

A465 River Clydach Bridge

Water Framework Directive Screening Report

Alun Griffiths (Contractors) Ltd

61593

August 2026





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List of Abbreviations

Abbreviation	Full Description
AGC	Alun Griffiths (Contractors)
CEMP	Construction Environmental Management Plan
GES	Good Ecological Status
GEP	Good Ecological Potential
GIS	Geographic Information System
INNS	Invasive Non-Native Species
MMO	Marine Management Organisation
NRW	Natural Resources Wales
OS	Ordnance Survey
PEA	Preliminary Ecological Appraisal
RAMS	Risk Assessments and Method Statements
WFD	Water Framework Directive
WBID	Waterbody Identification Number

EXECUTIVE SUMMARY

This Water Framework Directive (WFD) Screening Assessment has been prepared by TACP (UK) Ltd to support the proposed maintenance and strengthening works to the A465 River Clydach Underbridge, located at Monastery Road, Neath. It supports the Marine Licence application by determining whether the proposed works could cause deterioration of any WFD quality element or prevent the relevant water bodies from achieving their environmental objectives.

The proposed works comprise the maintenance and refurbishment of the existing highway bridge and include temporary access and scaffolding, bridge jacking, bearing replacement, hydro-demolition, concrete repairs, structural steel strengthening, grit blasting, protective coating application and the installation of a permanent bridge drainage system. The works will be undertaken within and immediately adjacent to the tidal reach of the River Clydach and therefore have the potential to interact with the receiving water environment. However, the project does not involve the construction of new in-channel structures, dredging, river realignment or any permanent modification to the morphology or hydrology of the River Clydach or downstream Neath Estuary.

The assessment has considered the River Clydach (Waterbody ID: GB110058026390) and the downstream Neath Estuary transitional waterbody (Waterbody ID: GB41005800700). Existing Water Framework Directive classifications indicate that both waterbodies are currently classified as Moderate overall, with environmental objectives to achieve Good Ecological Status. The assessment has reviewed the current baseline conditions, identified potential impact pathways associated with the proposed construction activities and considered the embedded mitigation measures incorporated within the project design and construction methodology.

The principal environmental risks relate to temporary construction activities, including the accidental release of pollutants, mobilisation of debris or suspended solids, and disturbance associated with works undertaken above the tidal river. These risks will be effectively controlled through embedded environmental protection measures, including fully encapsulated scaffolding, catch platforms, containment of hydro-demolition arisings and grit blasting residues, appropriate storage and handling of fuels and chemicals, spill response procedures, waste management controls and a prohibition on direct discharge to the water environment. These measures have been incorporated into the proposed construction methodology and are considered integral to the project.

Screening outcome

The proposed works are screened out from detailed WFD Regulations compliance assessment because they are limited to maintenance and strengthening of an existing bridge, do not involve in-channel works, dredging, permanent encroachment, river realignment, direct discharge or hydrological alteration, and include embedded controls to contain construction arisings, wastewater, blasting residues, fuels and chemicals. The assessment therefore concludes that no deterioration of WFD quality elements is predicted and that the environmental objectives for the River Clydach and Neath Estuary water bodies remain achievable.

1. INTRODUCTION

1.1 Purpose of this Assessment

This Water Framework Directive (WFD) Screening Assessment has been prepared in support of the proposed maintenance and strengthening works to the A465 River Clydach Underbridge, located at Monastery Road, Neath (National Grid Reference SS 73770 97154).

The proposed works comprise the repair and refurbishment of an existing highway bridge crossing the River Clydach and include concrete repairs, bridge bearing replacement, structural strengthening, bridge jacking operations, installation of a permanent drainage system and associated temporary works. The works are proposed within and immediately adjacent to the tidal section of the River Clydach, immediately upstream of its confluence with the Neath Estuary. The project therefore requires consideration under the Water Framework Directive as part of the supporting environmental information accompanying the Marine Licence application. The scope of works and construction methodology are described within the project Marine Licence application and construction programme.

The purpose of this assessment is to determine whether the proposed works have the potential to:

- Cause deterioration in the status of any Water Framework Directive quality element,
- Prevent the relevant waterbodies from achieving their environmental objectives,
- Result in permanent changes to the hydro-morphological characteristics of the affected waterbodies, or
- Require the preparation of a detailed Water Framework Directive Compliance Assessment.

This assessment has been undertaken proportionately, reflecting the scale and nature of the proposed works. The project comprises maintenance and refurbishment of an existing bridge structure and does not include the construction of new in-channel infrastructure, modification of the river channel, or alteration of the existing hydrological regime. The assessment therefore focuses on identifying potential temporary construction-related effects and determining whether these are capable of affecting the ecological or chemical status of the relevant WFD waterbodies.

1.2 Background

The A465 River Clydach Underbridge carries the A465 Trunk Road over the tidal River Clydach on the western outskirts of Neath. Inspections have identified deterioration of elements of the existing structure requiring maintenance to ensure its continued safe operation.

The proposed works include:

- Installation of temporary access, scaffolding and containment systems,
- Localised hydro-demolition and concrete repairs,
- Installation of cathodic protection anodes where required,
- Bridge jacking operations to facilitate replacement of existing bridge bearings,

- Structural steel strengthening,
- Installation of permanent substructure drainage and water collection systems,
- Grit blasting and repainting of structural steelwork,
- Removal of all temporary works and reinstatement of the work area following completion.

Construction activities will be undertaken over a programmed period commencing in January 2027 following completion of pre-construction approvals, detailed design and temporary works. The programme has been developed to sequence the works in phases while maintaining operation of the existing bridge throughout construction.

1.3 Scope of Assessment

This report considers the potential effects of the proposed works on the Water Framework Directive objectives for the water environment.

The assessment considers the River Clydach river waterbody and the downstream Neath Estuary transitional waterbody due to the close proximity of the works to the tidal limit and the potential for downstream connectivity. The assessment reviews the existing status of these waterbodies, identifies potential pathways through which construction activities could affect WFD quality elements and evaluates whether the proposed works could result in deterioration of waterbody status or compromise the achievement of WFD objectives.

The assessment assumes that there will be no in-channel works, no direct discharge to the water environment, no permanent change to channel form or flow, and that the embedded mitigation identified in this report will be implemented through the Construction Environmental Management Plan (CEMP), Environmental Management Plans (EMP), Risk Assessment Method Statement (RAMS) and construction supervision. If the design, methodology, drainage proposals or environmental constraints change, this screening assessment should be reviewed before works commence.

2. LEGISLATIVE AND POLICY CONTEXT

2.1 Water Framework Directive

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 establish the legal framework for protecting and improving rivers, lakes, estuaries, coastal waters and groundwater in England and Wales. This report uses “WFD” as shorthand for the Water Framework Directive requirements as implemented through those Regulations.

The overarching objectives of the Water Framework Directive are to:

- Protect and enhance the ecological and chemical status of surface waters and groundwater,
- Prevent deterioration in the status of waterbodies,
- Restore waterbodies to achieve at least Good Ecological Status (GES) or, where applicable, Good Ecological Potential (GEP),
- Promote the sustainable use of water resources,
- Contribute to the protection of aquatic ecosystems and associated terrestrial habitats.

All activities requiring environmental consent, including Marine Licences issued under the Marine and Coastal Access Act 2009, must demonstrate that they are compatible with these objectives.

2.2 Water Framework Directive Assessment

Natural Resources Wales requires activities that interact with the water environment, including most marine licence applications other than low-risk Band 1 activities, to be assessed against the WFD Regulations. The assessment must consider the water body in which the activity is located and any hydrologically connected water bodies that could be affected.

The purpose of a WFD Screening Assessment is to determine whether a project has the potential to:

- Cause deterioration in the status of a WFD waterbody or any individual quality element,
- Prevent a waterbody from achieving its stated environmental objectives,
- Result in permanent changes to the hydrological or morphological characteristics of a waterbody,
- Require a more detailed Water Framework Directive Compliance Assessment.

Where a project is demonstrated to have no realistic pathway to deterioration and no mechanism by which it could prevent achievement of WFD objectives, a Screening Assessment is generally considered sufficient.

2.3 WFD Assessment Principles

This assessment has been undertaken in accordance with the key principles applied by Natural Resources Wales (NRW) when considering (WFD) compliance.

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The assessment has considered whether the proposed works could:

- Result in deterioration of the current classification of either the River Clydach or Neath Estuary waterbodies,
- Affect any individual biological, hydro-morphological, physico-chemical or chemical quality element,
- Alter the hydrological regime or physical form of either waterbody,
- Affect the movement of fish or other aquatic organisms,
- Influence sediment transport processes,
- Reduce water quality through pollution or sediment release,
- Prevent the achievement of the environmental objectives established within the current River Basin Management Plan.

Each potential impact has been assessed against the construction methodology, embedded mitigation measures and environmental controls proposed for the project.

2.4 River Basin Management Planning

The proposed works are located within the Western Wales River Basin District and fall within the management area administered by Natural Resources Wales.

The assessment considers the two Water Framework Directive waterbodies with the potential to be affected by the proposed works:

River Waterbody

- Clydach – headwaters to confluence with River Neath
- WBID: GB110058026390

Transitional Waterbody

- Neath Estuary
- WBID: GB41005800700

The current classification, environmental objectives and quality elements for these water bodies are considered within Sections 5 and 6 of this report.

3. ASSESSMENT METHODOLOGY

3.1 Assessment Approach

This section describes the methodology adopted to undertake the Water Framework Directive (WFD) Screening Assessment. The assessment follows a structured and proportionate approach to identify the relevant WFD waterbodies, establish baseline environmental conditions, identify potential impact pathways associated with the proposed works, and assess whether the project has the potential to cause deterioration in the WFD status or prevent the achievement of WFD objectives. The methodology adopted for this assessment is outlined below.

Stage 1 – Identification of Relevant Waterbodies

The Water Framework Directive surface waterbodies with the potential to be affected by the proposed works were identified using the NRW Water Watch Wales mapping system.

This identified the following receptors:

Table 1 - Waterbody Identification

Waterbody	Waterbody ID	Classification
Clydach – headwaters to confluence with River Neath	GB110058026390	River Waterbody
Neath Estuary	GB41005800700	Transitional Waterbody

The downstream transitional waterbody has been included due to the tidal nature of the River Clydach and the potential for downstream connectivity during construction activities.

Stage 2 – Review of Baseline Conditions

Existing environmental information has been reviewed to establish the current condition of the receiving environment, including:

- Existing WFD classifications,
- Waterbody objectives,
- Existing hydro-morphological characteristics,
- Water quality status,
- Existing ecological receptors,
- Site constraints,
- Proposed construction methodology.

Stage 3 – Identification of Potential Impact Pathways

The proposed construction methodology has been reviewed to identify activities capable of interacting with the water environment.

Potential impact pathways considered include:

- Sediment release,
- Pollution incidents,
- Concrete wash water,
- Hydro-demolition arisings,
- Grit blasting residues,
- Fuel and oil contamination,
- Temporary disturbance to aquatic habitats,
- Temporary obstruction to water flow,
- Changes to channel morphology,
- Hydrological alteration.

Operational effects have also been considered where permanent works have the potential to alter the receiving environment.

Stage 4 – Assessment Against WFD Objectives

Each identified impact pathway has been assessed to determine whether it could:

- Cause deterioration in the status of any Water Framework Directive quality element;
- Prevent achievement of Good Ecological Status (GES) or Good Ecological Potential (GEP);
- Result in permanent alteration of hydro-morphological conditions;
- Affect the ecological functioning of the receiving waterbody.

Where no credible impact pathway exists, this has been identified and justified.

3.2 Assessment of WFD Quality Elements

The assessment has considered the quality elements relevant to the River Clydach and Neath Estuary waterbodies, including:

Biological Quality Elements

- Fish
- Aquatic invertebrates
- Aquatic flora (where relevant)

Supporting Physico-Chemical Elements

- Water quality
- Suspended solids
- Dissolved oxygen
- Nutrient enrichment
- Pollution risk

Hydro-morphological Quality Elements

- Hydrological regime
- River continuity
- Channel morphology
- Tidal connectivity
- Sediment transport processes

Chemical Status

Potential effects on chemical status have been considered in relation to accidental releases of fuels, oils, concrete products, paints and other construction materials.

3.3 Embedded Mitigation

The assessment has considered the embedded mitigation measures incorporated within the project design and construction methodology.

These include:

- Fully encapsulated scaffold systems,
- Catch platforms beneath working areas,
- Containment of hydro-demolition materials,
- Containment of grit blasting operations,
- Collection and off-site disposal of waste materials,
- Pollution prevention measures,
- Spill response procedures,
- Controlled storage of fuels and chemicals,
- Weather monitoring,
- Suspension of works during unsuitable river conditions.

These measures form part of the project design and have therefore been considered integral to the assessment of likely effects rather than additional mitigation.

4. PROJECT DESCRIPTION

4.1 Project Overview

The proposed development comprises the maintenance and strengthening of the A465 River Clydach Underbridge, located on the A465 Trunk Road at Monastery Road, Neath (National Grid Reference SS 73770 97154).

The bridge spans the tidal River Clydach immediately upstream of its confluence with the Neath Estuary and forms part of the strategic highway network within South Wales.

The purpose of the proposed works is to repair and refurbish elements of the existing bridge structure that have deteriorated through age and service. The works are intended to extend the operational life of the bridge, maintain structural integrity and improve long-term resilience, whilst avoiding the need for replacement of the existing crossing.

The project comprises maintenance and refurbishment of an existing asset and does not include the construction of new bridge structures, new river crossings or permanent modifications to the watercourse.

4.2 Site Location

The works are located within the lower tidal reaches of the River Clydach, immediately upstream of its confluence with the Neath Estuary.

The surrounding environment comprises:

- The existing A465 highway corridor,
- The tidal River Clydach,
- Saltmarsh and intertidal habitat associated with the estuary,
- Existing access tracks beneath the bridge,
- Adjacent agricultural land,
- Existing bridge infrastructure.

4.3 Description of the Proposed Works

The proposed works comprise maintenance, repair and strengthening of the existing bridge structure and include the following principal activities:

- Installation of temporary site compounds and welfare facilities,
- Construction of temporary access arrangements,
- Installation of scaffolding and fully encapsulated working platforms beneath the bridge,
- Bridge jacking to facilitate replacement of existing bridge bearings,
- Hydro-demolition of deteriorated concrete,
- Reinforcement repairs and reinstatement of concrete,
- Installation of cathodic protection anodes where required,

- Construction of reinforced concrete corbels,
- Structural steel strengthening,
- Grit blasting and repainting of structural steelwork,
- Installation of permanent substructure drainage and water collection systems,
- Removal of temporary works,
- Reinstatement and demobilisation following completion of construction.

The works are confined to the existing bridge structure and associated temporary working areas. No new bridge piers, abutments or permanent structures are proposed within the River Clydach.

4.4 Construction Methodology

Construction activities will be undertaken in a phased sequence to maintain the structural stability of the bridge while minimising environmental impacts.

The principal construction stages comprise:

1. Site mobilisation and establishment of temporary facilities.
2. Installation of scaffold access and encapsulated working platforms.
3. Bridge jacking and bearing replacement.
4. Concrete removal by hydro-demolition and structural repairs.
5. Installation of cathodic protection and reinforced concrete repairs.
6. Structural steel strengthening.
7. Grit blasting and application of protective coatings within contained working areas.
8. Installation of permanent drainage and water collection systems.
9. Removal of temporary works and reinstatement of the site.

The construction programme indicates that these activities will be undertaken in a planned sequence following completion of pre-construction approvals, temporary works design and statutory consents.

4.5 Interaction with the Water Environment

The proposed works have the potential to interact with the water environment because they are undertaken directly above the tidal River Clydach.

Potential interactions include:

- Temporary working above tidal waters,
- Use of scaffolding and temporary access structures,
- Hydro-demolition and concrete repair activities,
- Grit blasting and painting operations,
- Handling and storage of fuels, oils and construction materials,
- Installation of permanent bridge drainage,
- Temporary movement of personnel and equipment within the working area.

Importantly, the project does not involve:

- Construction of new bridge support,
- Permanent encroachment into the river channel,
- Dredging or excavation of the river bed,
- River realignment,
- Bank stabilisation works,
- Culverting,
- Alteration of channel dimensions,
- Modification of tidal connectivity,
- Changes to the hydrological regime.

Consequently, the primary environmental risks associated with the project relate to temporary construction activities rather than permanent changes to the physical characteristics of the waterbody.

4.6 Embedded Environmental Controls

Environmental protection measures have been incorporated into the project design and construction methodology from the outset. These include:

- Fully boarded and encapsulated scaffold systems to prevent debris entering the watercourse,
- Catch platforms beneath working areas,
- Collection and containment of hydro-demolition arisings, grit blasting residues and concrete wash water,
- No direct discharge of construction materials or wastewater to the River Clydach,
- Bunded storage of fuels and chemicals away from the water environment.
- Spill response equipment maintained on site.
- Weather and tidal monitoring to inform construction activities,
- Appropriate waste segregation and disposal at licensed facilities.

These measures form an integral part of the project and have been taken into account when assessing the potential effects on the Water Framework Directive waterbodies.

5. BASELINE WATER ENVIRONMENT

5.1 Introduction

This section identifies the relevant WFD waterbodies, summarises their current classifications and environmental objectives, and describes the key hydrological, hydromorphological and ecological characteristics relevant to the assessment.

5.2 Water Framework Directive Waterbodies

The proposed works are located within the Western Wales River Basin District and have the potential to interact with two WFD surface waterbodies:

Table 2 - Waterbody Identification

Waterbody	Waterbody ID	Waterbody Type
Clydach – headwaters to confluence with River Neath	GB110058026390	River
Neath Estuary	GB41005800700	Transitional

The River Clydach is the primary receiving waterbody, with the Neath Estuary included due to the tidal influence and downstream hydraulic connectivity.

No groundwater bodies are anticipated to be significantly affected by the proposed works because all activities are confined to the existing bridge structure and associated temporary works.

5.3 River Clydach Waterbody

The River Clydach waterbody extends from its headwaters to its confluence with the River Neath and is classified as a river waterbody under the Water Framework Directive.

The proposed works are situated within the lower tidal reach of the waterbody where the existing A465 bridge crosses the river immediately upstream of the estuary.

The current WFD classification is summarised below.

Table 3 - River Clydach WFD Status

Quality Element	Current Status	Objective
Overall Status	Moderate	Good by 2027
Ecological Status	Moderate	Good by 2027
Biological Quality Elements	Moderate	Good by 2027
Fish	Moderate	Good by 2027
Aquatic Invertebrates	High	High
Physico-Chemical Elements	Good	Good
Hydrological Regime	High*	High*
Morphology	Not High	Good by 2027
Hydromorphology	Not High	Good by 2027

The classifications indicate that the waterbody currently supports good physico-chemical conditions and high hydrological status, while biological and morphological quality elements remain below Good Ecological Status. Consequently, the principal consideration for this assessment is whether the proposed maintenance works could contribute to any deterioration in these quality elements or prevent the waterbody from achieving its environmental objectives.

5.4 Neath Estuary Transitional Waterbody

The River Clydach discharges directly into the Neath Estuary, which is classified as a transitional waterbody under the Water Framework Directive.

Although the proposed works are located upstream of the estuary, temporary construction activities have the potential to affect downstream waters through accidental pollution or mobilisation of suspended sediments. The Neath Estuary has therefore been included within the assessment.

Table 4 - Neath Estuary WFD Status

Quality Element	Current Status	Objective
Overall Status	Moderate	Good by 2027
Ecological Status	Moderate	Good by 2027
Biological Quality Elements	High	High
Physico-Chemical Elements	Good	Good
Chemical Status	High*	High*
Hydrological Regime	Not High	Good by 2027
Hydromorphology	Not High	Good by 2027

The assessment therefore considers whether the proposed works could influence downstream biological quality, water quality or hydromorphological conditions within the estuary.

* Chemical Status is typically referred to as Fail / Good. However, within NRW RMBP and Water Watch Wales the chemical status for these Waterbodies have been classified as High*

5.5 Hydrology and Hydromorphology

There is no permanent mechanism by which the proposed works would alter river morphology, flow characteristics or sediment transport processes.

5.6 Water Quality

The principal water quality risks associated with the project relate to temporary construction activities, including hydrodemolition, concrete repairs, grit blasting, painting operations and the handling of fuels and construction materials.

The project design incorporates embedded environmental controls, including fully encapsulated scaffolding, catch platforms, containment of debris and wash water, spill response measures and a prohibition on direct discharge to the River Clydach. These measures have been incorporated into the project methodology and are considered further within Section 7 of this report.

5.7 Ecological Receptors

The River Clydach is the principal ecological receptor for this assessment. The river provides an important ecological corridor supporting aquatic and riparian habitats, whilst also facilitating the movement of species between the upstream catchment and the Neath Estuary. Although no works are proposed within the river channel itself, construction activities undertaken above and adjacent to the watercourse have the potential to affect these ecological receptors if appropriate environmental controls are not implemented.

Protected and Notable Species

The PEA identified the following ecological receptors as being present, or having the potential to utilise the Site:

- **Bats** – The bridge structure contains crevices and sheltered features suitable for roosting bats, while adjacent woodland, mature trees and the River Clydach provide important commuting and foraging habitat. One ivy-covered silver birch tree was identified as having potential bat roost features requiring further assessment.
- **Otter (*Lutra lutra*)** – The River Clydach and associated riparian habitats provide suitable commuting and foraging habitat for otter. Although no evidence of otter was recorded during the survey, local records and observations indicate that the species is present within the surrounding area.
- **Water Vole (*Arvicola amphibius*)** – Suitable habitat exists within the river margins and associated vegetation. Whilst no evidence of water vole was recorded during the survey, the species remains a potential ecological receptor requiring a precautionary approach during works adjacent to the river.
- **Breeding Birds** – Woodland, grassland and riparian vegetation provide suitable nesting, foraging and sheltering habitat for a range of bird species. The wider estuarine environment also supports important wetland bird assemblages, including kingfisher and other notable species.
- **Badger (*Meles meles*)** – No evidence of badger activity was identified during the survey; however, the surrounding woodland and grassland provide suitable commuting and foraging habitat, and local records confirm the species occurs within the surrounding landscape.
- **Reptiles** – Limited suitable habitat is present within areas of semi-improved grassland, woodland edge and bare ground. Habitat suitability is reduced by regular management and disturbance, although a precautionary approach to vegetation clearance is recommended.

Invasive Non-Native Species

Two stands of Japanese Knotweed (*Fallopia japonica*) were recorded within the Site on the western bank of the River Clydach. These are identified as Target Notes 1 and 2 within the Preliminary Ecological Appraisal (PEA). Construction activities involving vegetation clearance, excavation or soil movement have the potential to spread this species if appropriate biosecurity measures are not implemented. Consequently, Japanese Knotweed management will form an important component of the CEMP and associated construction controls.

Relevance to the Water Framework Directive Assessment

The ecological receptors identified during the PEA reinforce that the River Clydach functions as an important ecological corridor linking freshwater, riparian and estuarine habitats. However, the proposed maintenance works are confined to an existing bridge structure and do not involve permanent habitat loss, in-channel works or modification of river morphology.

The principal mechanisms by which the proposed works could affect ecological receptors are limited to temporary construction-related impacts, principally accidental pollution, mobilisation of construction debris, increased suspended solids and disturbance associated with works above the river. These pathways are addressed through the embedded mitigation measures described in Section 7, including pollution prevention controls, containment systems, ecological protection measures and implementation of a CEMP.

6. ASSESSMENT OF EFFECTS ON WFD OBJECTIVES

6.1 Introduction

The proposed works have been assessed to determine whether they have the potential to:

- cause deterioration in the status of any Water Framework Directive (WFD) quality element,
- prevent the River Clydach or Neath Estuary waterbodies from achieving their environmental objectives,
- adversely affect the hydro-morphological condition of the receiving waterbodies,
- require a detailed Water Framework Directive Compliance Assessment.

The assessment considers the construction and operational phases of the project, taking account of the embedded mitigation measures incorporated within the project design and construction methodology.

As the project comprises the maintenance and strengthening of an existing bridge, the assessment has focused primarily on temporary construction-related effects.

6.2 Biological Quality Elements

Existing Baseline

The River Clydach currently supports Moderate biological status. The Neath Estuary is also recorded as Moderate for biological quality elements overall, with fish recorded as Moderate and aquatic invertebrates recorded as High.

The principal biological receptors include fish, aquatic invertebrates and aquatic vegetation associated with the tidal river and estuary.

Potential Effects

Construction activities have the potential to affect biological quality through:

- accidental pollution incidents,
- increased suspended sediments,
- disturbance associated with works above the river.

However:

- no works are proposed within the river bed,
- no habitat removal is proposed,
- no fish barriers will be created,
- no alteration of river continuity will occur.

Embedded pollution prevention measures substantially reduce the likelihood of effects on biological communities.

Assessment

The proposed works are not expected to cause deterioration of biological quality elements.

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6.3 Hydro-morphological Quality Elements

Existing Baseline

The River Clydach and Neath Estuary currently fail to achieve High hydro-morphological status due to existing catchment-scale modifications.

Potential Effects

The project does not include:

- new bridge piers,
- channel widening,
- channel narrowing,
- dredging,
- bank protection,
- culverting,
- flow diversion,
- modification of tidal connectivity.

Temporary scaffolding will be removed following completion of the works and will not permanently alter river processes.

Assessment

No permanent alteration of hydro-morphology will occur.

Accordingly, the project will not prevent the waterbodies from achieving their hydro-morphological objectives.

6.4 Hydrological Regime

The proposed works will not alter:

- river flows,
- tidal exchange,
- flood storage,
- floodplain connectivity,
- water levels.

No abstraction, impoundment or flow regulation is proposed.

Temporary works will not restrict the channel or influence the hydraulic regime.

Assessment

No effect is anticipated.

6.5 Physico-Chemical Quality Elements

Potential construction risks include:

- concrete wash water,
- hydro-demolition arisings,
- grit blasting residues,
- fuel and oil spills,
- paint contamination.

The project methodology includes comprehensive embedded mitigation, including:

- encapsulated scaffold systems,
- catch platforms,
- containment of debris,
- collection of wash water,
- bunded fuel storage,
- spill kits,
- prohibition of discharge to the River Clydach,
- suspension of works during adverse river conditions.

Assessment

With the embedded mitigation in place, no deterioration of physico-chemical quality elements is anticipated.

6.6 Chemical Status

The project does not involve routine discharge of contaminants to the receiving water environment.

The only credible pathway is an accidental pollution incident during construction.

Provided the pollution prevention measures described within the Marine Licence application are implemented, the likelihood of such an event is considered to be low.

Assessment

No deterioration in chemical status is anticipated.

6.7 Cumulative Effects

The assessment has considered whether the proposed works could act cumulatively with other reasonably foreseeable activities within the catchment.

No other projects have been identified that would combine with the proposed bridge maintenance works to generate significant cumulative effects on either WFD waterbody.

The proposed works are temporary, localised and reversible.

Assessment

No significant cumulative effects are anticipated.

6.8 Water Framework Directive Screening Questions

The following screening questions provide a concise summary of the assessment undertaken in the preceding sections and consider whether the proposed works have the potential to affect the objectives of the Water Framework Directive (WFD). The assessment considers the relevant WFD waterbodies, their current status and environmental objectives, the potential impact pathways associated with the proposed works, and the embedded mitigation measures identified within the project methodology.

The screening considers the two principal WFD tests: whether the proposed works could result in deterioration in the status of any WFD quality element, and whether they could prevent the achievement of the environmental objectives of the relevant waterbodies. The potential for permanent changes to hydro-morphology and hydrology has also been considered given the location of the works within the tidal River Clydach.

Table 5 - WFD Screening Questions

Screening Question	Assessment	Conclusion
Will the project cause deterioration in any WFD quality element?	No	No deterioration predicted.
Will the project prevent achievement of WFD objectives?	No	Objectives remain achievable.
Will the project permanently modify hydro-morphology?	No	Maintenance works only.
Is a detailed WFD Compliance Assessment required?	No	Screening Assessment sufficient.

7. EMBEDDED MITIGATION MEASURES

7.1 Introduction

A range of environmental protection measures have been incorporated into the design and proposed construction methodology to avoid or minimise potential effects on the receiving water environment. These measures form part of the proposed works and have therefore been considered as embedded mitigation within this WFD Screening Assessment.

7.2 Pollution Prevention

The principal environmental risk associated with the proposed works is the accidental release of contaminants to the River Clydach during construction activities. To minimise this risk, the following pollution prevention measures will be implemented:

- All fuels, oils and chemicals will be stored within appropriately bunded areas located away from the river.
- Refuelling of plant and equipment will not be undertaken over water.
- Drip trays will be used beneath static plant and equipment where appropriate.
- Spill response kits will be maintained on site and personnel trained in their use.
- In the event of a pollution incident, works will cease immediately, the source of pollution will be isolated, and appropriate emergency procedures implemented.
- No fuels, oils, concrete, grout, paint, wash water or other contaminants will be permitted to enter the River Clydach or downstream Neath Estuary.

7.3 Water Quality Protection

Construction activities such as hydro-demolition, grit blasting and concrete repairs have the potential to generate debris and contaminated wash water. To prevent impacts on water quality, the following controls will be implemented:

- Scaffolding beneath the bridge will be fully boarded and, where required, encapsulated.
- Catch platforms will be installed beneath working areas to prevent debris entering the river.
- Hydro-demolition arisings, concrete residues and wash water will be collected and removed from site.
- Grit blasting activities will be undertaken within suitable containment systems.
- Wastewater generated during construction will be contained and disposed of appropriately.
- No direct discharge of construction water to the receiving water environment will be permitted.

7.4 Hydro-morphological Protection

The project has been designed to avoid permanent impacts on the physical characteristics of the River Clydach.

7.5 Waste Management

Construction wastes generated during the works will be appropriately managed to prevent pollution of the water environment.

Measures include:

- Segregation of waste streams.
- Secure containment of waste materials.
- Removal of waste by licensed waste contractors.
- No disposal of waste materials within the river or estuary.
- Appropriate management of spent abrasive media, concrete arisings and removed steelwork components.

7.6 Ecological Protection

The environmental constraints drawing identifies a number of ecological constraints within the project area, including the tidal River Clydach, coastal saltmarsh and saline reedbeds, confirmed and potential bat roost features, and areas of Japanese Knotweed.

To protect ecological receptors during construction:

- Construction activities will be restricted to the approved working footprint.
- Personnel will be briefed on environmental sensitivities prior to commencing works.
- Works will cease if previously unidentified protected species or habitats are encountered, pending further ecological advice.
- Appropriate biosecurity measures will be implemented to prevent the spread of invasive non-native species.

7.7 Monitoring and Environmental Management

Environmental controls will be maintained throughout the construction period through routine inspection and site supervision.

This will include:

- Regular inspection of pollution prevention measures.
- Inspection of scaffold containment and catch platforms.
- Monitoring of weather forecasts and river conditions.
- Routine housekeeping inspections.
- Environmental briefings and toolbox talks for site personnel.
- Immediate implementation of corrective actions where deficiencies are identified.

These measures will be implemented through the project CEMP, Risk Assessments and Method Statements (RAMS), and associated environmental management procedures.

7.8 Summary of Embedded Mitigation

The embedded mitigation measures incorporated into the project design substantially reduce the potential for adverse effects on the receiving water environment. Collectively, these measures ensure that construction activities are undertaken in a controlled manner, preventing the release of pollutants, protecting water quality and avoiding permanent changes to the hydro-morphological characteristics of the River Clydach and Neath Estuary.

Consequently, the residual environmental risk to WFD quality elements is considered to be negligible, accordingly, whilst the Site supports a range of protected and Priority Species, the findings of the PEA support the conclusion that, with the implementation of embedded mitigation and ecological recommendations, the proposed works are unlikely to result in deterioration of the ecological quality elements of the River Clydach or Neath Estuary Water Framework Directive waterbodies.

Accordingly, the proposed works are not expected to cause deterioration in any Water Framework Directive quality element, nor prevent either waterbody from achieving its environmental objectives. On this basis, a Water Framework Directive Compliance Assessment is not considered necessary, and a screening assessment is considered proportionate to the scale and nature of the proposed works.

8. CONCLUSIONS

8.1 Summary

The assessment has been undertaken in accordance with the principles of the Water Framework Directive and has considered the current status of the receiving waterbodies, the nature of the proposed works, the potential impact pathways and the embedded mitigation measures incorporated within the project design and construction methodology.

The proposed works comprise the maintenance and refurbishment of an existing highway bridge and do not involve the construction of new structures within the watercourse, permanent modification of channel morphology, alteration of river flows or changes to tidal connectivity. Consequently, the assessment has focused on the temporary construction-related risks associated with pollution, sediment release and disturbance to the receiving water environment.

8.2 Assessment Findings

The assessment has demonstrated that:

- The proposed works are confined to the maintenance and strengthening of an existing bridge structure.
- No permanent in-channel structures are proposed.
- No dredging, river realignment, bank modification or alteration to channel geometry will occur.
- Existing hydrological and tidal processes will be maintained throughout the construction and operational phases.
- The principal environmental risks relate to temporary construction activities, including hydro-demolition, concrete repairs, grit blasting, painting operations and the handling of fuels and construction materials.
- Appropriate embedded mitigation measures have been incorporated into the project design to prevent pollutants, debris and construction waste entering the River Clydach or downstream Neath Estuary.
- The proposed works are not expected to adversely affect the biological, hydro-morphological, physico-chemical or chemical quality elements of either Water Framework Directive waterbody.

Accordingly, no mechanism has been identified by which the proposed works could result in deterioration of the current Water Framework Directive status of the River Clydach or Neath Estuary.

8.3 Water Framework Directive Screening Outcome

The assessment concludes that the proposed development:

- Will not cause deterioration in the status of any Water Framework Directive quality element.
- Will not prevent the River Clydach or Neath Estuary waterbodies from achieving their environmental objectives.

- Will not permanently modify the hydro-morphological characteristics of the receiving waterbodies.
- Will not adversely affect river continuity or hydrological processes.
- Will not result in significant adverse effects on the water environment, provided the embedded mitigation measures described within this report are implemented.

The assessment therefore concludes that the proposed works are compliant with the objectives of the Water Framework Directive.

8.4 Requirement for Further Assessment

The proposed maintenance and strengthening works are considered unlikely to result in significant effects on the Water Framework Directive waterbodies.

Accordingly, a detailed Water Framework Directive Compliance Assessment is not considered necessary, and this Water Framework Directive Screening Assessment is considered proportionate to the scale, nature and environmental risk of the proposed works.

This conclusion is based on the current project design, construction methodology and embedded environmental mitigation measures. Should the scope of the proposed works change significantly, or should additional environmental constraints be identified through subsequent ecological surveys or detailed design, the findings of this assessment should be reviewed and updated where necessary.

9. REFERENCES

9.1 Legislation

European Parliament and Council (2000) *Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (Water Framework Directive)*. Official Journal of the European Communities, L327, pp.1–73.

Marine and Coastal Access Act 2009. London: The Stationery Office.

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended). London: The Stationery Office.

Environment (Wales) Act 2016. London: The Stationery Office.

9.2 Guidance

Natural Resources Wales (2021) *Water Framework Directive Assessment: Estuarine and Coastal Waters Guidance*. Natural Resources Wales.

Natural Resources Wales (2024) *Marine Licensing Guidance*. Natural Resources Wales.

Natural Resources Wales (2021) *Guiding Principles for Water Framework Directive Assessment*. Natural Resources Wales.

9.3 Online Data Sources

Natural Resources Wales (2026) *Water Watch Wales*. Available at: <https://waterwatchwales.naturalresources.wales/> (Accessed: 03 August 2026).

Natural Resources Wales (2026) *Flood Map for Planning*. Available at: <https://naturalresources.wales/> (Accessed: 03 August 2026).

Ordnance Survey (2026) *OS Mapping Data*. Available at: <https://www.ordnancesurvey.co.uk/> (Accessed: 03 August 2026).

9.4 Project Documents

Alun Griffiths (Contractors) Ltd (2026) *A465 River Clydach Underbridge – Marine Licence Application (Draft A01)*.

AtkinsRéalis (2026) *A465 River Clydach Underbridge – Environmental Constraints Drawing (Drawing No. BP06_301-ATK-SBR-SWTRA-DR-CB-000500 Rev P03)*.

Alun Griffiths (Contractors) Ltd (2026) *Construction Programme T25_12_170 Rev02 (08 July 2026)*.

9.5 Supporting Documents

The following documents informed the assessment and should be reviewed alongside this report where applicable:

- Preliminary Ecological Appraisal (PEA).
- Construction Environmental Management Plan (CEMP) (*project-specific*).
- Risk Assessments and Method Statements (RAMS).

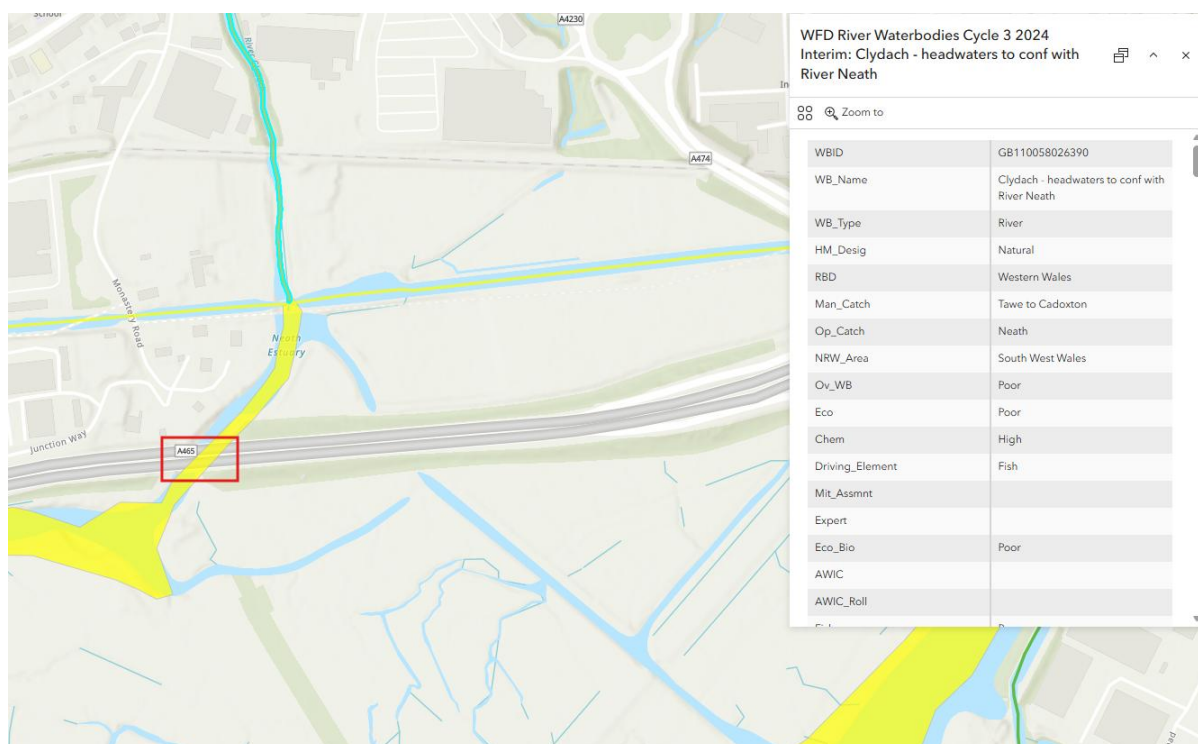
- Temporary Works Design.
- Scaffold Design.
- Inspection and Maintenance Records.

Appendix A

Water Framework Directive Water Body Information

FIGURE A1 – WATERBODY LOCATION PLAN

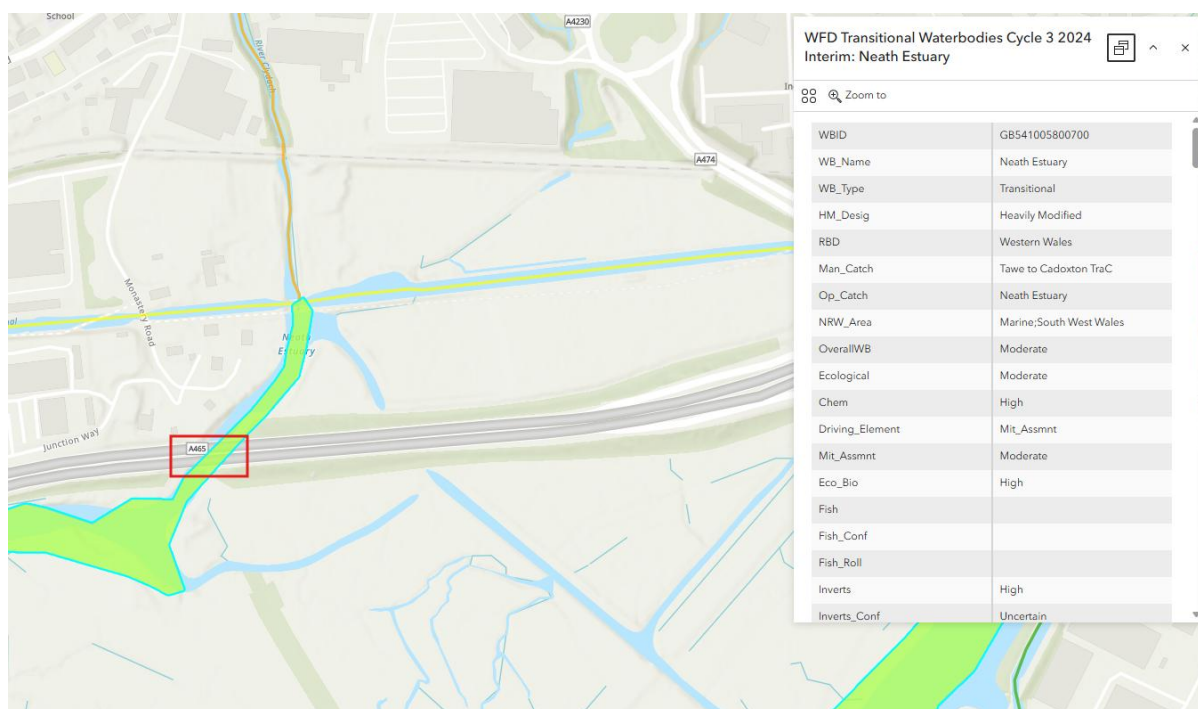


FIGURE A2 – RIVER CLYDACH WATERBODY


River Clydach

Table 6 - River Clydach WFD Status

Quality Element	Current Status	Objective
Overall	Moderate	Good by 2027
Ecological	Moderate	Good by 2027
Biological	Moderate	Good by 2027
Fish	Moderate	Good by 2027
Invertebrates	High	High
Physico-chemical	High	High
Hydrological Regime	High	High
Morphology	Not High	Good by 2027

FIGURE A3 – NEATH ESTUARY WATERBODY


Neath Estuary

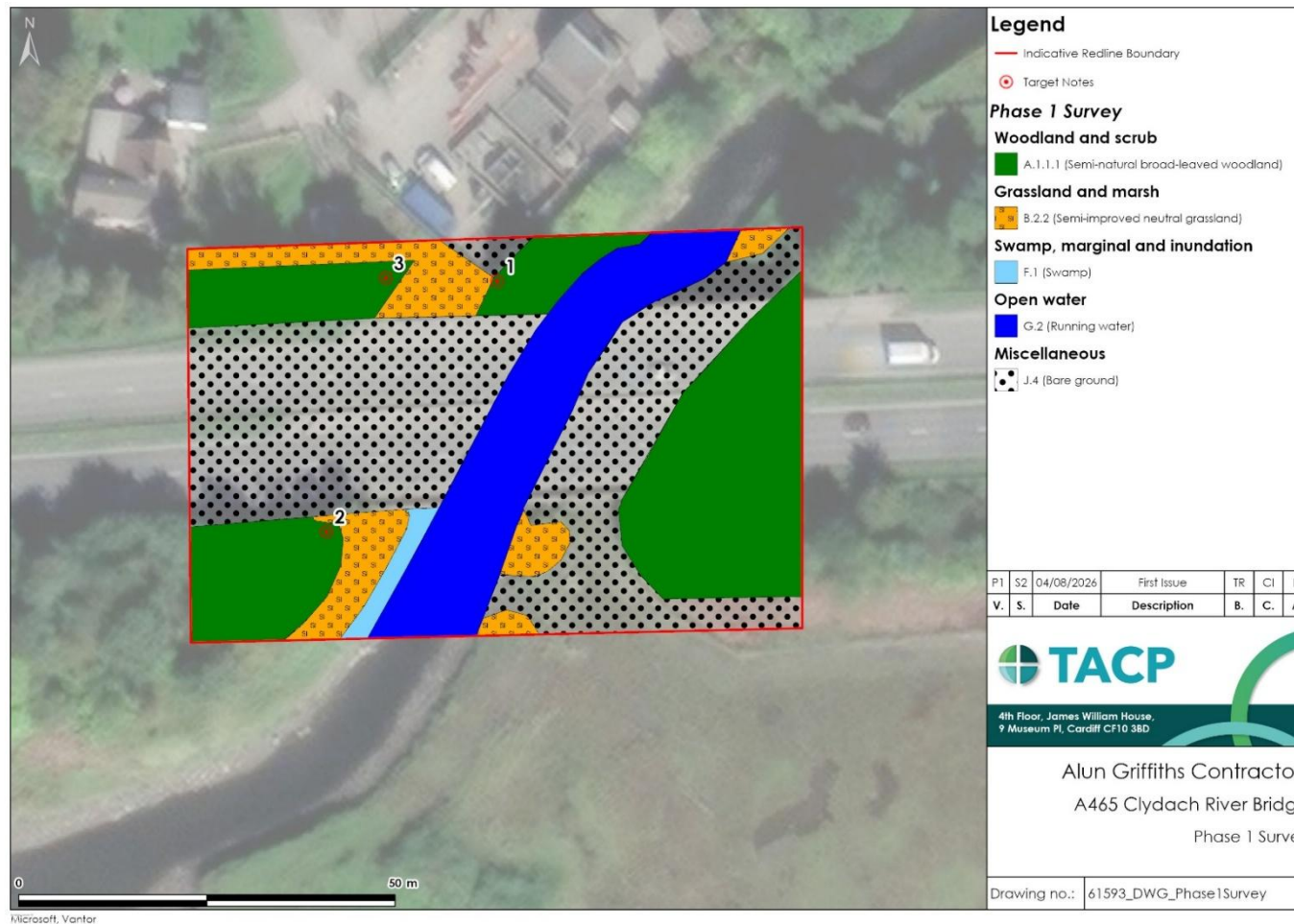
Table 7 - Neath Estuary WFD Status

Quality Element	Current Status	Objective
Overall	Moderate	Good by 2027
Ecological	Moderate	Good by 2027
Biological	Moderate	Good by 2027
Fish	Moderate	Good by 2027
Invertebrates	High	High
Physico-chemical	High	High
Hydrological Regime	High	High
Morphology	Not High	Good by 2027

Appendix B

Environmental Constraints

FIGURE B1 - ENVIRONMENTAL CONSTRAINTS MAP



Appendix C

Construction Activities with Potential WFD Interaction

Table 8 - Construction Activities

Construction Activity	Potential WFD Interaction
Scaffold erection	Temporary presence above river
Hydro-demolition	Concrete debris
Bearing replacement	Temporary works
Bridge jacking	None
Concrete repairs	Concrete wash water
Grit blasting	Blast media
Painting	Paint contamination
Drainage installation	Temporary construction risk
Demobilisation	Waste removal