

River Neath Crossing

Band 1 License Application

South Wales Trunk Road Agent

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Quality information

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1. Introduction

This document has been prepared by AECOM to support an application to Natural Resources Wales for a Band 1 Marine License. AECOM is proposing to undertake repair works to the River Neath Crossing in Port Talbot. Whilst no direct works will take place in the marine environment, there is potential for works to result in accidental releases into the river, which is tidal at this point (i.e. below Mean High Water Springs (MHWS)) and within the region for which a Marine Licence is required.

1.1 Project Location

The proposed works will take place along the M4 River Neath Crossing (grid reference 273295E, 193956N) and its underslung walkway. **Figure 1** indicates the location of the crossing and planned works.

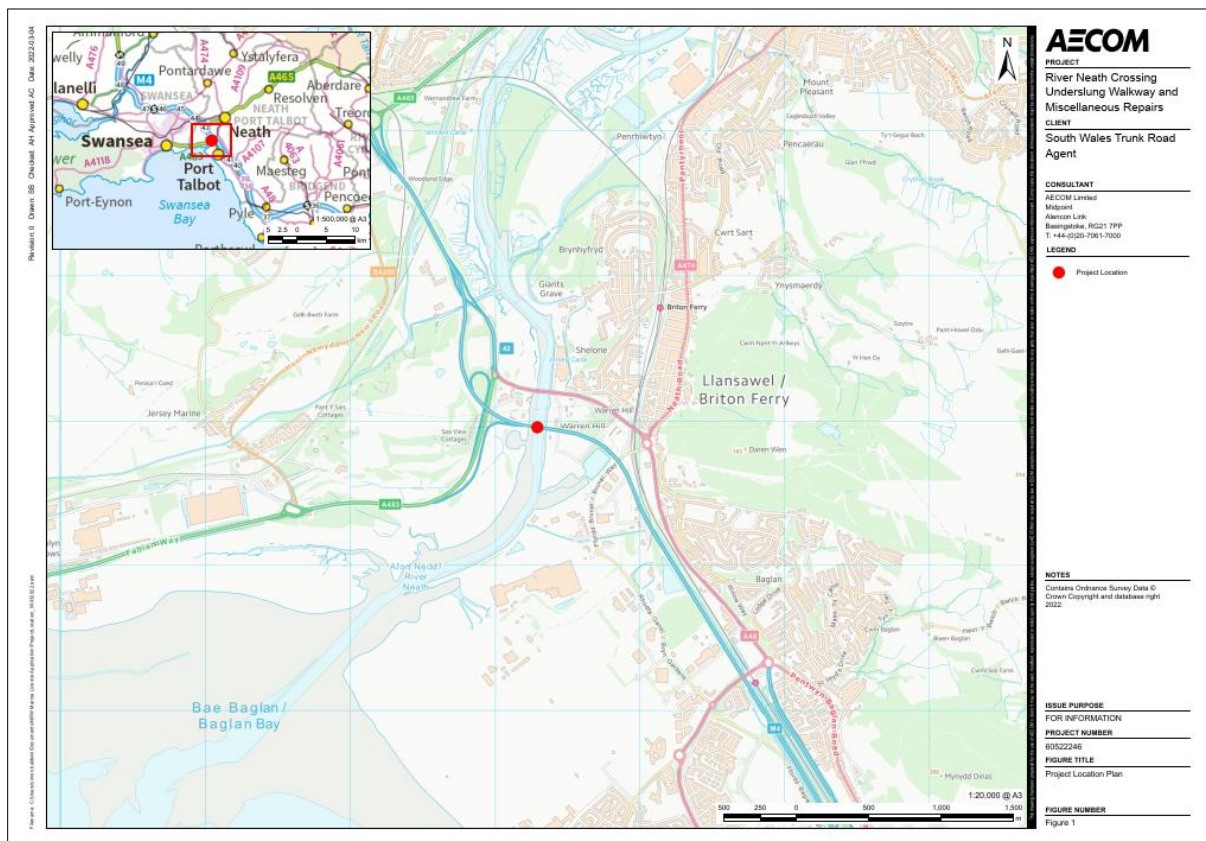


Figure 1: Location of the proposed works for the M4 River Neath Crossing.

1.2 Background

The M4 River Neath Crossing was constructed around 1994 and consists of several different numbered structures. Structure No. 6 is the section which crosses the river. It has an overall length of 396 m, with seven spans arranged as per **Table 1**.

Table 1: Arrangement, location, and length of structure No.6 crossing spans

Span No. (west to east)	Location	Length (m)	Crosses River Neath
1	West abutment (Pier 1) to Pier 2	49	No
2	Pier 2 to Pier 3	49	No
3	Pier 3 to Pier 4	56	Yes- Spans over River Neath (Pier 4 is located within river)
4	Pier 4 to Pier 5	100	Yes - Spans over River Neath (Pier 4 is located within river)
5	Pier 5 to Pier 6	56	No
6	Pier 6 to Pier 7	43	No
7	Pier 7 to Pier 8	43	No

Structure No. 6 is comprised of a 7-span steel and concrete composite superstructure (i.e. deck, girders, and bearings), consisting of eight fabricated girders and a reinforced concrete deck supported on reinforced concrete columns/piers and an abutment at its west end (see Appendix 1). There are eight access walkways slung under the bridge which run along the side of the main girders (see Appendix 2).

The underslung walkways consist of open grid galvanised steel flooring, which is supported by an angle welded to the main girder and a longitudinal beam (see Appendix 2). The longitudinal beam is supported from steel channel and tee sections which cantilever from the main girder web stiffeners and the main girder cross bracing, supported by bolted connections. A tubular handrail system runs along the edge of the walkways.

2. Planning and Policy Appraisal

The key policy that relates to the project is the Marine and Coastal Access Act 2009. This act provides a framework for marine management and the licensing of activities in the UK. It states that 'no person may carry on a licensable activity' within the UK marine area. This area consists of:

- *The area of sea within the seaward limits of the territorial sea adjacent to the United Kingdom;*
- *Any area of sea within the limits of the exclusive economic zone; and,*
- *The area of sea within the limits of the UK sector of the continental shelf.*

Sea refers to 'any area submerged at mean high water spring tide' and 'the waters of every estuary, river, or channel, so far as the tide flows at mean high water spring tide.'

Among the list of licensable activities is the construction, alteration, or improvement of any works within the UK marine licensable area either in or over the sea, or on or under the seabed. Given the location of the project, the proposed works fall under this legislation as activities will be conducted over a portion of the River Neath, which is included as a marine area.

3. Methods

3.1 Overview

Upon pre-application advice from Natural Resources Wales (email correspondence with Marine Licensing team 11/02/22 – 21/02/22), AECOM is submitting a Band 1 Application for the access walkways under the bridge to receive the following repairs:

- Replace all gratings and clips with galvanised steel on a like for like basis
- Clean and paint all areas of localised paint loss to the handrails (or like for like replacement if corrosion is too extensive)
- Replace pins to the toe-boards at the base of the handrail posts
- Replace bolts at the base of the handrail posts
- Repair seepage from service ducts
- Repair defective downpipe sections
- Install flashing below expansion joint at Pier 6
- Clean and paint all angle supports welded to main girder web
- Replace missing signage

3.2 Project Description

The underside of the superstructure will be accessed by the existing access at the west abutment (>90 m from River Neath) or from access scaffolding constructed adjacent to one of the piers to the east of the River Neath (>15 m from River Neath).

It is proposed that the works will progress along each span consecutively from the chosen access point. Proposed works at each span would be as follows:

1. Install temporary access platforms between, and supported from, the main girders with an overlaying textile membrane to contain any debris from the works and prevent them from falling into the river below.
2. Remove the existing walkway involving the removal of bolts using a wrench.
3. Prepare areas of corrosion or unsound paint in the vicinity of the walkway by scraping and abrading to either sound paint or metal finish. Abrading shall be carried out using abrasive paper or other material or a flexible abrasive disc mounted on a power drive flexible pad or similar mechanical equipment.
4. Apply new paint protection system using brush application.
5. Replace corroded toe-board pins and bolts on the handrail posts.
6. Install new walkways.
7. Undertaking any other miscellaneous works in the span, e.g., duct and drainage repairs.
8. Remove membrane/textile and deposit off site (with any contaminants).
9. Remove access platforms and move to next span where the works described in points 1-8 above are repeated.

3.3 Measures taken to minimise risk

The following measures have been taken to minimise risk:

- 1) Installation of a work platform with a textile membrane to provide a barrier between the works and the River Neath and land below the bridge.

- 2) Specifying the use of abrading of existing paint work rather than grit blasting to minimise debris.
- 3) Specifying brush applied paint system.

3.4 Measures to be taken to prevent undue interference to others

Works are being undertaken to the underside of the existing structure, with access from land owned by the Welsh Government to which there is no right of public access. As the majority of the works are to the underside of the structure there will be minimal disturbance to people or traffic using the bridge or surrounding area.

Traffic management on roads beneath the structure will be required to enable installation and removal of the working platforms but this will be of short duration and will not prevent access.

Short duration land closures will be required on the M4 motorway to facilitate the works. These will be planned to minimise disruption to the road user.

3.5 Measures to be taken to maintain navigational safety, including marking and lighting of works

No works will be carried out within the river itself, so it is not anticipated that navigational aids will be impacted. Works will also be contained within the existing structure meaning that navigation is unaffected.

4. Existing Environmental Conditions

The River Neath extends through south Wales from its headwaters in Brecon Beacons National Park to the sea at Baglan Bay, on east side of Swansea Bay. The river benthos beneath the proposed works are primarily composed of littoral mud, littoral sand, muddy sand, and rocky intertidal reef (EUNIS 2007; Wales Marine Planning Portal, n.d.). The sand and mud habitats are protected under the Annex 1 UK BAP habitats, 'sandflats and mudflats not covered by seawater at low tide.' North and south of the proposed works (<200 m), these habitats give way to salt marshes.

4.1 Designated Sites

The project site does not overlap with any sites designated to protect features in the marine environment; however, it occurs adjacent to the Earlswood Road Cutting and Ferryboat Inn Quarries Site of Special Scientific Interest (SSSI), designated for geological features (Countryside Council for Wales 1997), and 1.02 km away from the Crymlyn Burrows SSSI, which has been designated for various plant species (Figure 2; Countryside Council for Wales 1987). Two additional SSSIs were identified within the vicinity of the project, with Pant-y-sais located at 1.4 km, designated for fenland communities (Countryside Council for Wales 1983) and Cors Crymlyn/Crymlyn Bog located 2.1 km away, which has been designated for a variety of terrestrial features including birds, insects, woodland, and various plant species (Countryside Council for Wales 2003).

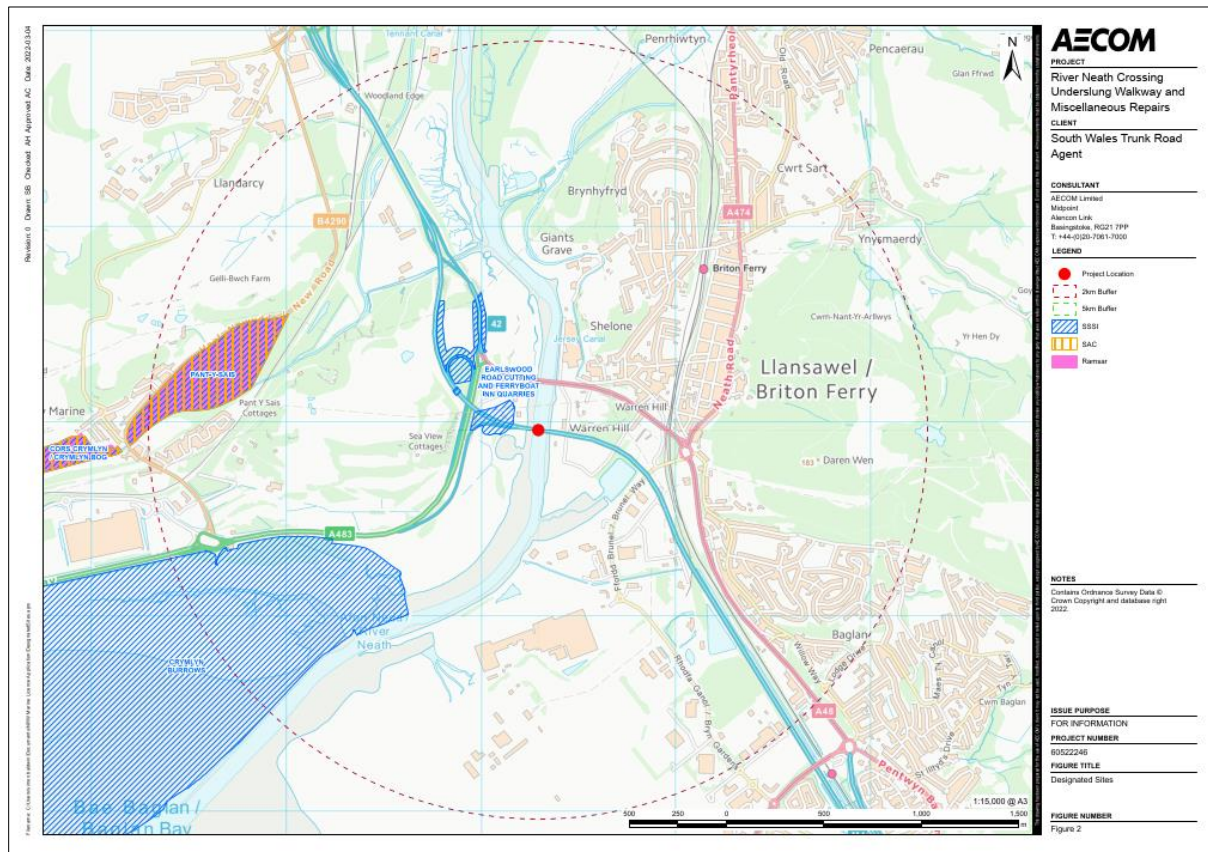


Figure 2: Proximity of designated sites to project location.

5. Impact Assessment

As there will be no direct works in the river, and substantial mitigation is embedded in the project methods to capture any works debris; as such, direct impact to the marine environment is highly unlikely. The risk of accidental spillage and release of pollutants has been appraised as negligible, given the mitigation measures adopted by the project to minimise risk. It is therefore considered that there will be no adverse effect to the River Neath because of the works.

6. Summary

Works are proposed to the M4 River Neath Crossing in Port Talbot and its underslung walkway. Planned works include replacement of gratings, clips, pins, bolts, and signage as well as repair of defective downpipes and painting of handrails and angle supports.

The works are not expected to impact the marine environment as there are no direct works in river, only above. A work platform will be installed below the structure, with material to collect any works debris, to provide a barrier between the works and the river. Due to the nature of the works and the location of the nearest designated sites, no designating features are expected to be impacted.

7. References

Countryside Council for Wales (1983). Site of Special Scientific Interest Citation: Neath Port Talbot Pant-Y-Sais. Natural Resources Wales.

Countryside Council for Wales (1987). Site of Special Scientific Interest Citation: Neath Port Talbot Crymlyn Burrows. Natural Resources Wales.

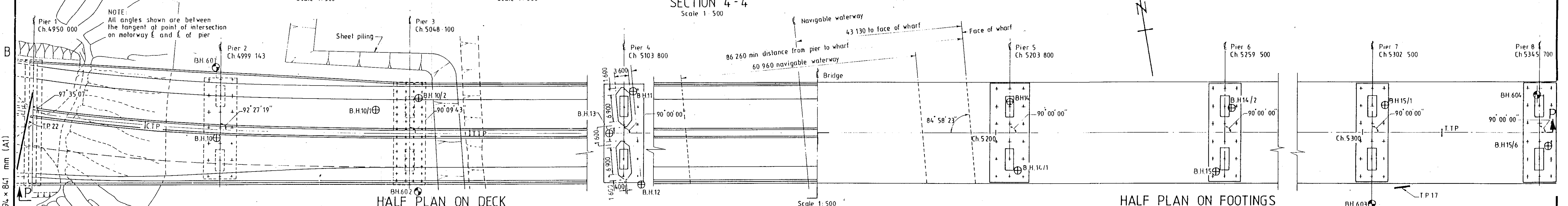
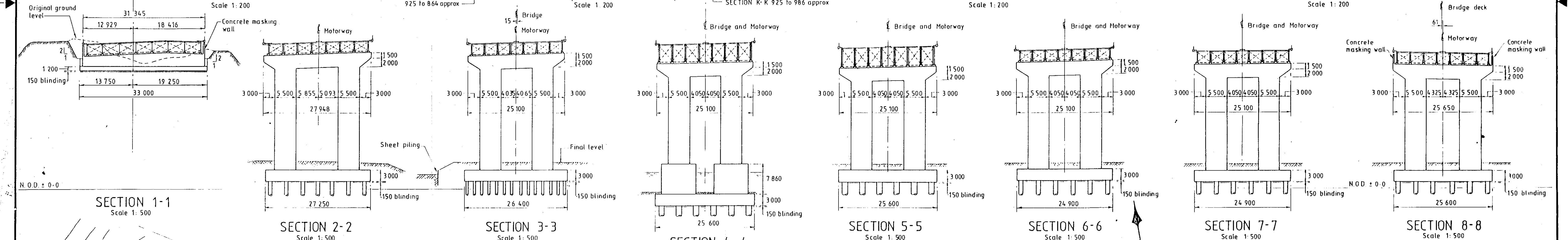
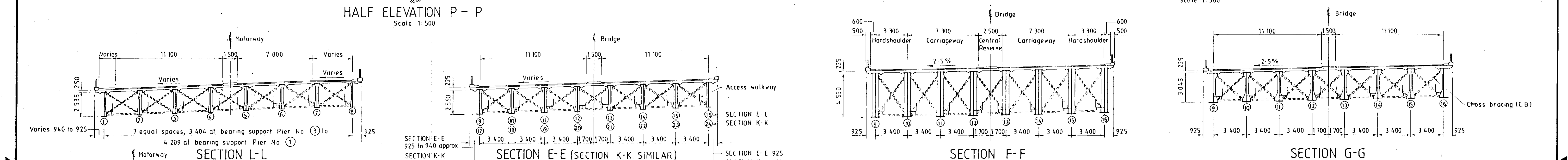
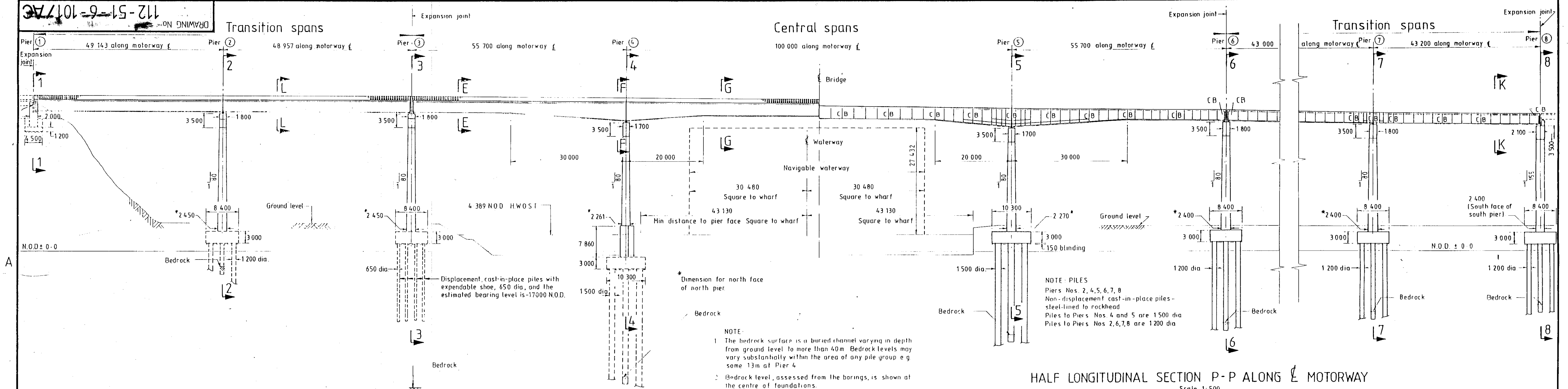
Countryside Council for Wales (1997). Site of Special Scientific Interest Citation: Neath Port Talbot Earlswood Road Cutting and Ferryboat Inn Quarries. Natural Resources Wales.

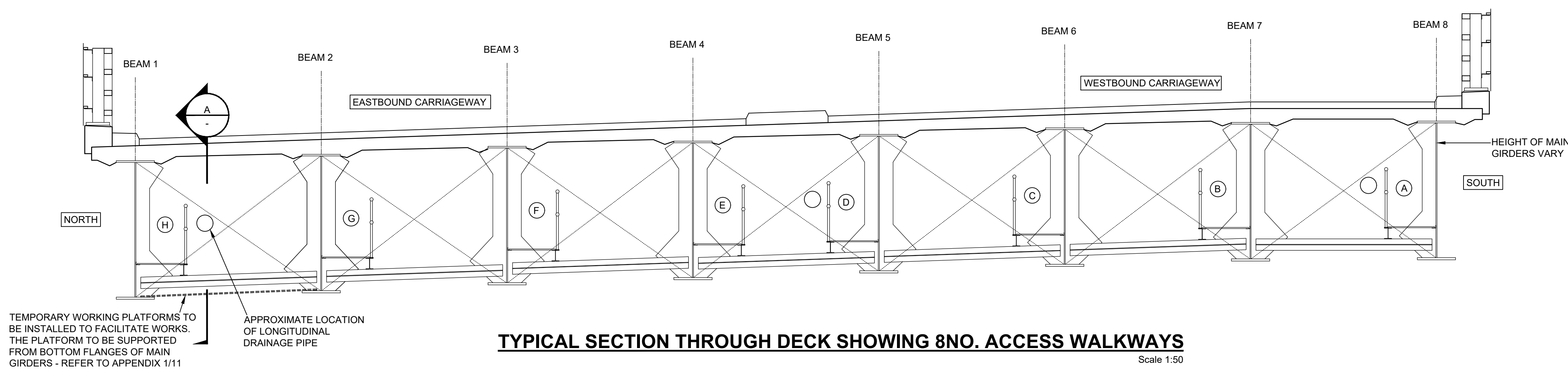
Countryside Council for Wales (2003). Site of Special Scientific Interest Citation: Swansea Neath Port Talbot Crymlyn Bog. Natural Resources Wales

EUNIS 2007. Habitat classification. European Environment Agency. Available at: <https://www.eea.europa.eu/data-and-maps/data/eunis-habitat-classification/habitats/eunis-habitats-complete-with-descriptions.xls>

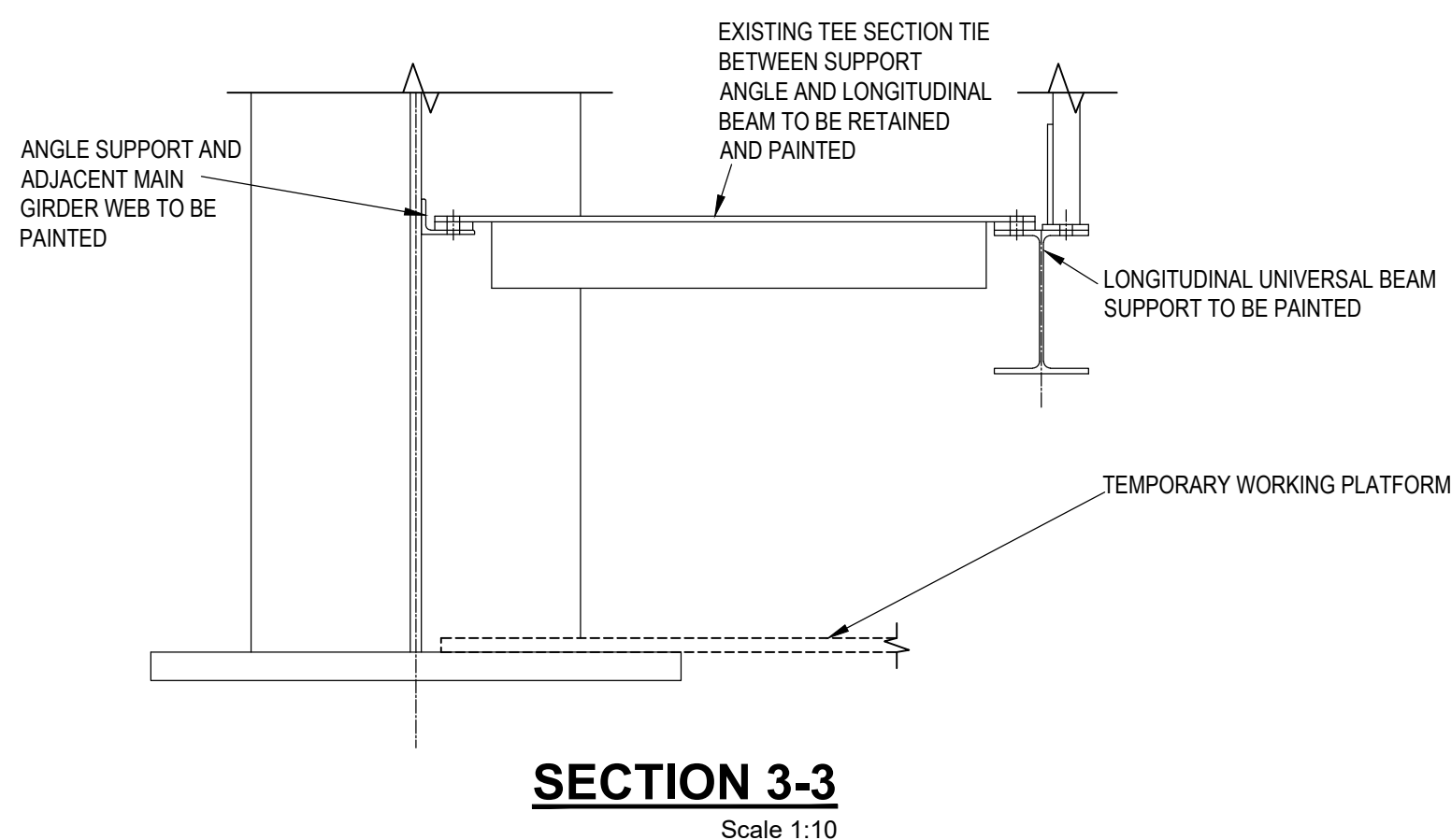
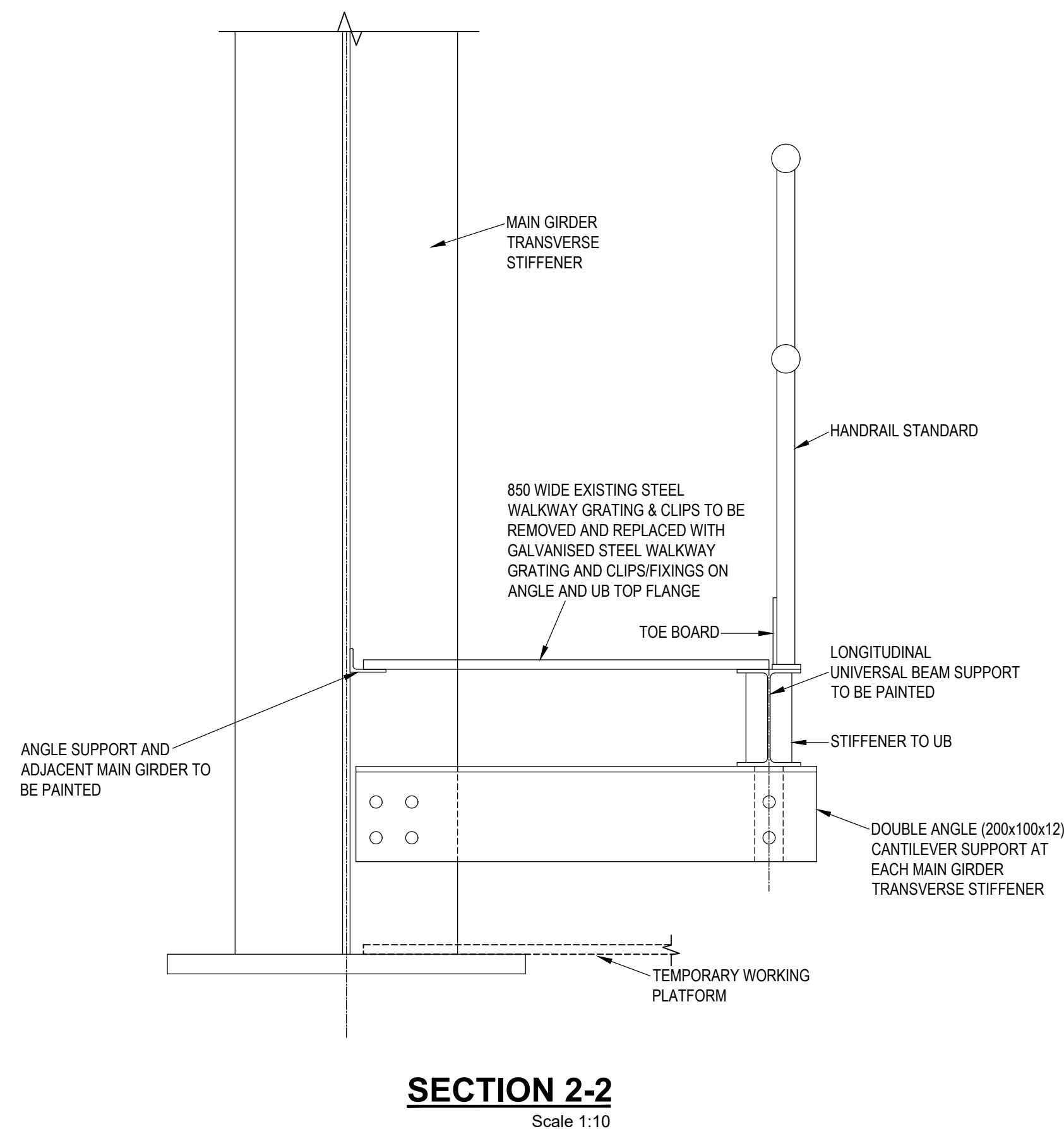
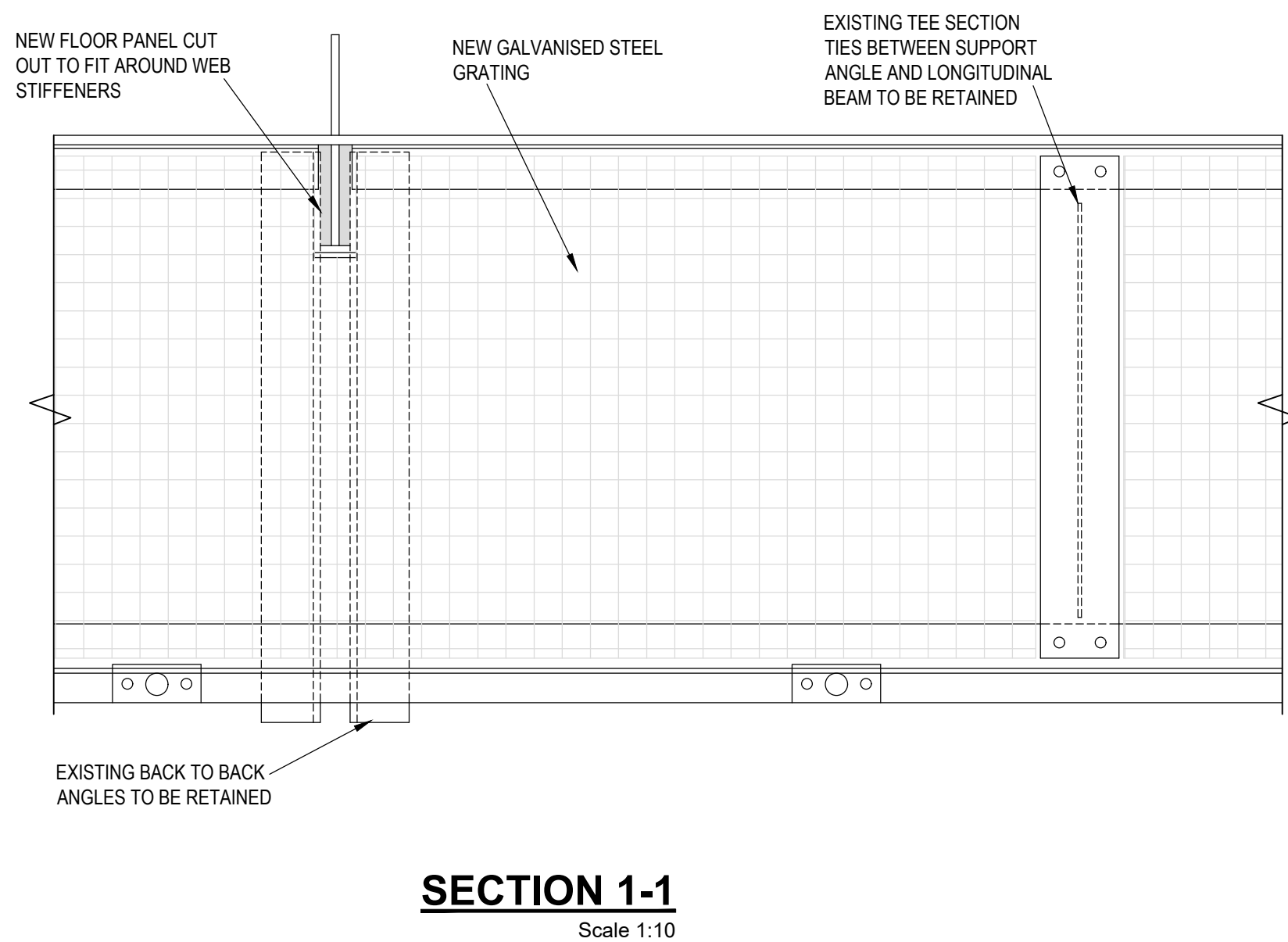
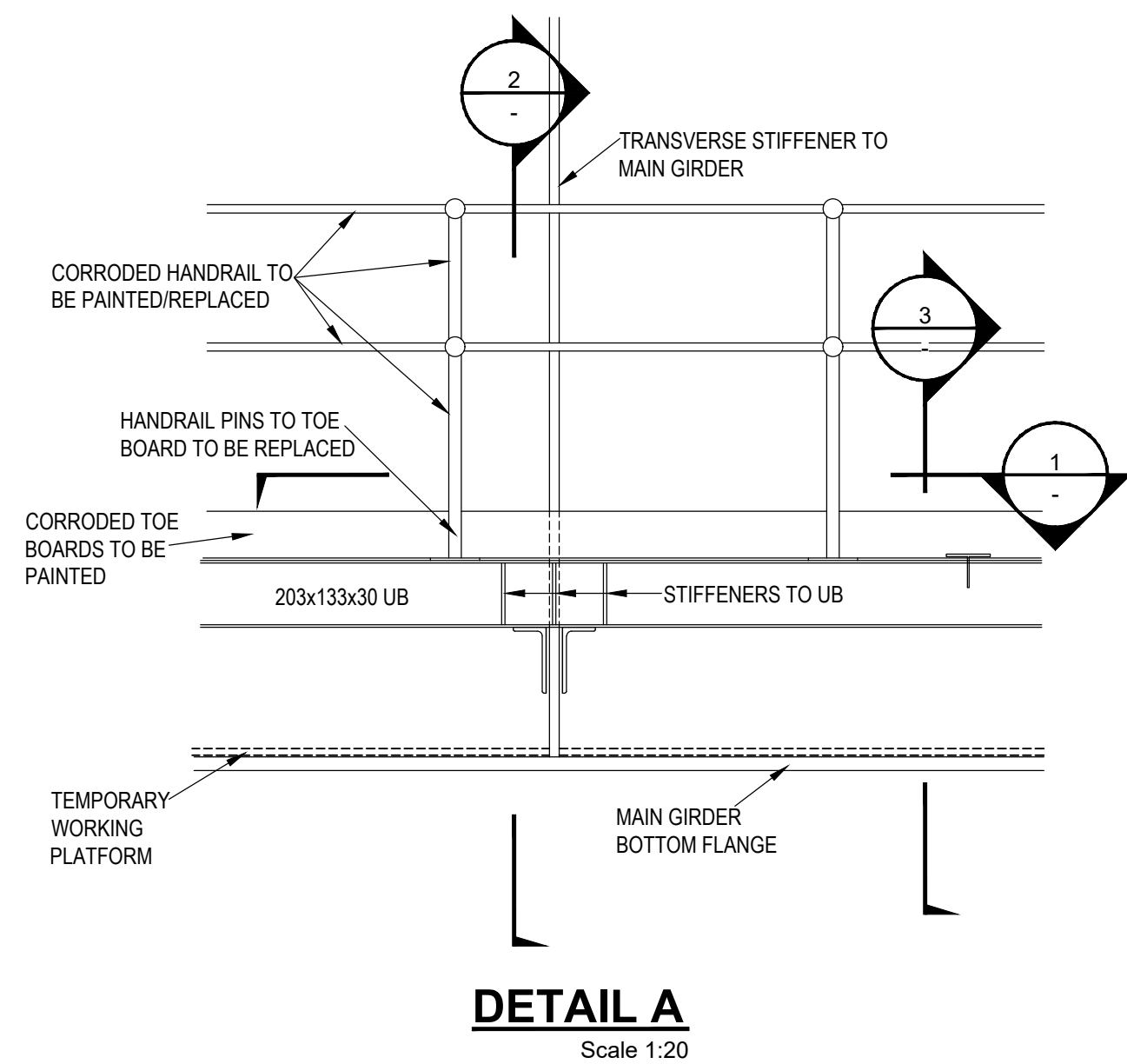
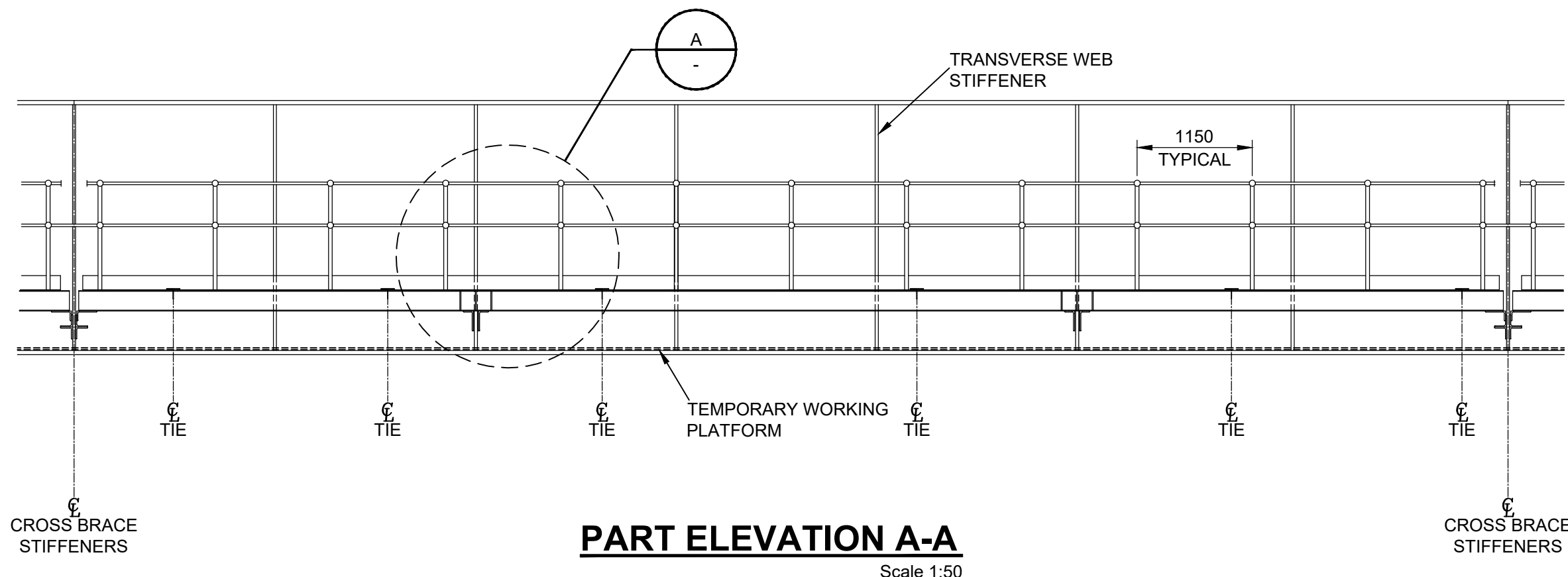
Wales Marine Planning Portal (No Date). Welsh Government. Available at: <http://lle.gov.wales/apps/marineportal/#>

8. Appendices





REF	RESIDUAL HAZARD	SITE MEASURES TO ADDRESS HAZARD
1	WORKING AT HEIGHT AND OVER WATER	SAFETY HARNESSES TO BE WORN WORK ACCESS PLATFORM TO BE USED ALL EQUIPMENT AND MATERIALS TO BE SECURED TO PREVENT FALLING CONSIDER USE OF SAFETY BOAT AS APPROPRIATE DURING PARTICULAR OPERATIONS
2	CORROSION AFFECTING LOAD CARRYING CAPACITY	THE EXISTING WALKWAYS ARE NOT TO BE USED DURING THE WORKS UNTIL THE WALKWAY GRATINGS ARE REPLACED
3	DROPPING MATERIALS DURING CONSTRUCTION	TRAFFIC MANAGEMENT AND FENCING TO BE INSTALLED ON ROADS BELOW STRUCTURE IN SPAN 1 & 6 WHEN TEMPORARY ACCESS PLATFORMS ARE BEING INSTALLED/REMOVED
4	ENVIRONMENTAL IMPACT (CONTAMINATION)	PROTECTION TO BE IN PLACE TO CONTAIN PAINT PROTECTION WORKS
5	ENVIRONMENTAL IMPACT (BATS)	BAT SURVEY TO BE UNDERTAKEN PRIOR TO THE WORK PROGRESSING



IN ADDITION, THE FOLLOWING ELEMENTS NEED REPAIRED/REPLACED.
ADDITIONAL TEMPORARY WORK PLATFORMS MAY BE REQUIRED TO ACCESS
DOWNPIPES AND EXPANSION JOINTS.

SPAN	WALKWAY	DEFECT	REPAIRS
1	D	THROUGH THICKNESS CORROSION OF DRAINAGE	REPLACE PIPE SECTION - REFER TO APPENDIX 5/70AR
1	A	DOWNPIPE SEEPAGE	GROUTING PIPE ANNULUS - REFER TO APPENDIX 5/70AR
3	A	SEEPAGE FROM SERVICE TROUGH	SEALANT IN DUCT - REFER TO APPENDIX 5/70AR
3	H	SEEPAGE FROM SERVICE TROUGH	SEALANT IN DUCT - REFER TO APPENDIX 5/70AR
3 (PIER 3)	G	MISSING SIGNAGE	REPLACE MISSING SIGN - REFER TO APPENDIX 12/1
4	D	THROUGH THICKNESS CORROSION OF DRAINAGE	REPLACE PIPE SECTION - REFER TO APPENDIX 5/70AR
5 (PIER 6)	ALL	EXPANSION JOINT SEEPAGE	INSTALL FLASHING BENEATH EXPANSION JOINT - REFER TO APPENDIX 23/70AR
5 (PIER 6)	H	THROUGH THICKNESS CORROSION OF DRAINAGE	REPLACE PIPE SECTION - REFER TO APPENDIX 5/70AR
5	D	THROUGH THICKNESS CORROSION OF DRAINAGE	REPLACE PIPE SECTION - REFER TO APPENDIX 5/70AR

LOCATION DETAILS
SPAN 1 - WEST
SPAN 7 - EAST
WALKWAY A - SOUTH
WALKWAY H - NORTH



NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION.
2. DO NOT SCALE FROM THIS DRAWING. USE ONLY PRINTED DIMENSIONS.
3. ALL DIMENSIONS IN MILLIMETRES. ALL CHAINAGES, LEVELS AND COORDINATES ARE IN METRES UNLESS DEFINED OTHERWISE.
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE PROJECT HEALTH & SAFETY FILE FOR ANY IDENTIFIED POTENTIAL RISKS.
5. THE LONGITUDINAL DIMENSIONS OF THE WALKWAY BEAMS AND POSITIONS OF SUPPORTS VARY ALONG THE RIVER NETH CROSSING.
6. REFER TO RECORD DRAWINGS 112-51-6-101, 301 TO 306 & 636 TO 641 FOR FURTHER INFORMATION RELATED TO PROPOSED WORKS INCLUDING EXISTING DIMENSIONS.
7. THE EXTENT OF THE REPAIRS INCLUDING PAINTING WILL BE DETERMINED FOLLOWING DEFECT SURVEY UNDERTAKEN BY THE CONTRACTOR.

ISSUE/REVISION

B	11/02/2022	DETAILED DESIGN
A	08/10/2021	AIP ISSUE
I/R	DATE	DESCRIPTION

PROJECT

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