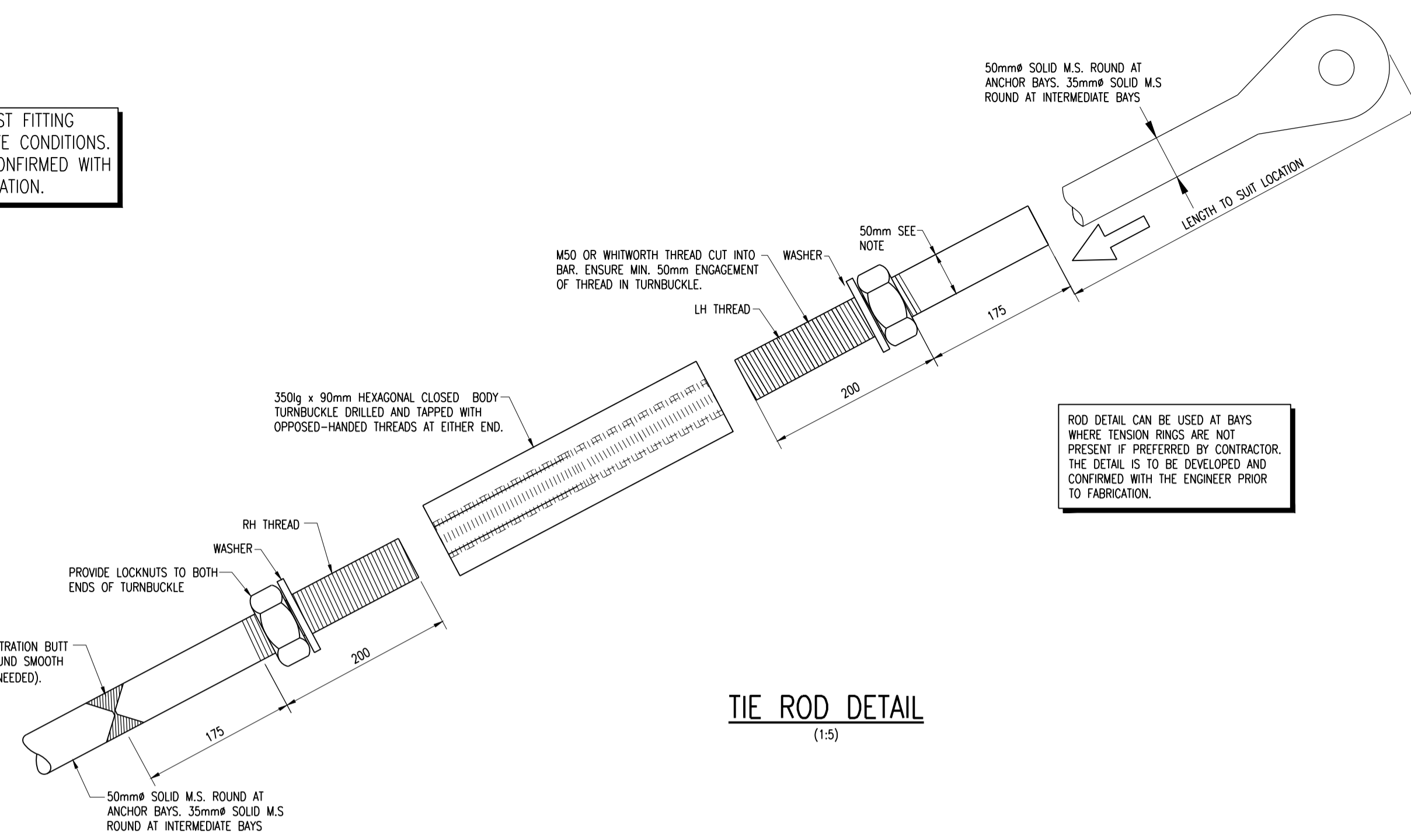


CONTRACTOR TO ADJUST FITTING DETAILS BASED ON SITE CONDITIONS. ALL DETAILS TO BE CONFIRMED WITH HOP PRIOR TO FABRICATION.

INDICATES APPROXIMATE LOCATION OF WATER PIPES ON HANGERS (PRESSURISED FIRE MAIN)

THE FIRE MAIN MUST REMAIN OPERATIONAL THROUGHOUT THE WORKS. CONTRACTOR TO PROVIDE TEMPORARY PROTECTION.

ALL HORIZONTAL RAILS TO BE 95R BULLHEAD RAIL. ALL DIAGONAL BRACING AT ANCHOR BAYS TO BE 50mm SOLID BAR. ALL DIAGONAL BRACING AT INTERMEDIATE BAYS TO BE 35mm DIAMETER BAR.



- 1. GENERAL**
- (i) This drawing is not to be scaled, work to figured dimensions only, confirmed on site.
 - (ii) This drawing is to be read in conjunction with all relevant architectural drawings, detailed specifications where applicable and all associated drawings in this series.
 - (iii) Any discrepancy on this drawing is to be reported immediately to the partnership for clarification.
 - (iv) The contractor is responsible for all temporary works and for the stability of the works in progress.
 - (v) All levels shown to ordnance datum unless otherwise stated. Lowest Astronomical Tide (LAT) of -2.90mOD is approximately equal to 'chart datum'.
 - (vi) Details are subject to change at the Engineers discretion.
 - (vii) All levels are approximate and should be confirmed on site.
 - (viii) Refer to drawings 12211-HOP-24-XX-DR-C-0003 for schedules and locations of members to be refurbished.
 - (ix) Details are subject to change at the Engineer's discretion.

- 2. STEELWORK**
- (i) All plates and flats to be grade S275J0, all hot rolled sections to be grade S275J0 unless otherwise noted. All to standards BS EN 10025-1:2004.
 - (ii) All structural steelwork shall comply with the latest edition of the National Structural Steelwork Specification For Building Construction. All fabricated steelwork shall comply with BS EN 1090-1 (Execution Class EXC2).
 - (iii) All surface preparation work to steelwork to be in accordance with BS7079:2009. All steelwork to be blast cleaned to SA2.5 unless otherwise stated.
 - (iv) All bolts to be grade 8.8 and conform to BS EN 15048-1:2016 unless otherwise stated.

- 3. CORROSION PROTECTION SYSTEM**
- (i) All replacement steelwork to be hot dipped galvanised to BS EN ISO 1461 followed by suitable acid etching of surfaces to receive shop applied point protection.
 - 1. shop applied coat of Zinc Rich Epoxy Primer 40 microns DFT.
 - 2. 1 or 2 shop applied coats of High Build Epoxy MO (Micoceous Iron Oxide) 200 microns DFT.
 - 3. 1 shop applied coat of High Solid Aliphatic Polyurethane Finish 80 microns DFT.
 - (ii) All new Structural Steelwork to be further protected with shop applied point protection in line with the following specification or similar to be agreed with the Engineer prior to fabrication:
 - 1. shop applied coat of Zinc Rich Epoxy Primer 40 microns DFT.
 - 2. 1 or 2 shop applied coats of High Build Epoxy MO (Micoceous Iron Oxide) 200 microns DFT.
 - 3. 1 shop applied coat of High Solid Aliphatic Polyurethane Finish 80 microns DFT.
 - (iii) Existing Cast Iron Pile caps to be refurbished are to receive in-situ applied point protection. In-situ point to be an epoxy protective coating to 500 microns DFT or similar to be agreed with the Engineer prior to fabrication with compatible zinc rich primer.
 - (iv) Contractor to provide all manufacturers point specifications to the Engineer prior to fabrication.

- 4. WELDING**
- (i) Welding shall be in accordance with BS EN 1011. All welds shall be visually inspected and a representative sample shall be tested by Magnetic Particle Inspection to BS-EN-ISO 17638:2016. All defects shall be removed and made good. Sample rates to be confirmed by Engineer (refer to contract documents).
 - (ii) All welds to be 10mm fillet welds or full penetration butt welds all round joints unless stated otherwise.
 - (iii) All welds to be as shown on drawings. Ensure no pinholes or pits are left in weld area. All welds to be ground smooth.
 - (iv) All sharp corners to be rounded off to a radius of 2mm or more.

- 5. EXISTING SERVICES**
- (i) Extensive services and utilities exist under the deck of the pier. The contractor should allow for proprietary protection/relief of such services as appropriate and close liaison with the pier management. Note that the fire main is a pressurised system, requiring thrust block reactions.
 - (ii) Where new structural elements are to be installed around existing services due care and attention should be given to such services.

- 6. INSTALLATION OF NYLOC NUTS**
- (i) Where specified, nyloc nuts shall be used. Intersection clips and rail hoop clamps to be always fixed using nyloc nuts to prevent wave action loosening bolts.
 - (ii) Excessive torquing of nuts will damage nylon insert and reduce locking power. Avoid over-torquing.
 - (iii) Nyloc nuts MUST NOT BE RE-USED. Re-use results in reduced locking power due to re-stressing of nylon insert.

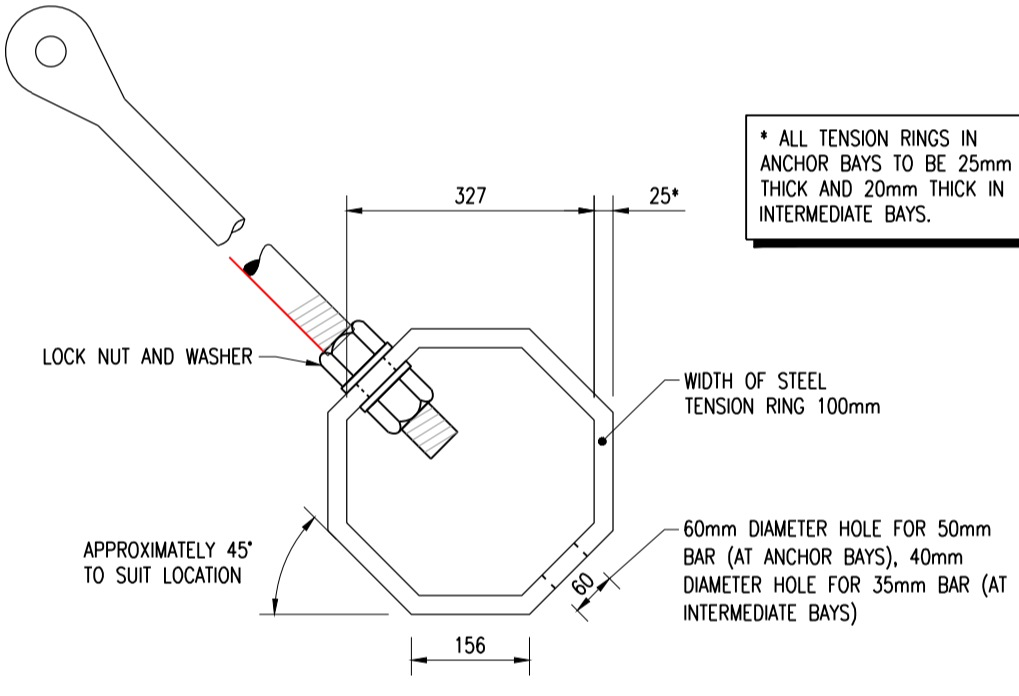
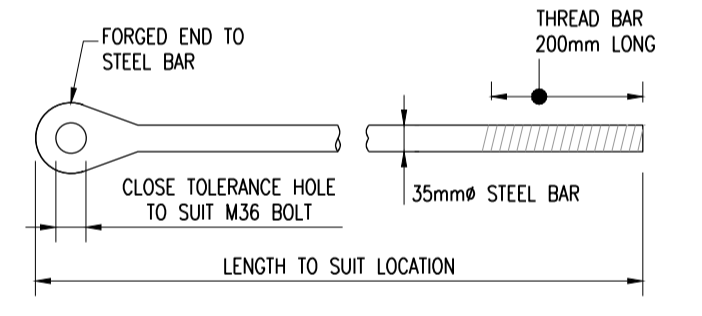
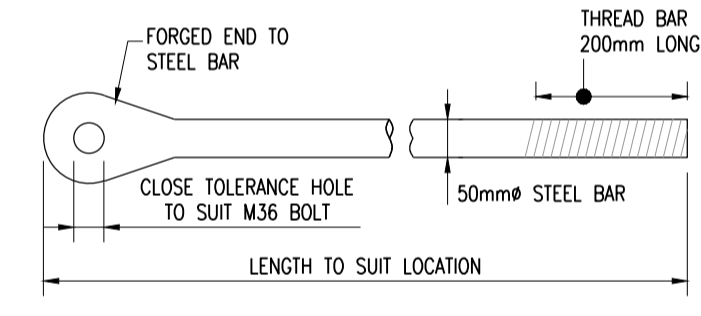
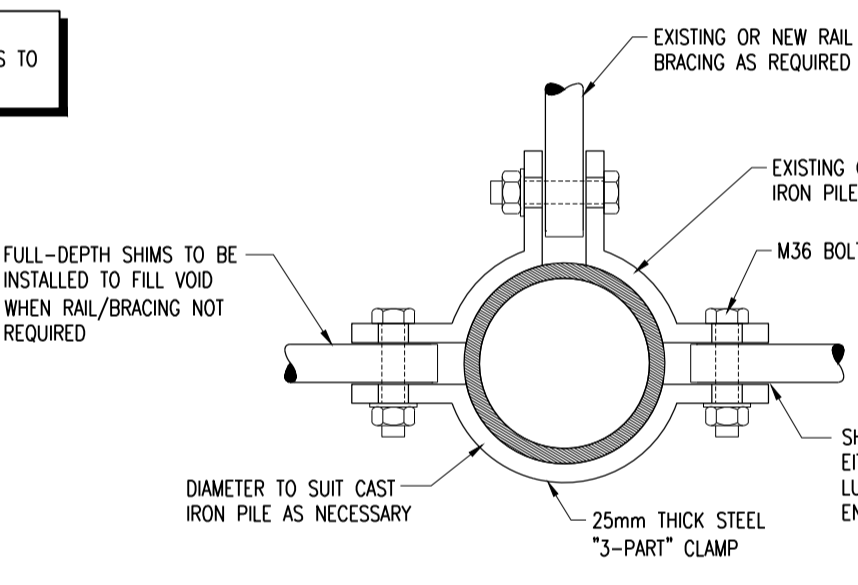
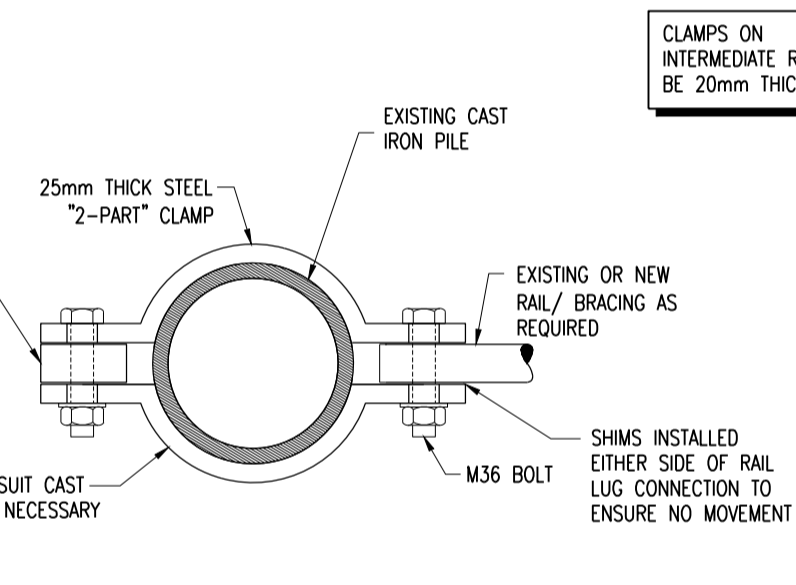
- 7. DIMENSIONS**
- (i) Site dimensions given are nominal only. Spans and depths of elements will be individual to each location of structural element.
 - (ii) The contractor is responsible for taking site dimensions to enable exact fabrication details to be produced. This drawing is indicative only and physical measurements must be taken with any significant discrepancies reported to the employers.
 - (iii) The contractor is responsible for cutting, fitting, welding connections and connecting new elements to existing adjacent elements.

- 8. TEMPORARY SUPPORT**
- (i) Temporary support to be designed and provided by the Contractor.
 - (ii) Public deck to remain open where safe to do so, loading details are provided in the tender document.

PROPOSED REFURBISHMENT OF LONGITUDINAL BRACING (ANCHOR BAY ELEVATION) (1:50)

PROPOSED REFURBISHMENT OF TRANSVERSE BRACING (ANCHOR BAY/ INTERMEDIATE BAY ELEVATION) (1:50)

TIE ROD DETAIL (1:5)



* ALL TENSION RINGS IN ANCHOR BAYS TO BE 25mm THICK AND 20mm THICK IN INTERMEDIATE BAYS.

EXACT DIMENSIONS TO BE CONFIRMED ON SITE TO SUIT NEW BRACING ARRANGEMENT

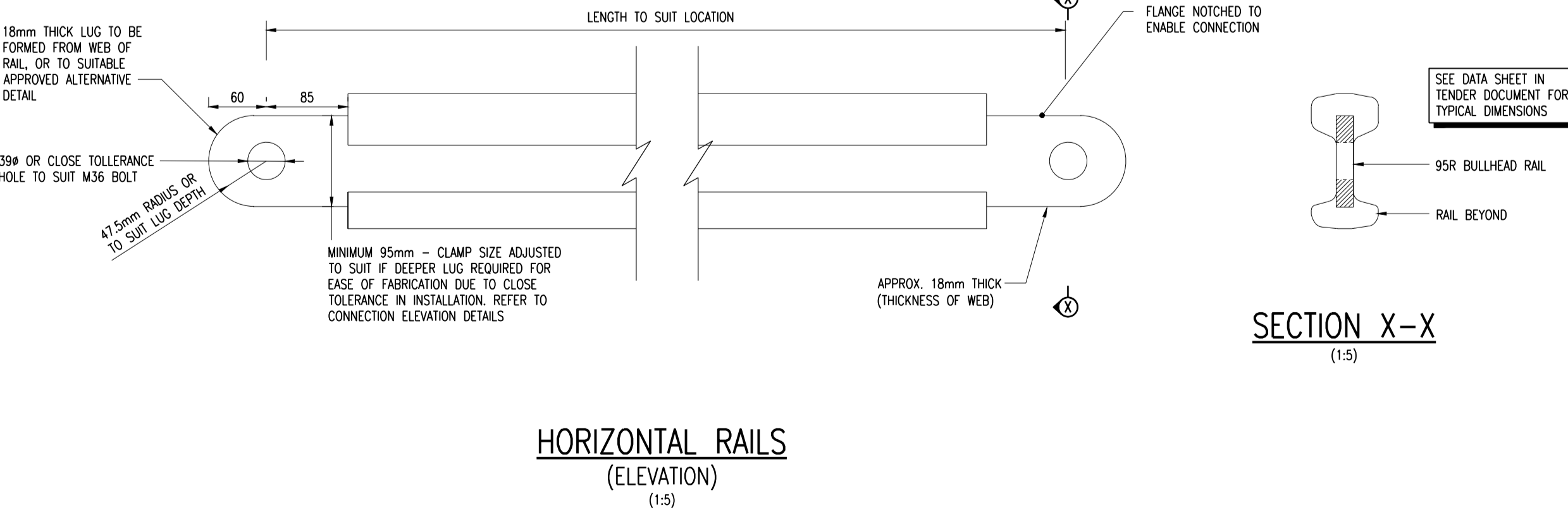
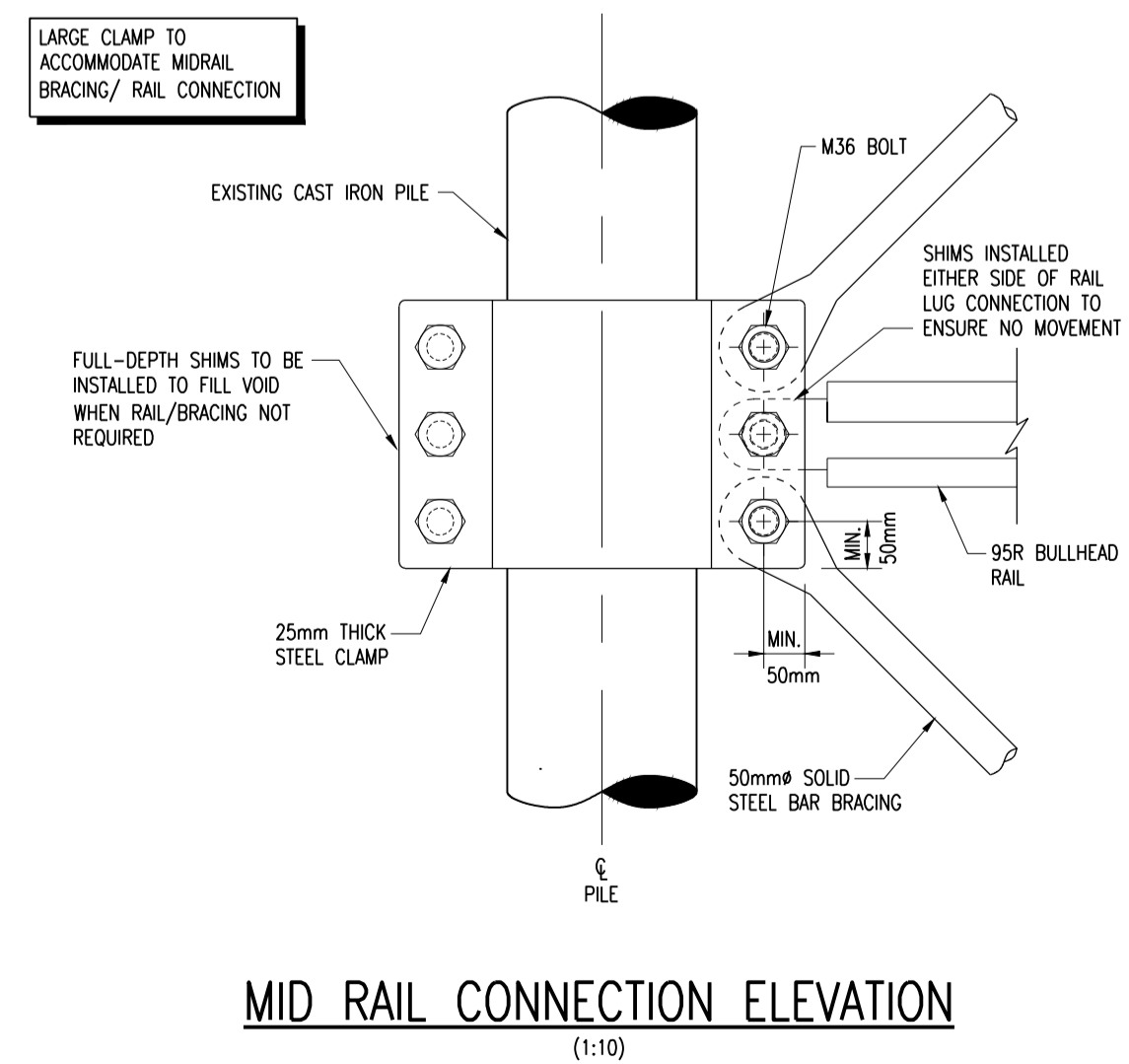
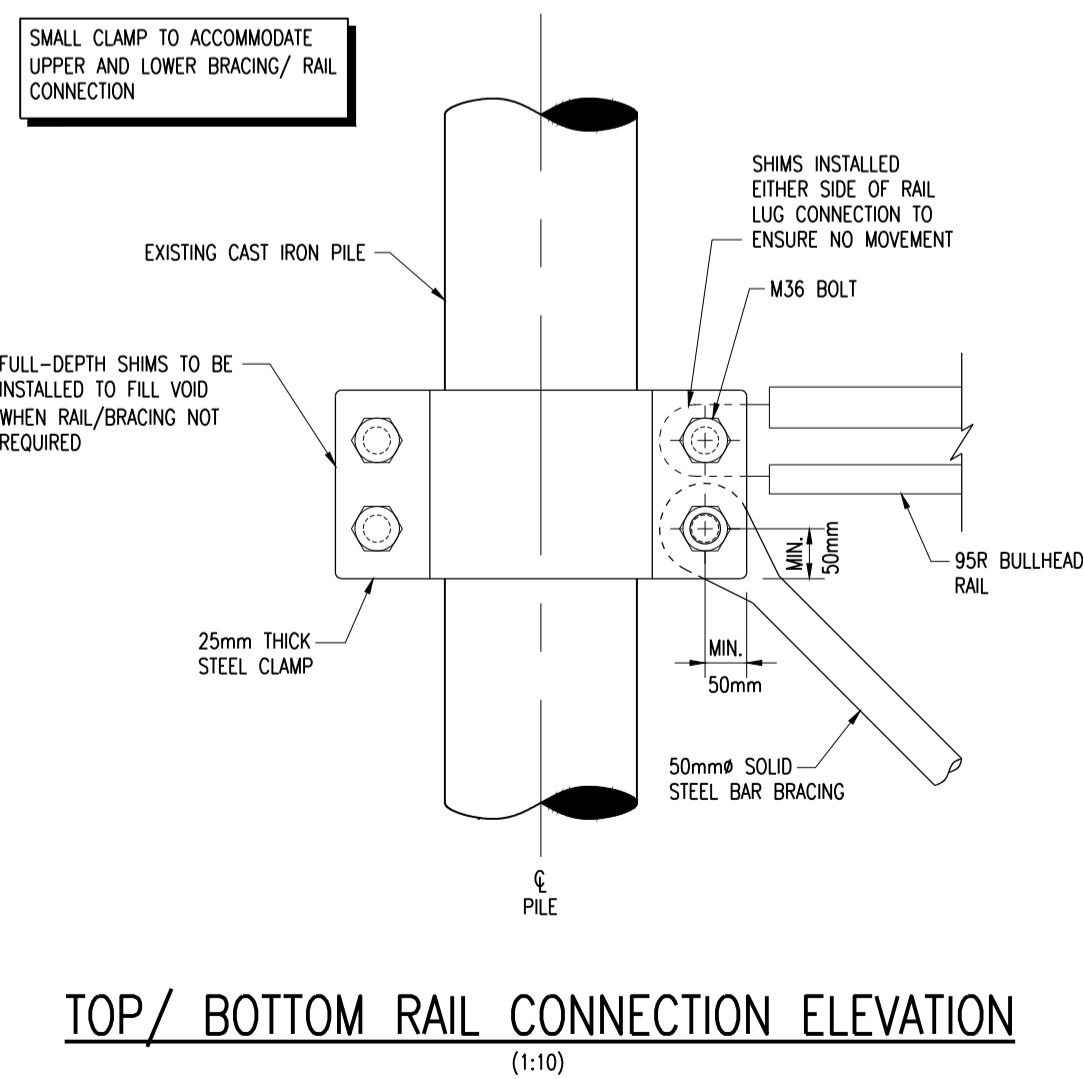
2-PART CLAMP PLAN (FOR 1 OR 2 RAIL/ BRACING CONNECTIONS) (1:10)

3-PART CLAMP PLAN (FOR 2 (AT RIGHT ANGLES), OR 3 RAIL/ BRACING CONNECTIONS) (1:10)

DIAGONAL BRACING (AT ANCHOR BAYS) (1:10)

DIAGONAL BRACING (AT INTERMEDIATE BAYS) (1:10)

TYPICAL TENSION RING DETAIL (INSERT AT ALL CROSS BRACING BAYS) (1:10)



SECTION X-X (1:5)

ISSUED FOR INFORMATION	L.S. N.C. 10.11.17	P2
ISSUED FOR INFORMATION	M.G. N.C. 30.10.17	P1
Description:	By	Apr'd. Date

ISSUED FOR INFORMATION

RAIL AND BRACING REPLACEMENT DETAILS

Project: **SOUTHEND PIER SUBSTRUCTURE REPAIRS LISTED BUILDING CONSENT 5 YEAR PLAN**

Client: **SOUTHEND-ON-SEA BOROUGH COUNCIL**

HOP CONSULTING CIVIL AND STRUCTURAL ENGINEERS

HOP House, 41 Church Road Hove, East Sussex BN3 2BE
www.hop.uk.com
ask@hop.uk.com
+44 (0)1273 223900

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