: –

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 7

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	SKRT	15.07.2017
DRWN	CKJN	15.07.2017
CHKD	JCA/GMR	15.07.2017
APPD	TVK	15.07.2017

SHEET 2 OF 3 REV. A

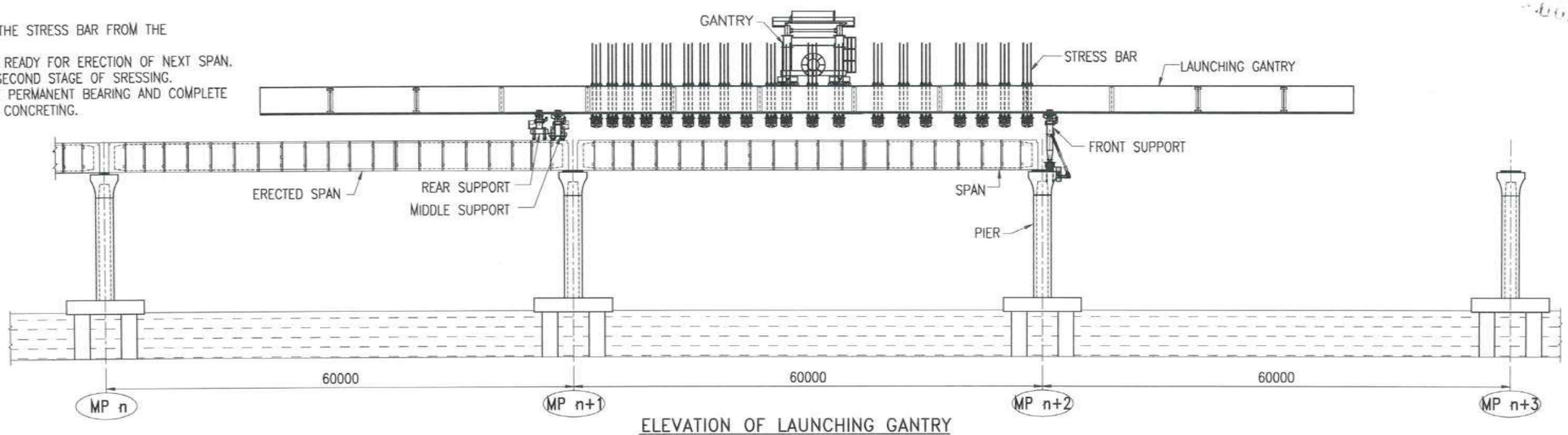
PROJECTION

7304

7305

STAGE-5

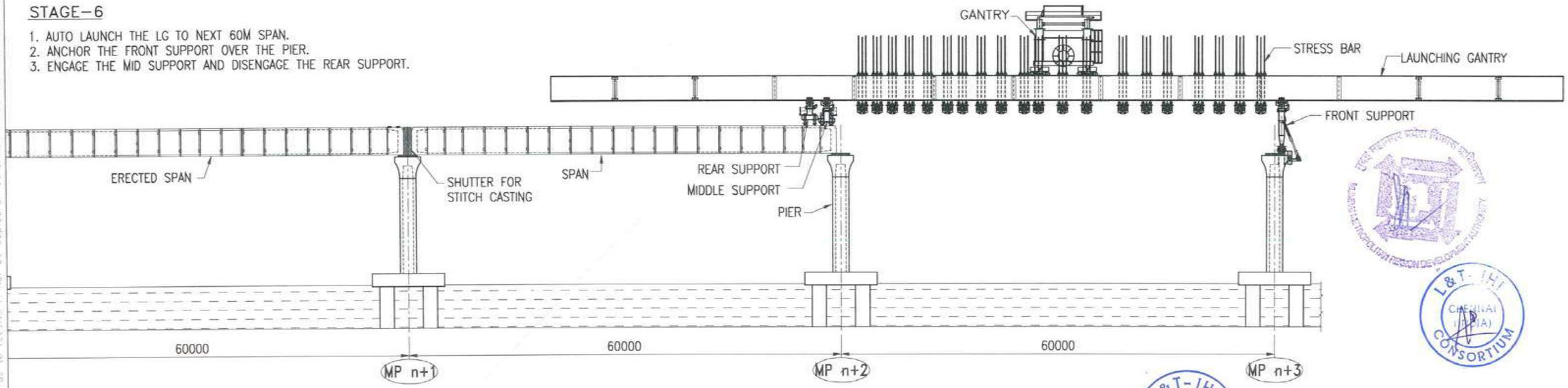
1. DISENGAGE THE STRESS BAR FROM THE SEGMENTS
2. NOW L.G IS READY FOR ERECTION OF NEXT SPAN.
3. COMPLETE SECOND STAGE OF SRESSING.
4. INSTALL THE PERMANENT BEARING AND COMPLETE THE STITCH CONCRETING.



ELEVATION OF LAUNCHING GANTRY

STAGE-6

1. AUTO LAUNCH THE LG TO NEXT 60M SPAN.
2. ANCHOR THE FRONT SUPPORT OVER THE PIER.
3. ENGAGE THE MID SUPPORT AND DISENGAGE THE REAR SUPPORT.



ELEVATION OF LAUNCHING GANTRY

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE ONLY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	SKRT 15.07.17	CKJN 15.07.17	JCA/GMR 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: LAUNCHING GANTRY
SEGMENT ERECTION WITH LAUNCHING GIRDER AT MARINE ZONE

SCALE: –

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 7

RELEASED FOR: ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	SKRT	15.07.2017
DRWN	CKJN	15.07.2017
CHKD	JCA/GMR	15.07.2017
APPD	TVK	15.07.2017

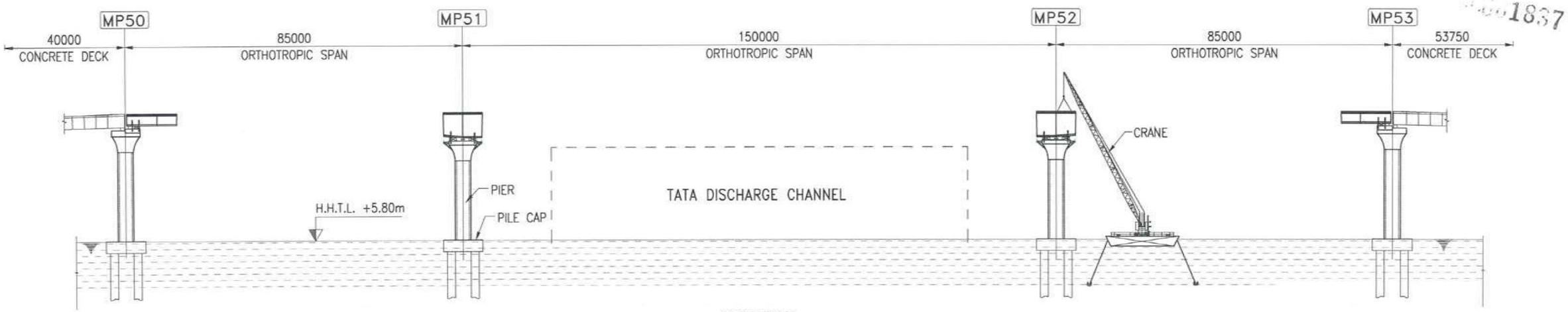
SHEET 3 OF 3 REV. A

PROJECTION

7307

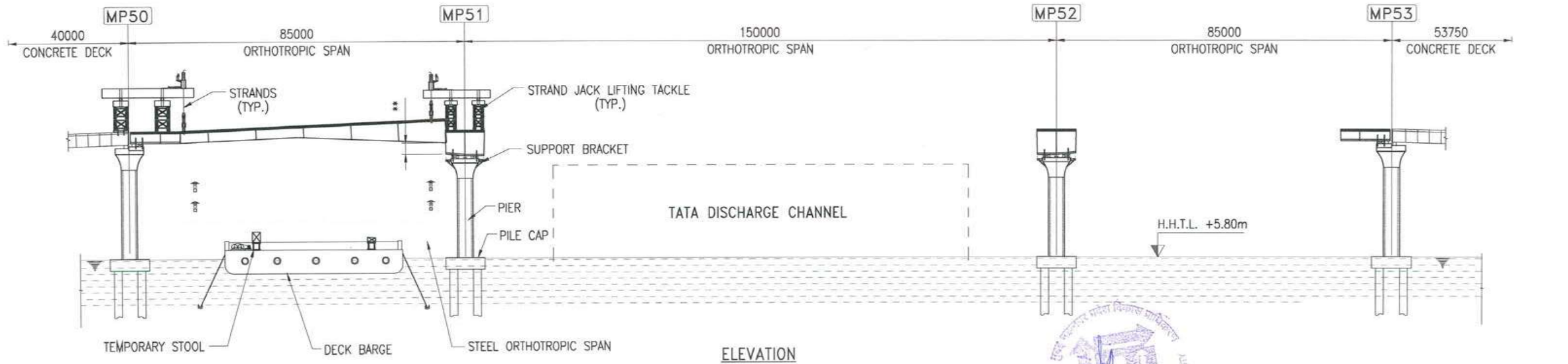
1837

STAGE:1 1. ERECT THE PIER HEAD SEGMENT .



ELEVATION

STAGE:2 1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

**
JACKING HEIGHT MAY VARY FOR DIFFERENT SPANS

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.
2. THE SEA LEVEL ARE WITH RESPECT TO CHART DATUM 0.00M.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: **L&T - IHI CONSORTIUM**

TITLE : **BRIDGE P1-OS01 NS/SS**
ORTHOTROPIC STEEL SPAN ERECTION BY STRAND JACK METHOD (OPTION-1)

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 8

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

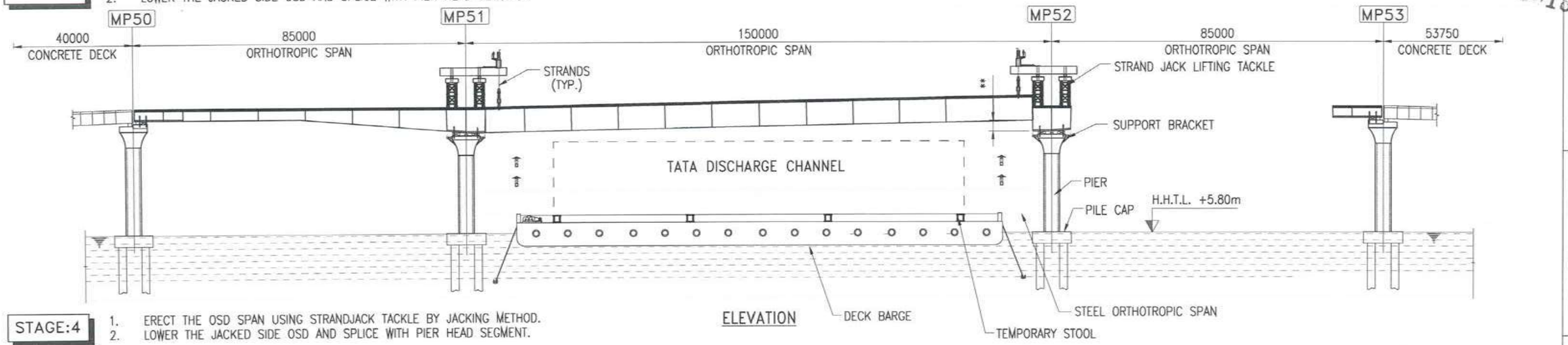
SHEET 1 OF 2 REV. A

PROJECTION

7309

STAGE:3

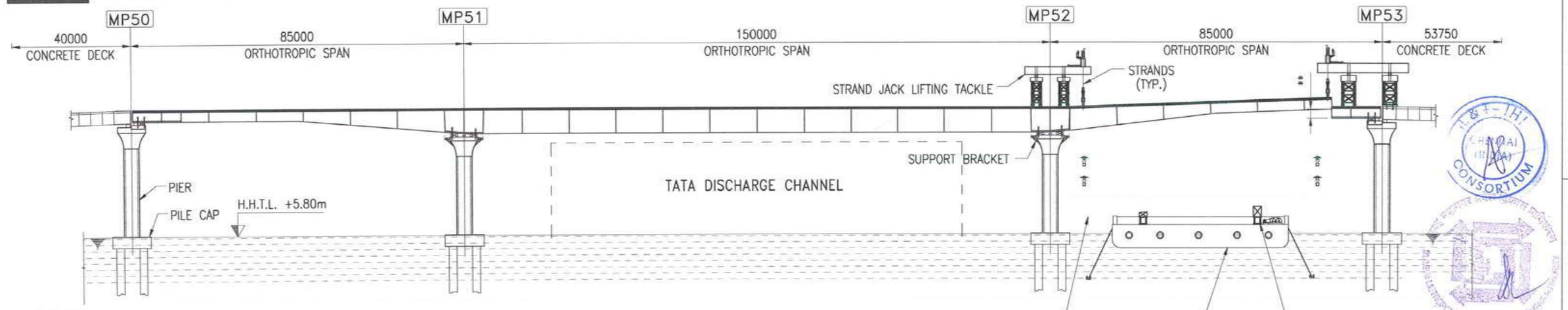
1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:4

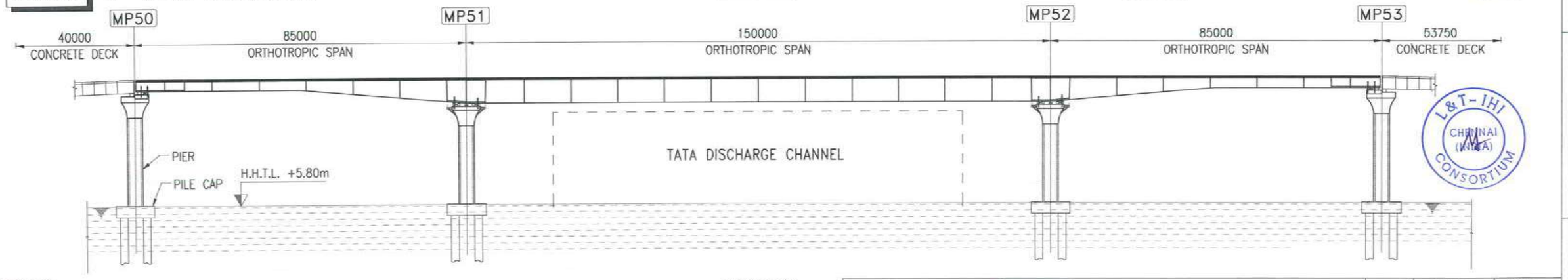
1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:5

1. COMPLETE THE SPAN ERECTION.



ELEVATION

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.
2. THE SEA LEVEL ARE WITH RESPECT TO CHART DATUM 0.00M.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS01 NS/SS
ORTHOTROPIC STEEL SPAN ERECTION BY STRAND JACK METHOD (OPTION-1)

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 8

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

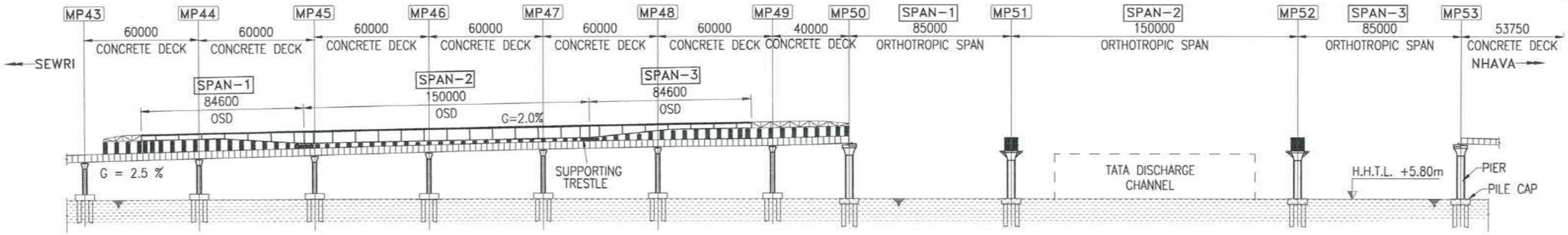
	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

SHEET 2 OF 2 REV. A

PROJECTION

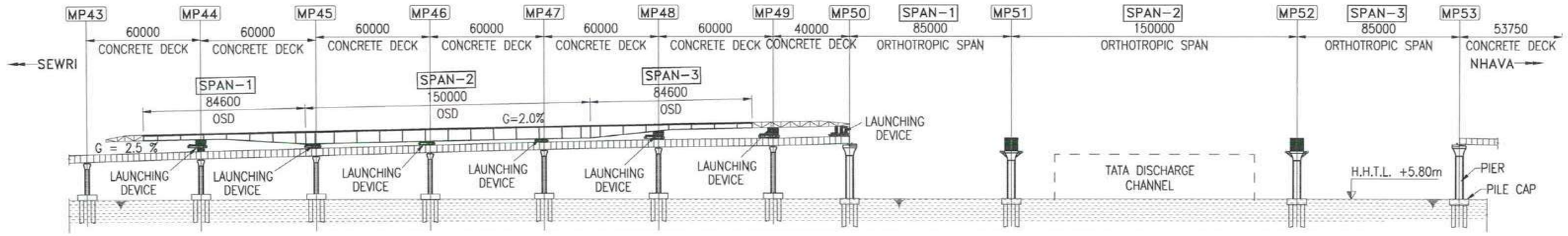
7311

STAGE:1 1. ASSEMBLE THE NOSING GIRDER & OSD SPAN OVER THE ERECTED DECK AS SHOWN.



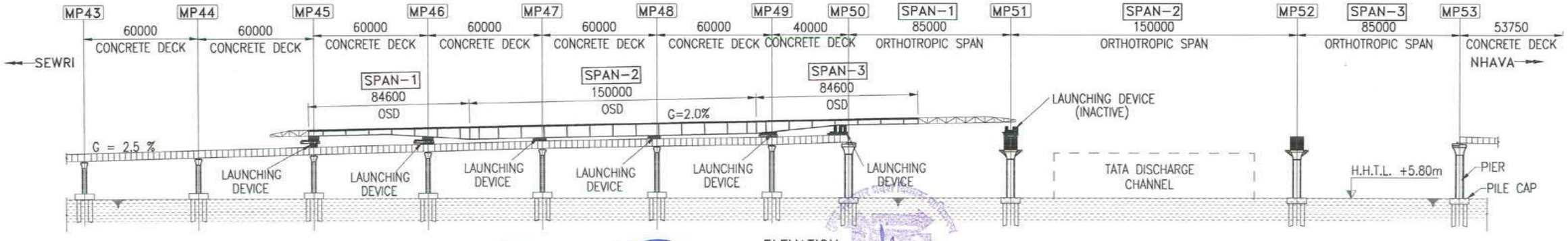
ELEVATION

STAGE:2 1. TRESTLES ARE DISENGAGED AND ASSEMBLED OSD SPAN WITH NOSING IS MOUNTED OVER SKIDDING AND LAUNCHING DEVICE.



ELEVATION

STAGE:3 1. LAUNCH THE OSD OVER THE 85M SPAN.



ELEVATION

FOR TENDER PURPOSE ONLY

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.
2. THE SEA LEVEL ARE WITH RESPECT TO CHART DATUM 0.00M.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS01 NS/SS
DETAILED ERECTION SCHEME FOR OSD
ERECTION BY PUSH LAUNCHING (OPTION-2)

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 9

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

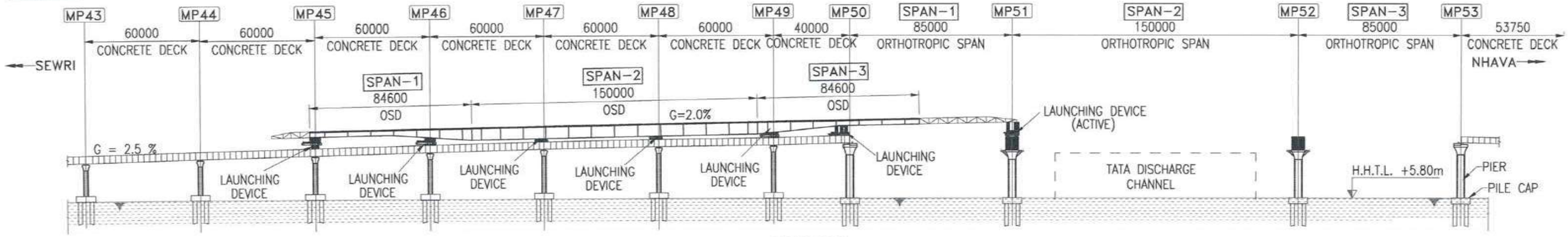
SHEET 1 OF 6 REV. A

PROJECTION

7313

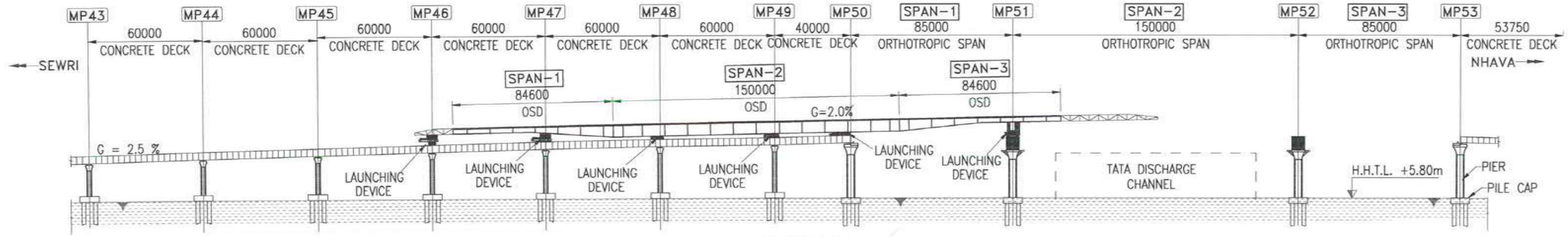
1840

STAGE:4 1. AN INTERMEDIATE LAUNCHING DEVICE IS INTRODUCED BELOW THE NOSING GIRDER AT MP51.



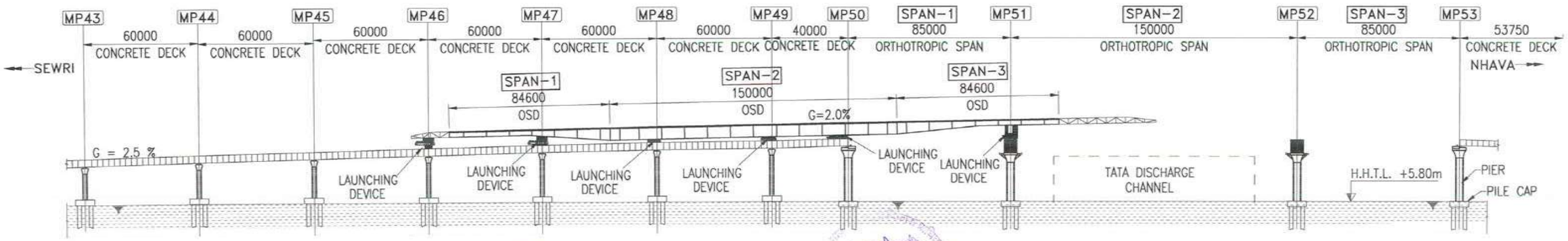
ELEVATION

STAGE:5 1. CONTINUE THE LAUNCHING OVER THE 150M SPAN.



ELEVATION

STAGE:6 1. AN INTERMEDIATE SKIDDING DEVICE IS INTRODUCED BELOW THE NOSING GIRDER.



ELEVATION

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.
2. THE SEA LEVEL ARE WITH RESPECT TO CHART DATUM 0.00M.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: BRIDGE P1-OS01 NS/SS
DETAILED ERECTION SCHEME FOR OSD
ERECTION BY PUSH LAUNCHING (OPTION-2)

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 9

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

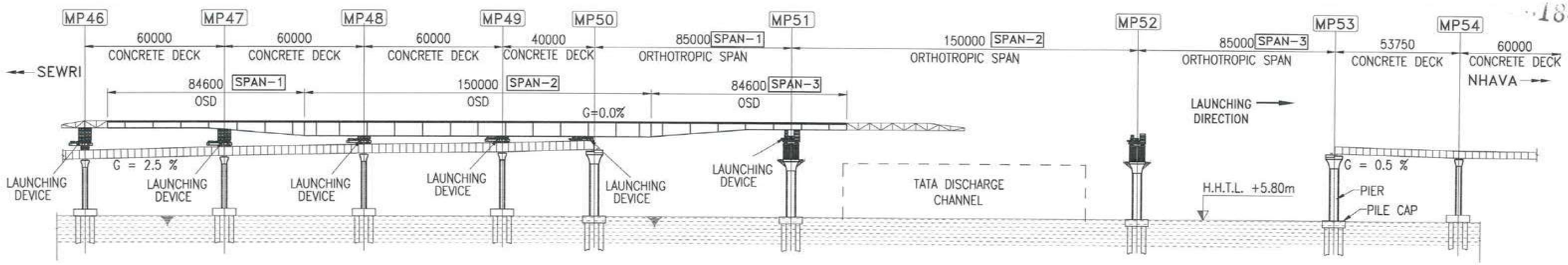
SHEET 2 OF 6 REV. A

PROJECTION

7315

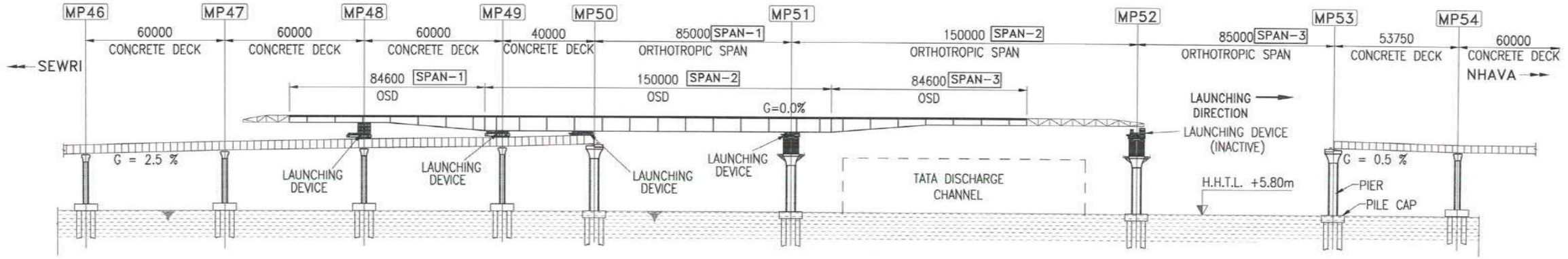
1841

STAGE:7 1. USING JACK CHANGE THE GRADIENT OF OSD DECK FROM 2.0 % TO 0.0% .



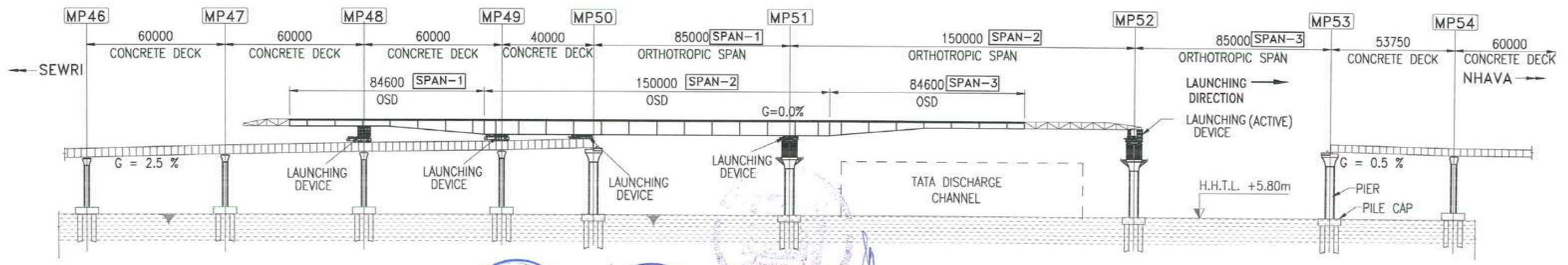
ELEVATION

STAGE:8 1. CONTINUE THE LAUNCHING OVER THE 150M SPAN.



ELEVATION

STAGE:9 1. AN INTERMEDIATE LUNCHING DEVICE IS INTRODUCED AT PIER MP52.



ELEVATION

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.
2. THE SEA LEVEL ARE WITH RESPECT TO CHART DATUM 0.00M.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS01 NS/SS
DETAILED ERECTION SCHEME FOR OSD
ERECTION BY PUSH LAUNCHING (OPTION-2)

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 9

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

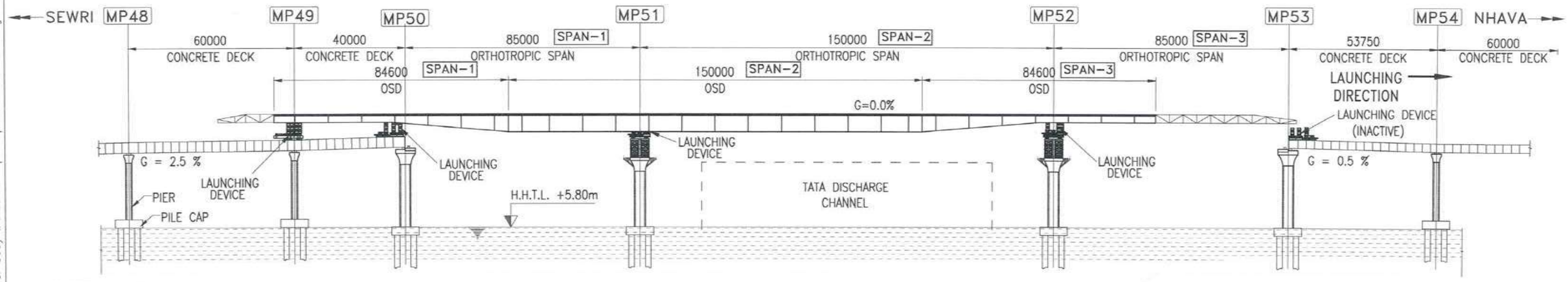
	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

SHEET 3 OF 6 REV. A

PROJECTION

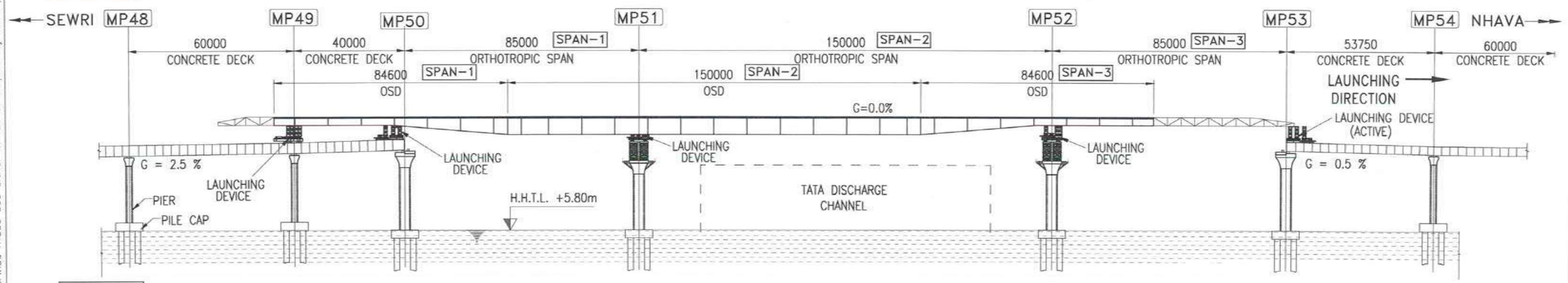
7317 1842

STAGE:10 1. CONTINUE THE LAUNCHING OVER THE 85M SPAN.



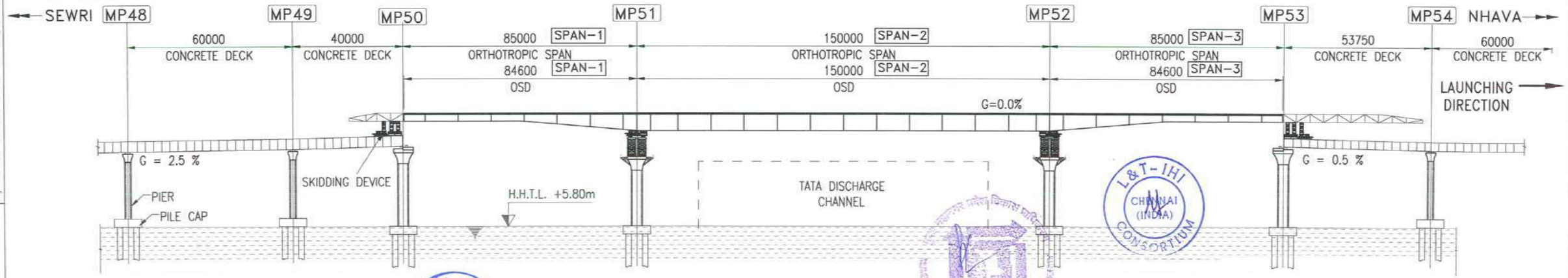
ELEVATION

STAGE:11 1. LAUNCHING DEVICE IS INTRODUCED OVER THE CONCRETE DECK AT MP53.



ELEVATION

STAGE:12 1. CONTINUE THE LAUNCHING OVER THE 53.75M CONCRETE SPAN.



ELEVATION

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.
2. THE SEA LEVEL ARE WITH RESPECT TO CHART DATUM 0.00M.

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS01 NS/SS
DETAILED ERECTION SCHEME FOR OSD
ERECTION BY PUSH LAUNCHING (OPTION-2)

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 9

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

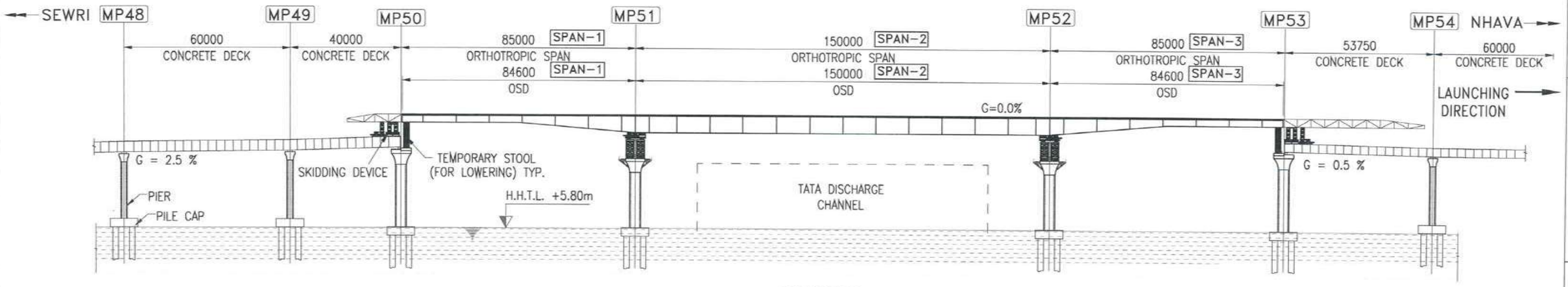
	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

SHEET 4 OF 6 REV. A

PROJECTION

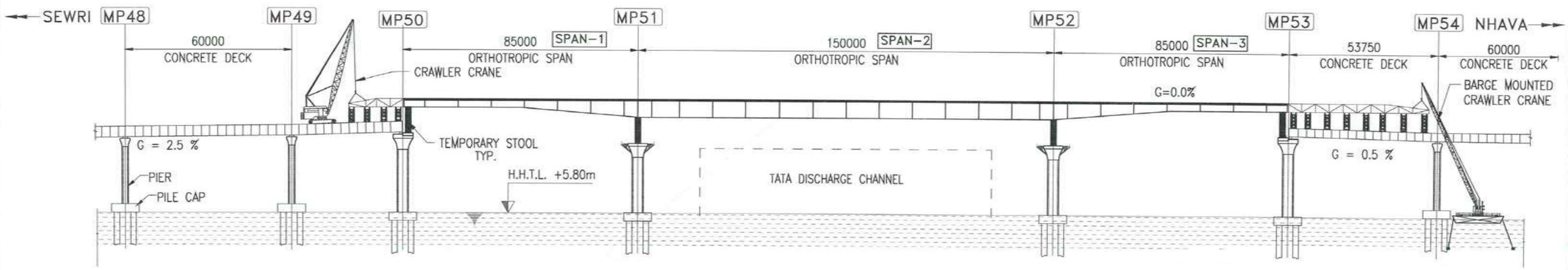
7319

STAGE:13
1. INTRODUCE THE TEMPORARY STOOL FOR LOWERING.
2. REMOVE THE INTERMEDIATE BENT.



ELEVATION

STAGE:14
1. DISMANTLE THE NOSING GIRDER USING CRAWLER CRANE AS SHOWN.



ELEVATION

FOR TENDER PURPOSE ONLY

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.
2. THE SEA LEVEL ARE WITH RESPECT TO CHART DATUM 0.00M.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS01 NS/SS
DETAILED ERECTION SCHEME FOR OSD
ERECTION BY PUSH LAUNCHING (OPTION-2)

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 9

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

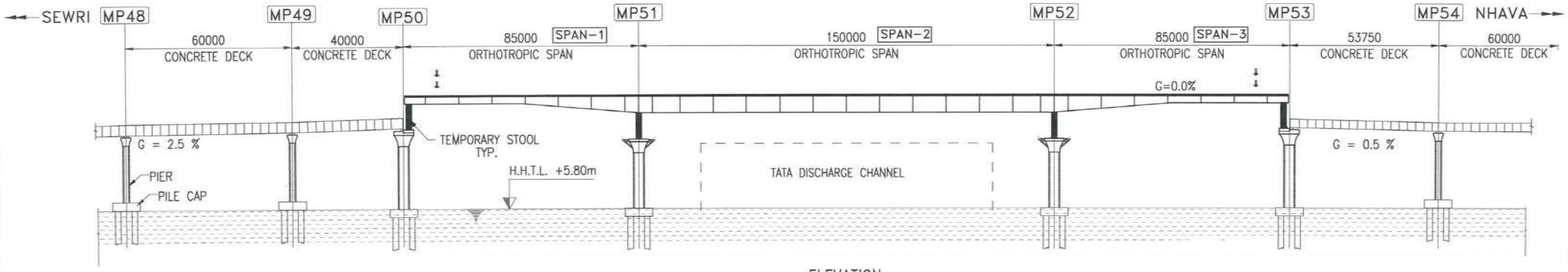
SHEET 5 OF 6 REV. A

PROJECTION

7320

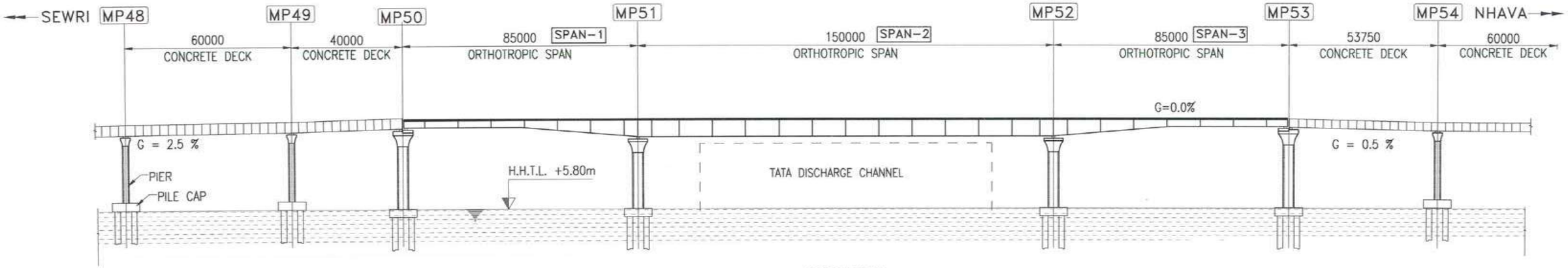
7321

STAGE:15 1. LOWER THE SPAN GRADUALLY.



ELEVATION

STAGE:16 1. COMPLETE THE SPAN AS SHOWN.



ELEVATION

FOR TENDER PURPOSE ONLY

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.
2. THE SEA LEVEL ARE WITH RESPECT TO CHART DATUM 0.00M.

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS01 NS/SS
DETAILED ERECTION SCHEME FOR OSD
ERECTION BY PUSH LAUNCHING (OPTION-2)

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 1 9

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

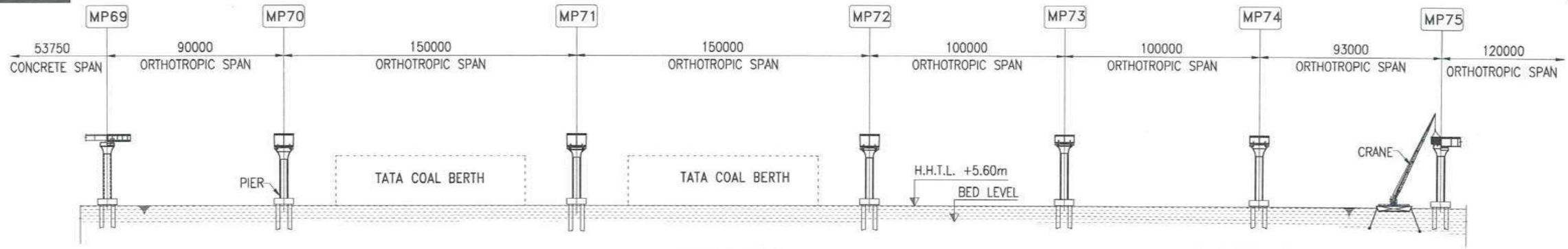
	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

SHEET 6 OF 6 REV. A

PROJECTION

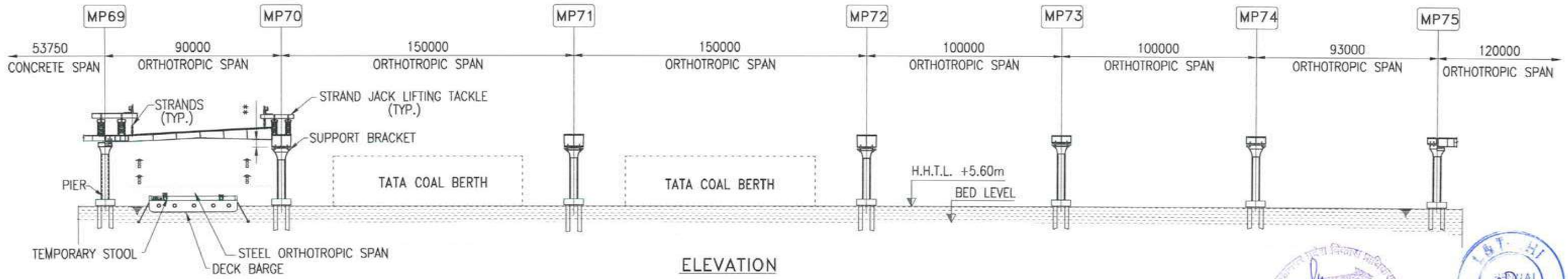
7323

STAGE:1 1. ERECT THE PIER HEAD SEGMENT .



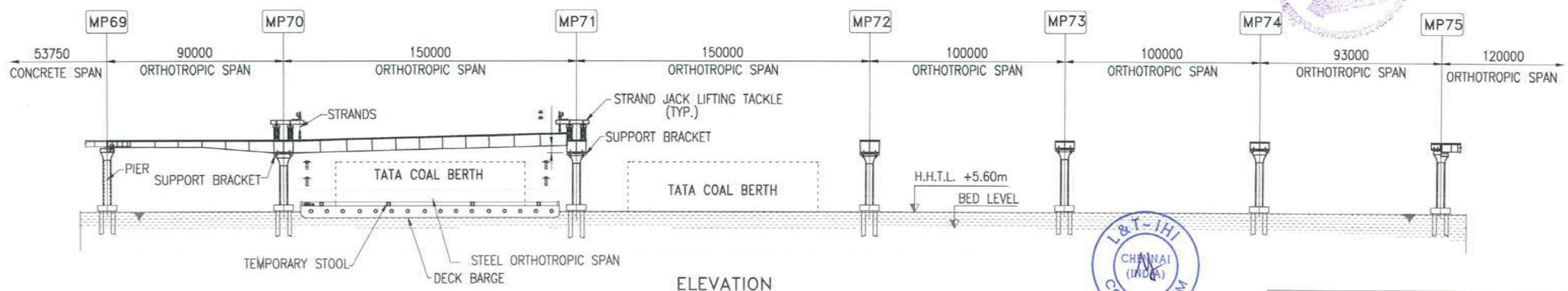
ELEVATION

STAGE:2 1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:3 1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.

** JACKING HEIGHT MAY VARY FOR DIFFERENT SPANS

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS02 NS/SS
ORTHOTROPIC STEEL SPAN ERECTION BY STRAND JACK METHOD

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 2 0

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

SHEET 1 OF 3 REV. A

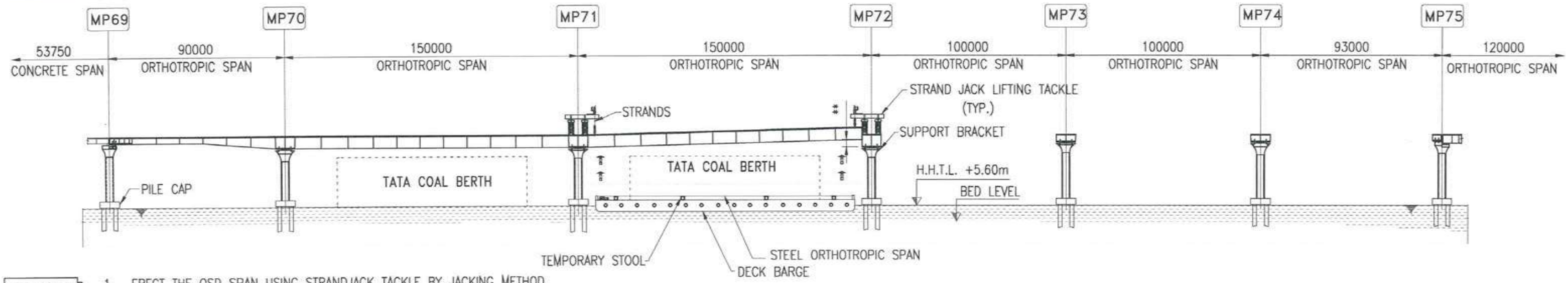
PROJECTION

7325

1040

STAGE:4

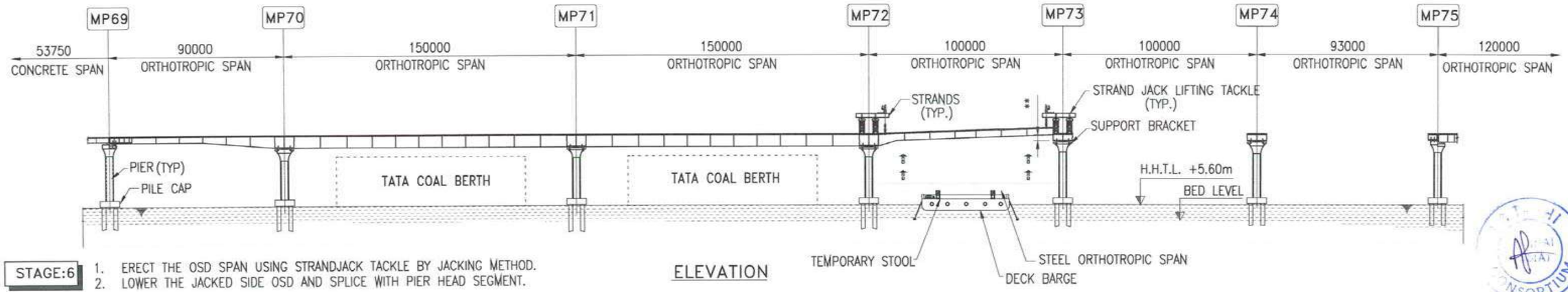
1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:5

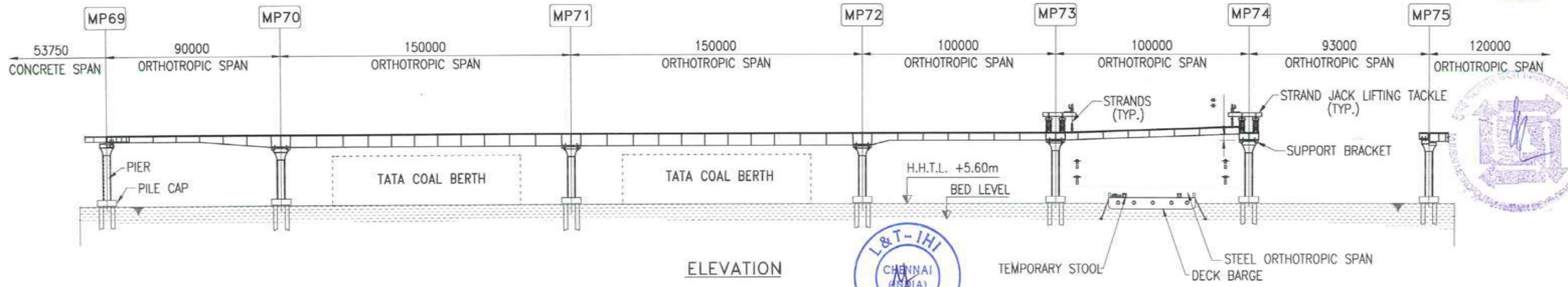
1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:6

1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

FOR TENDER PURPOSE ONLY

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.

** JACKING HEIGHT MAY VARY FOR DIFFERENT SPANS

REV	DESCRIPTION	RPK	AKH	JCA	TVK
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17
		DSND	DRWN	CHKD	APPD

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS02 NS/SS
ORTHOTROPIC STEEL SPAN ERECTION BY STRAND JACK METHOD

SCALE 1:200

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 2 0

SHEET 2 OF 3 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

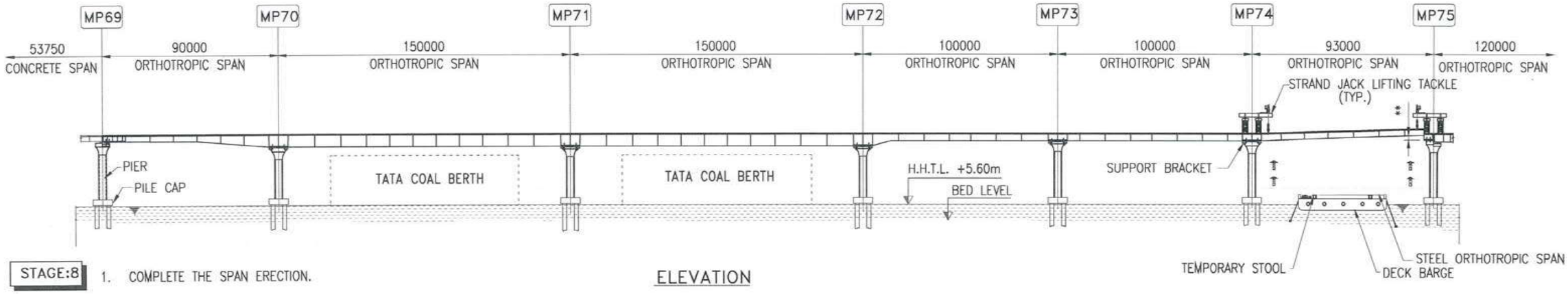
PROJECTION

7327

001847

STAGE:7

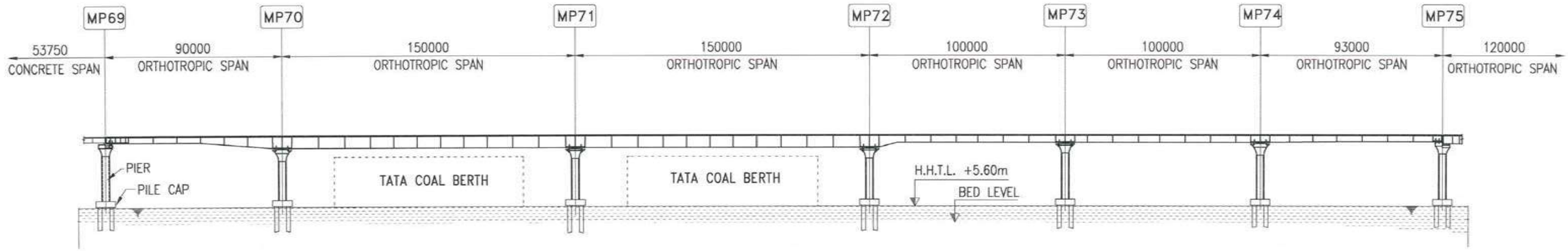
1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:8

1. COMPLETE THE SPAN ERECTION.



ELEVATION

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE ONLY

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.

**
JACKING HEIGHT MAY VARY FOR DIFFERENT SPANS

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS02 NS/SS
ORTHOTROPIC STEEL SPAN ERECTION BY STRAND JACK METHOD

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 2 0

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

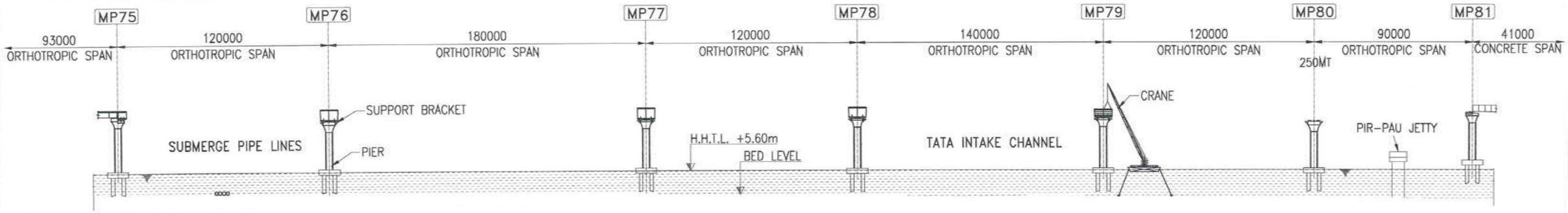
SHEET 3 OF 3 REV. A

PROJECTION

7329 1848

STAGE:1

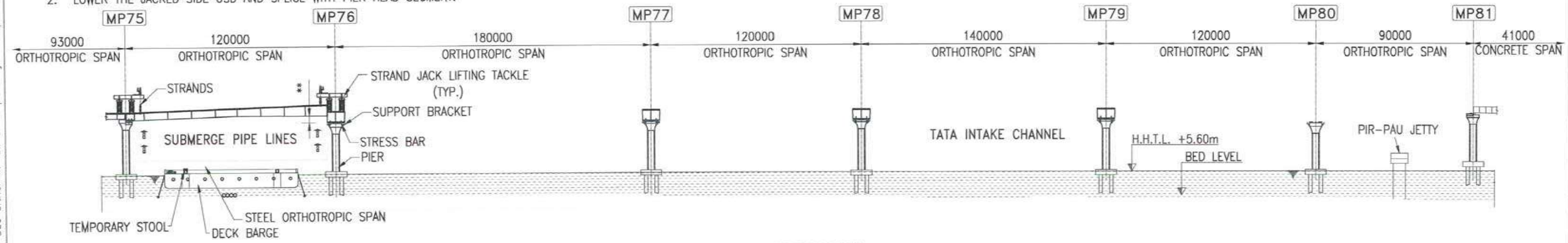
1. ERECT THE PIER HEAD SEGMENT .



ELEVATION

STAGE:2

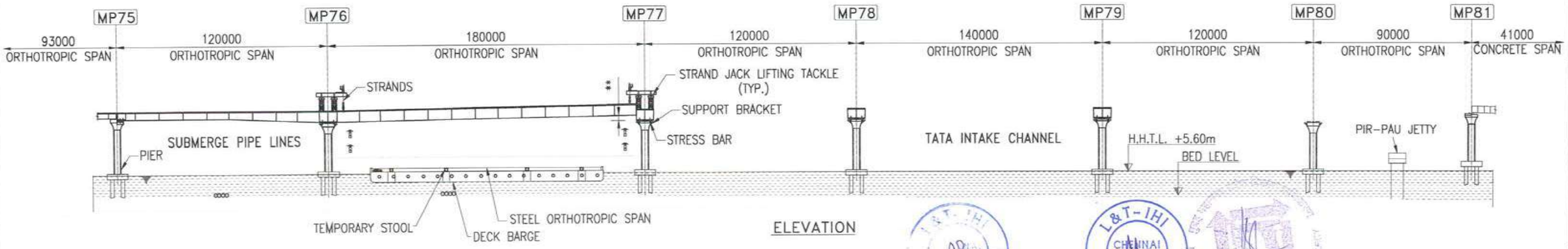
1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:3

1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

L&T-IHI CONSORTIUM (INDIA)

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE ONLY

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.

** JACKING HEIGHT MAY VARY FOR DIFFERENT SPANS

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS03 NS/SS
ORTHOTROPIC STEEL SPAN ERECTION BY PUSH LAUNCHING & STRAND JACK METHOD

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 2 1

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

SHEET 1 OF 5 REV. A

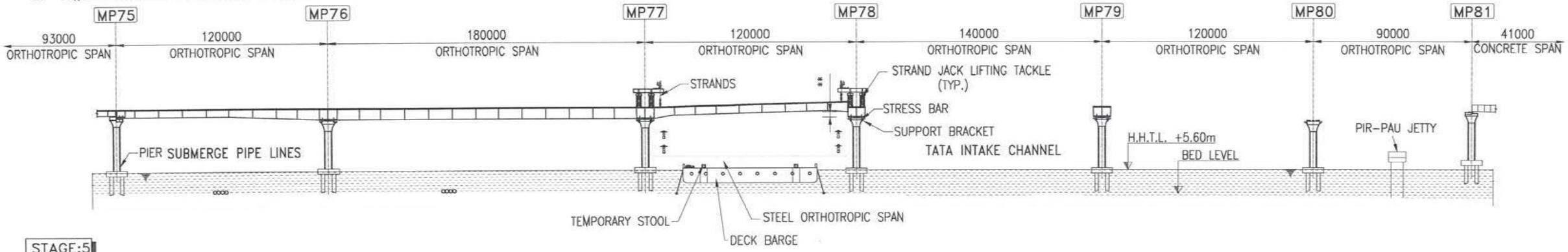
PROJECTION

7331

001849

STAGE:4

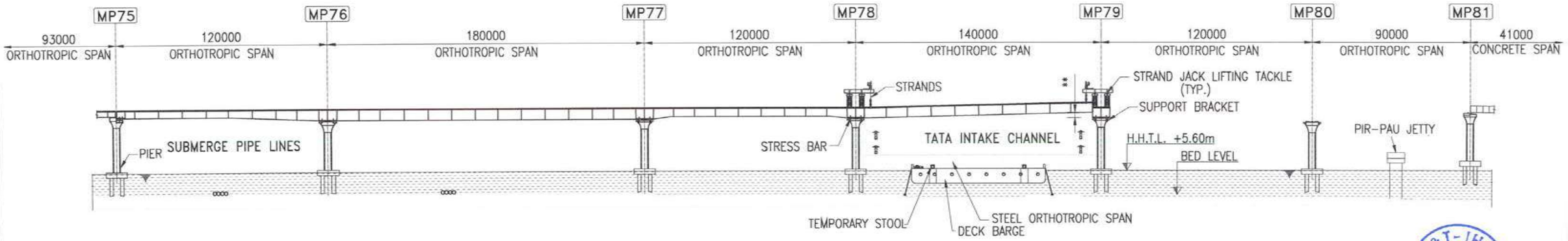
1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:5

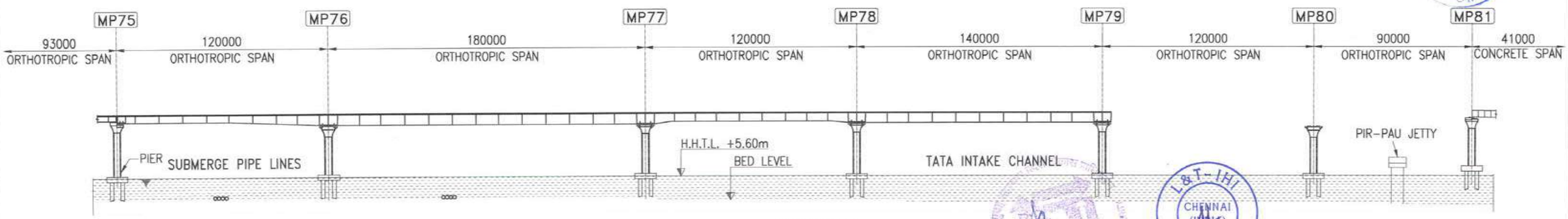
1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:6

1. ERECT THE LIFTED OSD DECK.



ELEVATION

L&T-IHI CHENNAI (INDIA) CONSORTIUM

FOR TENDER PURPOSE ONLY

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.

** JACKING HEIGHT MAY VARY FOR DIFFERENT SPANS

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: BRIDGE P1-OS03 NS/SS
ORTHOTROPIC STEEL SPAN ERECTION BY PUSH LAUNCHING & STRAND JACK METHOD

SCALE 1:200

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 2 1

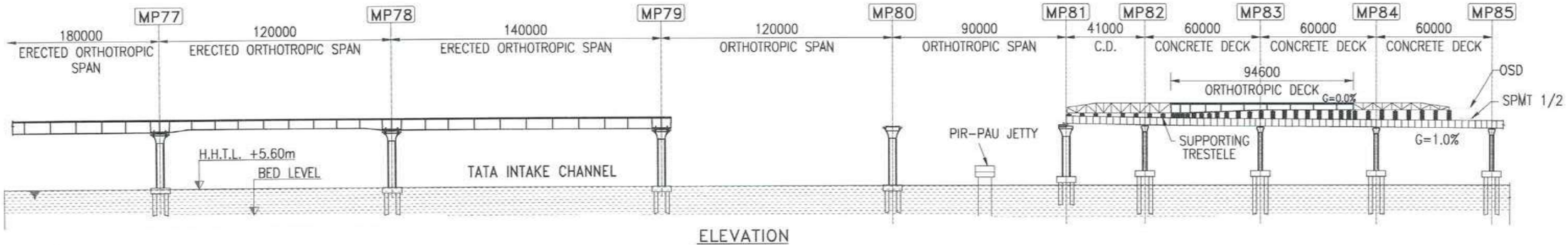
SHEET 2 OF 5 REV. A

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

STAGE:7

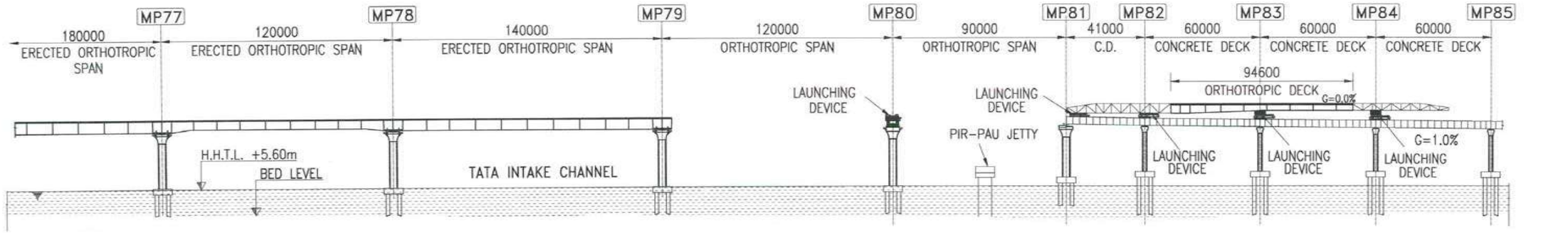
1. ASSEMBLE THE NOSING GIRDER & OSD SPAN OVER THE ERECTED CONCERETE DECK AS SHOWN.



ELEVATION

STAGE:8

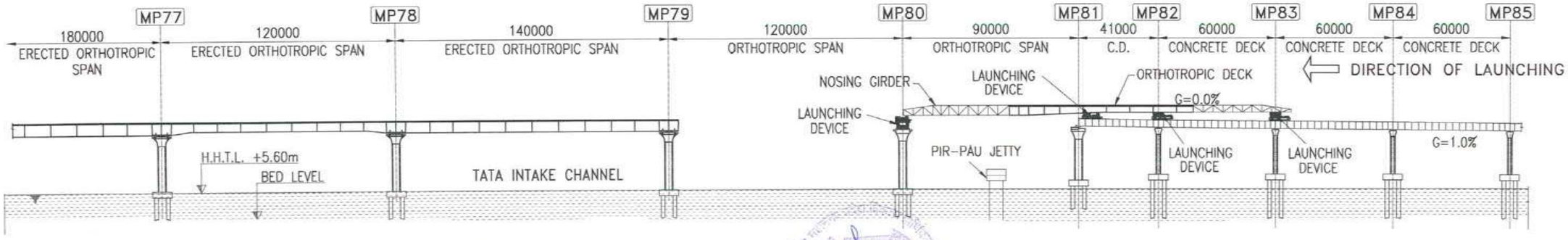
1. REMOVE SUPPORTING TRESTELE AND INTRODUCE THE LAUNCHING DEVICES.



ELEVATION

STAGE:9

1. LAUNCH THE OSD SPAN AS SHOWN.



ELEVATION

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.

L&T-IHI CHENNAI (INDIA) CONSORTIUM

L&T-IHI CHENNAI (INDIA) CONSORTIUM

** JACKING HEIGHT MAY VARY FOR DIFFERENT SPANS

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	DSND	DRWN	CHKD	APPD
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: BRIDGE P1-OS03 NS/SS
ORTHOTROPIC STEEL SPAN ERECTION BY PUSH LAUNCHING & STRAND JACK METHOD

SCALE 1:200

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 2 1

SHEET 3 OF 5 REV. A

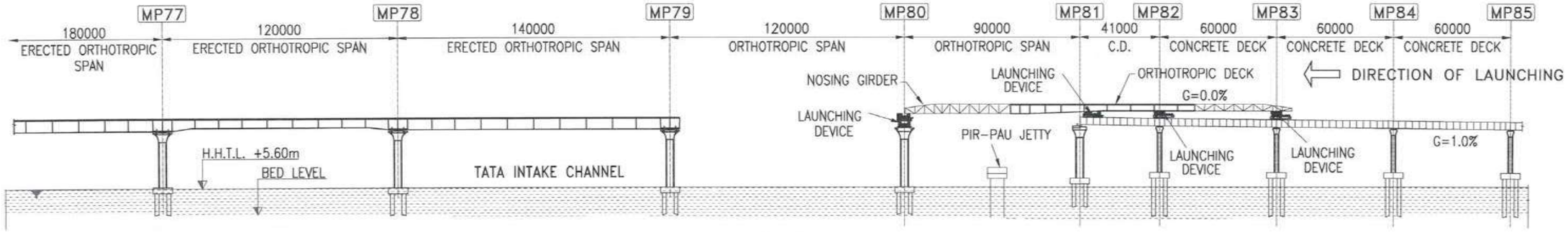
RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION

7335 001851

STAGE:10

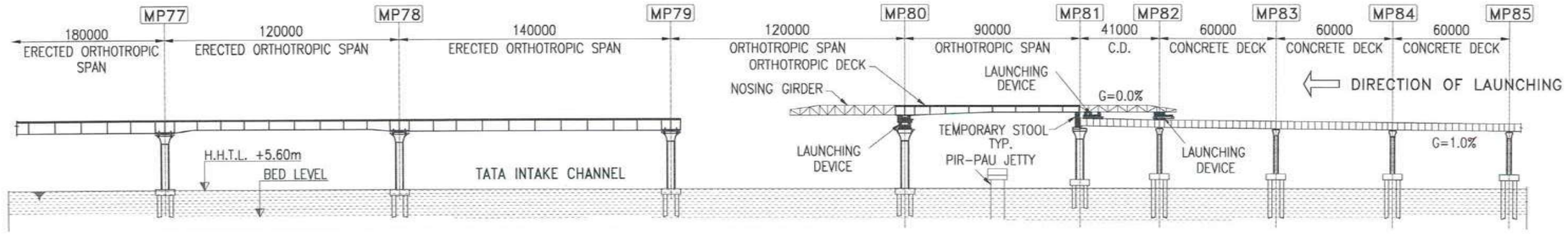
1. ACTIVE THE LAUNCHING DEVICE AT PIER MP80 & CONTINUE THE LAUNCHING.



ELEVATION

STAGE:11

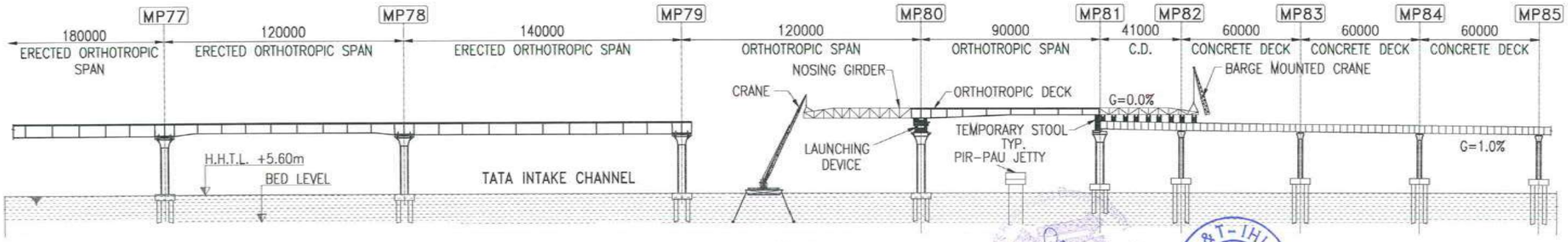
1. COMPLETE THE LAUNCHING.
2. INTRODUCE THE TEMPORARY STOOL ON PIER MP81 AS SHOWN.



ELEVATION

STAGE:12

1. DISMANTLE THE NOSING GIRDER USING 250MT BARGE MOUNTED CRAWLER CRANE.
2. ERECT THE SPAN LOWERING PORTALS AT PIER MP80 & MP81.



ELEVATION

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.

** JACKING HEIGHT MAY VARY FOR DIFFERENT SPANS

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	RPK	AKH	JCA	TVK
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17
		DSND	DRWN	CHKD	APPD

CLIENT: MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT: MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE: BRIDGE P1-OS03 NS/SS
ORTHOTROPIC STEEL SPAN ERECTION BY PUSH LAUNCHING & STRAND JACK METHOD

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 2 1

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

SHEET 4 OF 5 REV. A

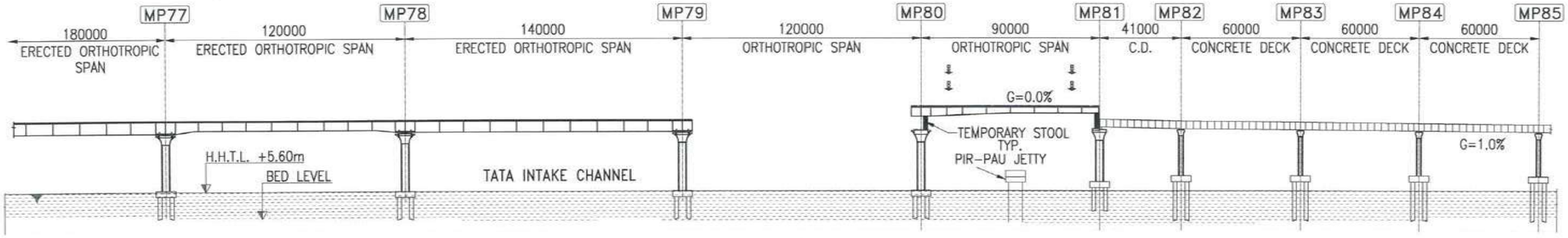
PROJECTION

7337

1852

STAGE:13

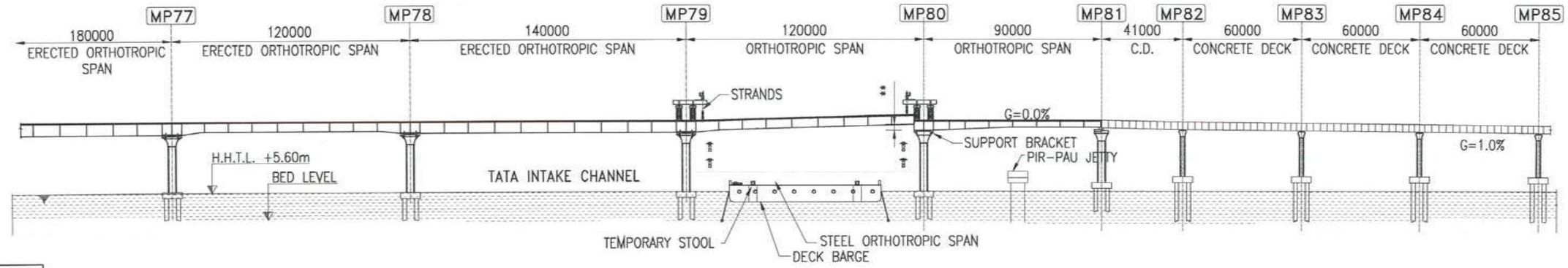
1. LOWER THE SPAN GRADUALLY AS SHOWN.



ELEVATION

STAGE:14

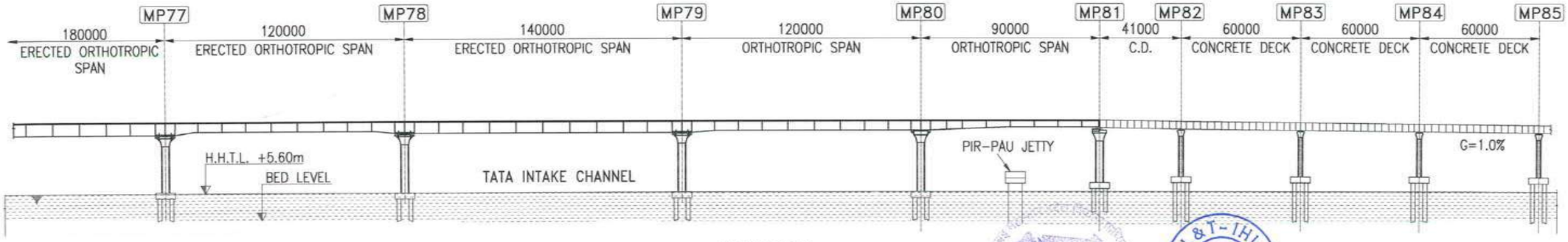
1. INTRODUCE THE ERECTION TACKLE.
2. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
3. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:15

1. ERECT THE DECK AS SHOWN.



ELEVATION

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.

**
JACKING HEIGHT MAY VARY FOR DIFFERENT SPANS

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	RPK	AKH	JCA	TVK
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17
		DSND	DRWN	CHKD	APPD

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS03 NS/SS
ORTHOTROPIC STEEL SPAN ERECTION BY PUSH LAUNCHING & STRAND JACK METHOD

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 2 1

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

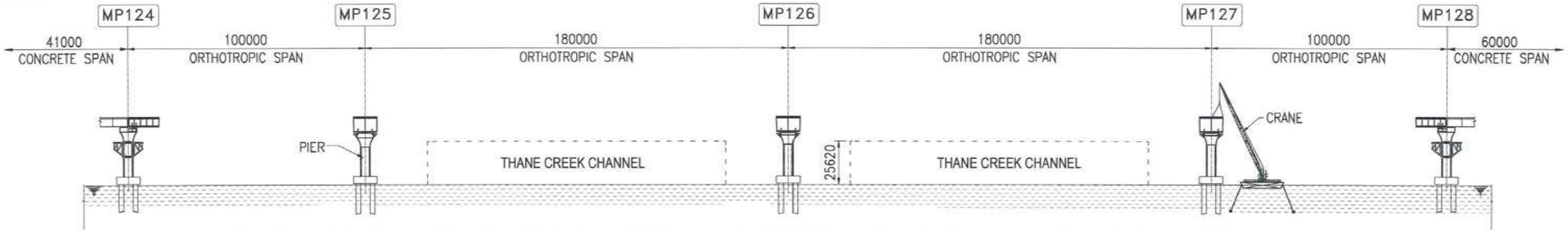
SHEET 5 OF 5 REV. A

PROJECTION

7339

STAGE:1

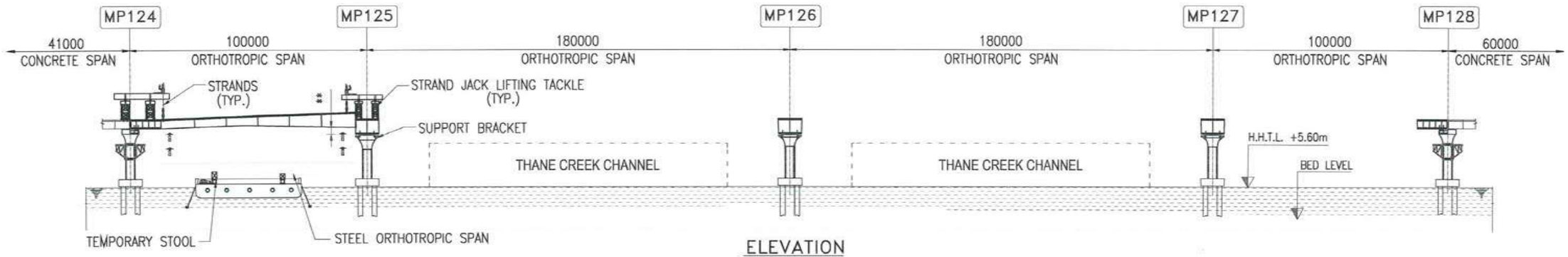
1. ERECT THE PIER HEAD SEGMENT .



ELEVATION

STAGE:2

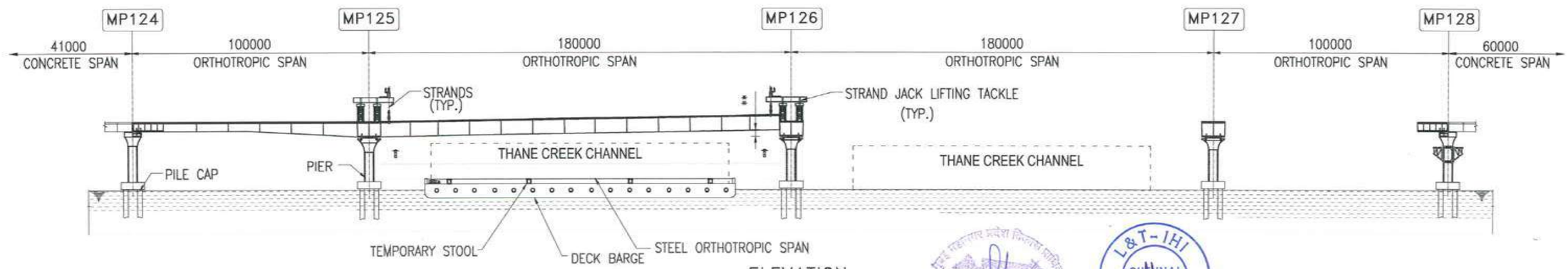
1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:3

1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.

** JACKING HEIGHT MAY VARY FOR DIFFERENT SPANS

FOR TENDER PURPOSE ONLY

REV	DESCRIPTION	RPK	AKH	JCA	TVK
A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17
		DSND	DRWN	CHKD	APPD

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS04 NS/SS
ORTHOTROPIC STEEL SPAN ERECTION BY STRAND JACK METHOD

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 2 2

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

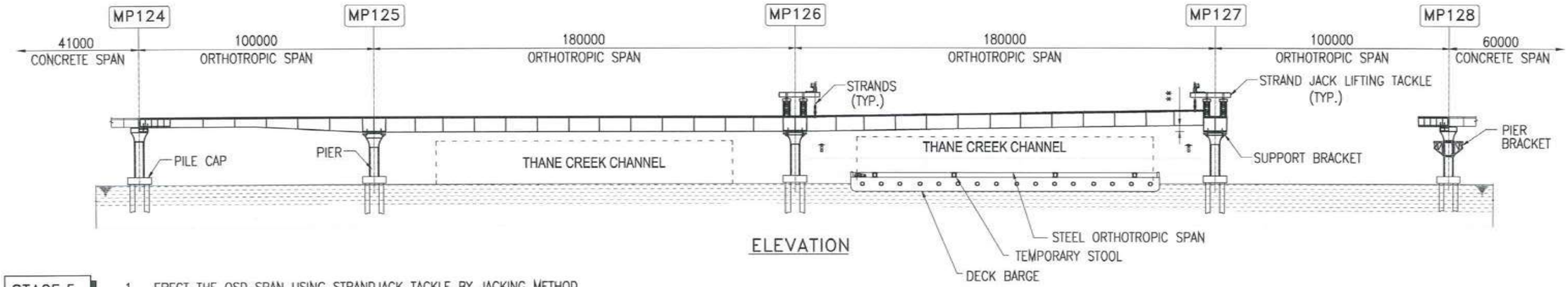
SHEET 1 OF 2 REV. A

PROJECTION

7341

STAGE:4

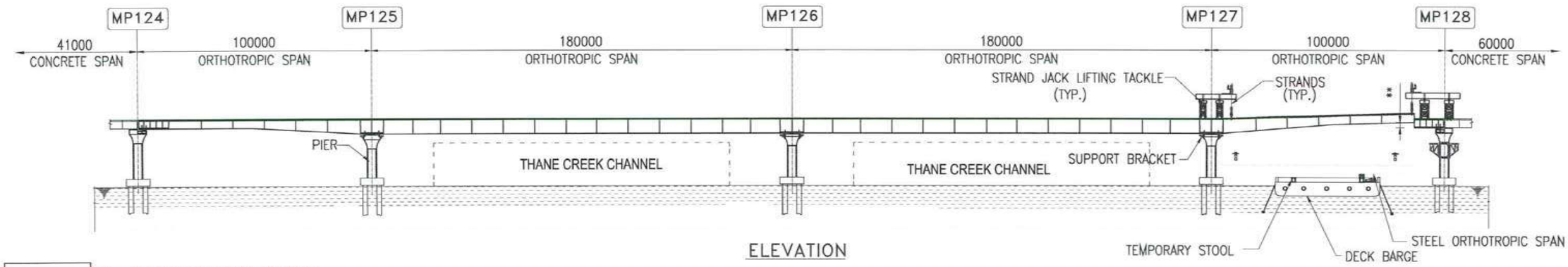
1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:5

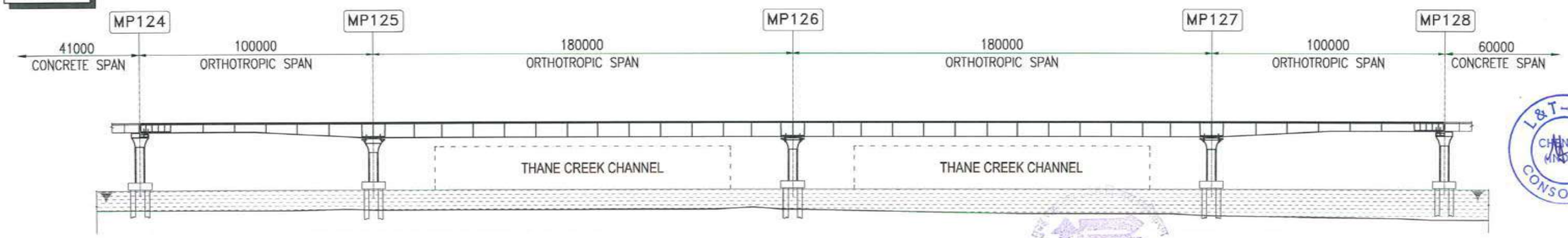
1. ERECT THE OSD SPAN USING STRANDJACK TACKLE BY JACKING METHOD.
2. LOWER THE JACKED SIDE OSD AND SPLICE WITH PIER HEAD SEGMENT.



ELEVATION

STAGE:6

1. COMPLETE THE SPAN ERECTION.



ELEVATION

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETER.

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FOR TENDER PURPOSE ONLY

A	FOR TENDER	RPK 15.07.17	AKH 15.07.17	JCA 15.07.17	TVK 15.07.17
REV	DESCRIPTION	DSND	DRWN	CHKD	APPD

CLIENT : MUMBAI METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY LTD.

PROJECT : MUMBAI TRANS HARBOUR LINK PROJECT – PACKAGE 1

CONTRACTOR: L&T - IHI CONSORTIUM

TITLE : BRIDGE P1-OS04 NS/SS
ORTHOTROPIC STEEL SPAN ERECTION BY STRAND JACK METHOD

SCALE 1:200

DRAWING No. T 16 3 9 5 - Q - B R - C M - G A - 0 0 2 2

RELEASED FOR ☐ PRELIMINARY ☑ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

	NAME	DATE
DSGN	RPK	15.07.2017
DRWN	AKH	15.07.2017
CHKD	GMR/JCA	15.07.2017
APPD	TVK	15.07.2017

SHEET 2 OF 2 REV. A

PROJECTION

L&T-IHI
CONSORTIUM

7344

L&T - IHI