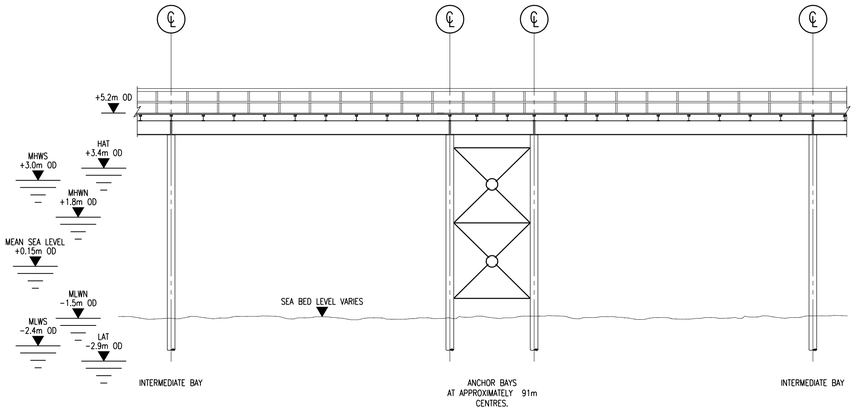
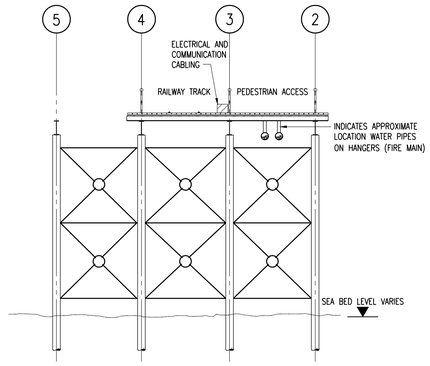
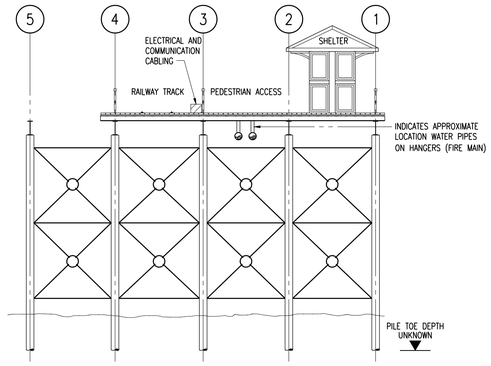


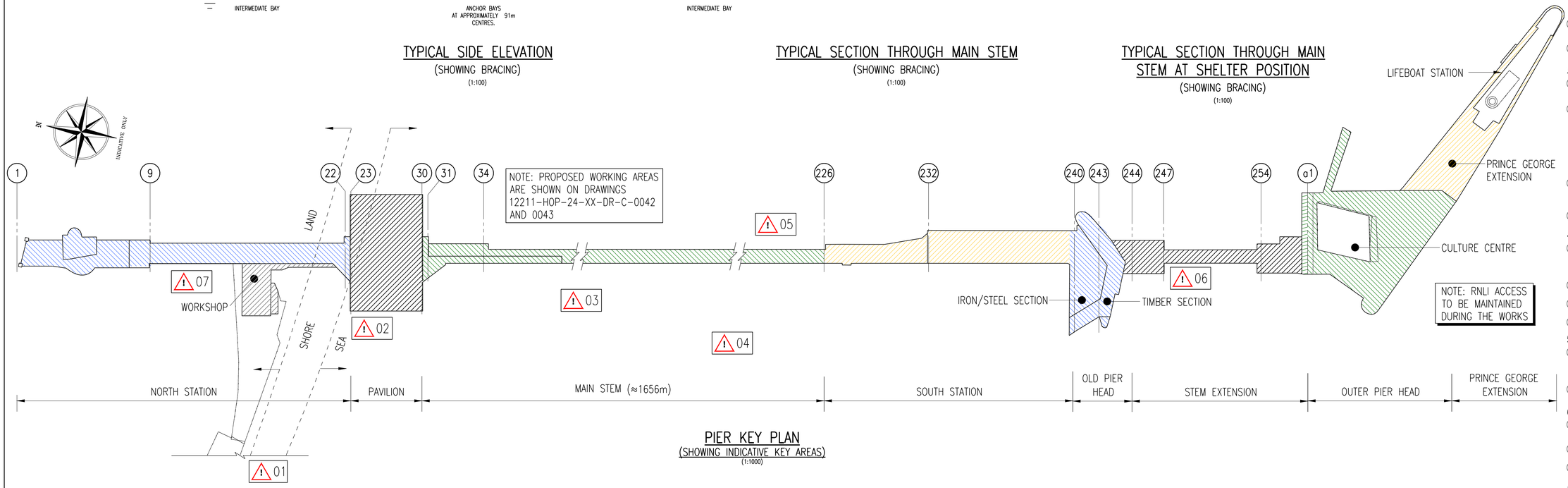
TYPICAL SIDE ELEVATION
(SHOWING BRACING)
(1:100)



TYPICAL SECTION THROUGH MAIN STEM
(SHOWING BRACING)
(1:100)



TYPICAL SECTION THROUGH MAIN STEM AT SHELTER POSITION
(SHOWING BRACING)
(1:100)



PIER KEY PLAN
(SHOWING INDICATIVE KEY AREAS)
(1:1000)

CONSTRUCTION HAZARDS:-

PRINCIPAL CONTRACTOR TO ENSURE HEALTH AND SAFETY PLAN HIGHLIGHTS THE FOLLOWING HAZARDS AS AN ABSOLUTE MINIMUM, AND INCLUDES MEASURES TO MITIGATE OR CONTROL RISK. REFER TO PRE-CONSTRUCTION INFORMATION FOR MORE DETAILS.

ACTIVITY, SITUATION OR OPERATION	HAZARDS IDENTIFIED
Working at height	Fall from height. Falls from platforms. Materials and tools falling from height. Overturning of mobile access towers etc.
Working over water	Falls from height into water. Drowning or pneumonia from falling into water.
Working on the foreshore	Some rails and bracing can be done from land. Reference Quicksand, tidal waters, and fast currents.
Working in exposed conditions	Wind moving materials or plant on the deck. Slippery conditions underfoot. Wave submersion/ overtopping (sub deck level). Adverse weather.
General public	Public will be able to access the site the majority of the time. Contractor to provide boundaries and secure areas.
Working near hidden services (on deck, under deck)	Rupturing of water pipes (some pressurised) causing damage. Cutting above or below deck (HV) power cables and telecommunications. Rupturing of drains etc. causing health hazard. Electrocution. Asphyxiation
Ground conditions	Unstable and uneven ground. Potential for quicksand. Contaminated ground.
Existing structure	Instability of old piles. Instability of old rails/ bracing.
Erection of steel structures	Fall from height. Structural collapse in the temporary condition. Lifting appliance overturning. Contact or damage to services and adjacent structures. Fall from height. Structural collapse in the temporary condition. Lifting appliance overturning. Contact or damage to services and adjacent structures.

ACTIVITY, SITUATION OR OPERATION	HAZARDS IDENTIFIED
Use of trestles and trestle scaffold	Falls from platforms. Materials falling from platforms. Collapse of trestle platforms. Submersion/wave impact (sub deck level).
Cartridge operated tools	Negligent discharge projectile/missfire. Eye injury from premature firing, fragmentation. Ricochet of fastener or fixing devise. Recoil throwing operative off balance.
Use of woodworking machines	Injury from use or handling materials. Personnel falling.
Lifting/Craning operations	Lifting objects over public areas. Accidental load shedding/unplanned impact. Crushing injuries to personnel. Equipment overturning/outriggers overloading deck.
Storage and use of flammable liquids	Injury by fire or explosion. Structural damage from fire. Property destroyed by fire or explosion.
Hot works	Avoid or manage accordingly.
General work on Southend Pier	Working close to an existing live train track. Pneumonia and Hepatitis from Guano accumulation. Falling through existing deck hatch openings. Presence of rats, seagulls, pigeons (Weil's disease).
Gas Mains	Live Gas Mains are located in the Museum, Cafe and Workshop.

ENVIRONMENTAL CONSIDERATIONS:-

- PRINCIPAL CONTRACTOR METHOD STATEMENTS TO INCORPORATE MEASURES TO ENSURE COMPLIANCE WITH REGULATIONS IMPOSED BY ENVIRONMENTAL SITE CLASSIFICATIONS.
- SITE EXTENDS OVER AN SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI) (SOUTHEND FLATS)
- SITE IS A RAMSAR SITE.
- SITE IS IN A SPECIAL PROTECTION AREA (SPA). THE BEACH FORESHORE IS THEREFORE SUBJECT TO THE CONSERVATION (NATURAL HABITATS) REGULATIONS AND THE WILDLIFE AND COUNTRYSIDE ACT.

HAZARD KEY

1 – Busy cycle and pedestrian route as well as vehicle access to pier car parks.

2 – Public access below the pier.

3 – Pier will remain open to public during the majority of works (refer to seasonal opening hours times).

4 – Quicksand, extremely fast incoming tides, and high currents.

5 – Working under the per is hazardous and specialist access may be required.

6 – Additional hazards include weather conditions and working over water.

7 – Gas service mains in the museum, office and workshop.

LEVELS

DESCRIPTION	LEVEL ABOVE ORDINANCE DATUM
APPROX DECK LEVEL	5.2m*
HAT	3.4m
MHWS	3.0m
MHWN	1.8m
MLWN	−1.5m
MLWS	−2.4m
LAT	−2.9m
* LEVEL VARIES AT REBUILT PIER HEAD	

TIDE LEVELS TAKEN FROM ADMIRALTY TIDES TABLE 2017

Project/Task No. 12211/24 Scale: AS SHOWN ORIGINAL DRAWING SIZE A1

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 ordinance 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 S355J0 unless otherwise noted. All to standards BS EN 10025-1:2004.

(ii) All structural steelwork shall comply with the latest addition 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 (MIN 85µm PER FACE)

(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 paint protection.

(ii) All new Structural Steelwork to be further protected with shop applied paint protection in line with the following specification or similar to be agreed with the Engineer prior to fabrication:

1. 1 shop applied coat of Zinc Rich Epoxy Primer 40 microns DFT.
2. 1 or 2 shop applied coats of High Build Epoxy MIO (Micaceous 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 paint protection. In-situ paint 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 paint specifications to the Engineer prior to fabrication.

4. WELDING

(i) Welding shall be in accordance with B.S EN 1011. All welds shall be visually inspected and a representative sample shall be tested by Magnetic Particle Inspection to BS-EN-ISO 1763.8:2016. 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/isolation 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 discrepencies 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.

Description	By	Aprvd.	Date	Rev.
ISSUED FOR TENDER	LS	N.C	10.11.17	P1

ISSUED FOR INFORMATION

Title: GENERAL ARRANGEMENT AND TYPICAL SECTIONS

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

Client: SOUTHEND-ON-SEA BOROUGH COUNCIL

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Drawing No. 12211-HOP-24-XX-DR-C-0041 Status: D2 Rev. P1

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1:20 0 0.2m 0.4m 0.6m 0.8m 1m
1:50 0 0.5m 1m 1.5m 2m 2.5m
1:100 0 1m 2m 3m 4m 5m

P:\PROJECTS\12211 Southend Pier\Task 24 Substructure Works 2017-2019\Drawings\LBC Application\12211-24-41.DGN31 NEW LBC GA Sections & Details Lily Stephenson