

HIGHWAYS INFRASTRUCTURE

Planning Statement 333206 – Feeder Pipe Bridge

May 2023

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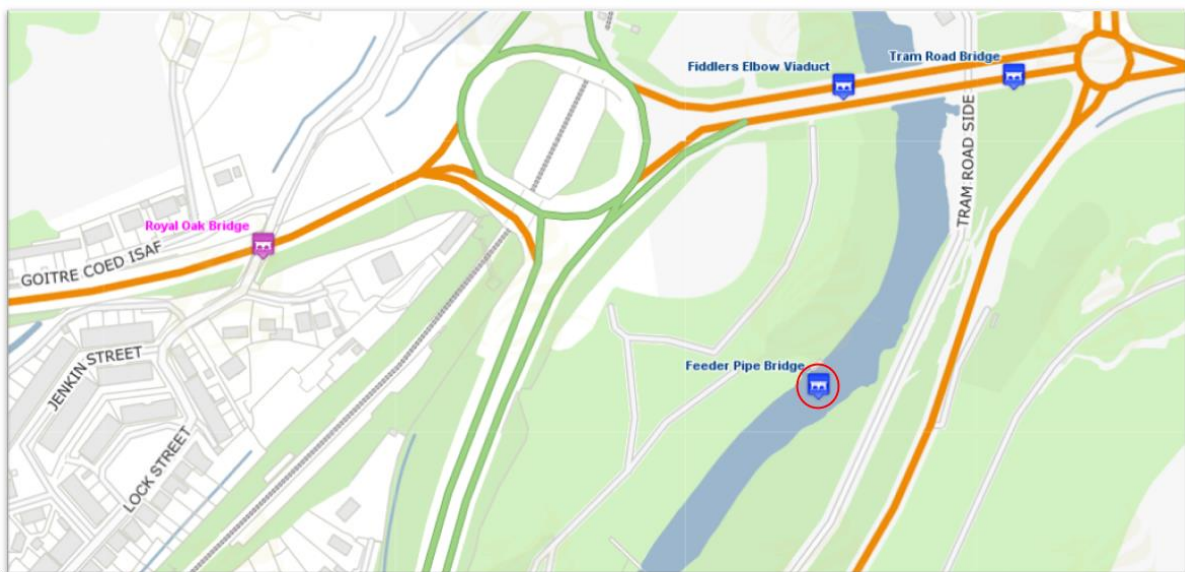
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Introduction

Feeder Pipe Bridge crosses the River Taff east of Abercynon at grid reference ST 09210 95484. The bridge provides a pedestrian crossing over the river, that represents the boundary between Rhondda Cynon Taf CBC and Merthyr Tydfil CBC.

During Storm Dennis in February 2020, a significant amount of debris built up against the bridge, lifting the footbridge off the supporting piers. The bridge deck and parapets were removed in October 2020 due to the structural damage that had occurred.

This planning statement is written as a supporting document to the formal planning application for the replacement of the footbridge.



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Figure 1 - Location Plan of Feeder Pipe Bridge

1. Background

Feeder Pipe bridge was built in 1857 and was constructed as part of a feeder channel to provide an improved water supply to the Glamorganshire Canal system. A weir was constructed upstream of the bridge at Fiddlers Elbow that diverted water from the River Taff and into the channel where it was carried along the west/northwest side of the River Taff.

When the channel reached Feeder Pipe Bridge, water was carried across the River Taff, through 3no. wrought iron pipes that have an external diameter of 900mm. A further channel on the southeast side of the River Taff then carried water down to the Basin, where it fed the Glamorganshire Canal.

Historical maps, dated 1884, shows that a footbridge was present at this location. An inscription present on the northwest side of the bridge indicates that bridge was restored through a joint venture of the Abertaf Residents Association and RCT Groundworks Trust and re-opened on 23rd April 1997, as shown in Image 1 below.

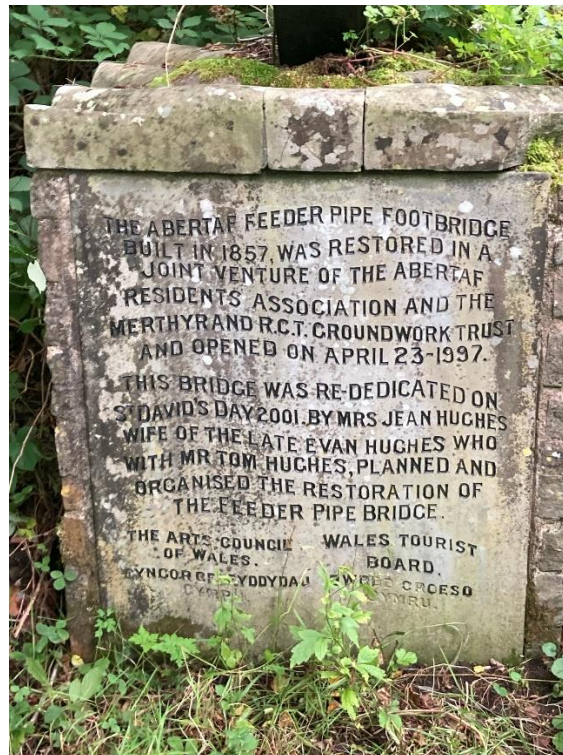


Image 1 - Inscription to northwest of bridge

During Storm Dennis in February 2020, a significant amount of debris built up against the bridge, lifting the footbridge off the supporting piers. Further damage to the structure was caused when the debris that had built up was set alight. The bridge deck and parapets were removed due to the structural damage that had occurred in October 2020.

The bridge has 5 clear spans varying from 6.2m to 7.8m supported by 4 masonry piers. To the northwest, the footbridge was supported by a masonry wall that formed part of the feeder channel, that in effect acted as an abutment.

Feeder Pipe Bridge is a structure that crosses the border between RCTCBC and MTCBC. RCTCBC will inspect and maintain the structure in its entirety following completion of the proposed works.

2. Site Constraints & Stakeholders

2.1 – Site Geometry

The proposed bridge will utilise the existing substructure (abutments and piers). It will be positioned in a northwest to southeast arrangement with the River Taff flowing in a northeast to southwest direction.

2.2 – Services

Utility searches in the form of C2 returns have been provided and the following utility provider has apparatus within the vicinity of the site;

- Dwr Cymru Welsh Water – Combined sewerage apparatus is located in both the highway of Tram Road Side and land/ embankment area south of the bridge. There is also an outfall structure down stream of the bridge, within the southeast embankment.

Dependent on construction methodology, protection measures of the combined sewer may be required. Dwr Cymru Welsh Water will be consulted once construction methodology is known.

2.3 – Natural Resources Wales (NRW)

A Temporary Flood Risk Activities Permit (FRAP) application will be required, this is to be submitted prior to commencement on site by the appointed principal contractor.

Furthermore, any works within the river itself are restricted to be carried out outside the NRW's embargo for river working. This is in place to protect fish spawning seasons and to avoid inclement weather which has the potential to result in elevated water levels. As such, work within the river would be restricted to between 15th May and 15th October each year.

Previous liaison with Natural Resources Wales has indicated that a permanent FRAP is not required for the replacement of Feeder Pipe Bridge, subject to any new structure being installed to the same soffit level as the previous bridge.

2.4 – Merthyr Tydfil County Borough Council & Rhondda Cynon Taf County Borough Council

Feeder Pipe Bridge is a cross border structure that is maintained by Rhondda Cynon Taf CBC. Currently there is no designated public right of way (PROW) crossing the structure. Merthyr Tydfil CBC & Rhondda Cynon Taf CBC have been consulted regarding the creation of a designated PROW.

As detailed design is progressed, Merthyr Tydfil CBC will be consulted on any proposed remediation works to footpaths and associated supporting structures that Merthyr Tydfil CBC may have a responsibility to maintain. A planning application will also be submitted to both Merthyr Tydfil CBC and Rhondda Cynon Taf CBC planning departments.

3. Proposed Replacement Structure

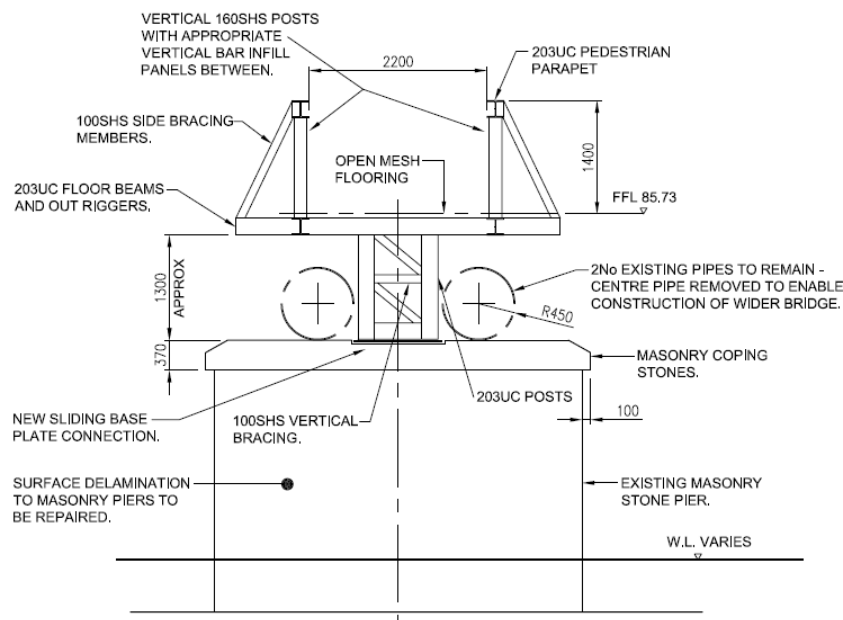
The proposed structure will utilise the existing abutments and piers with minor maintenance works, such as repointing, vegetation clearance etc. to be undertaken.

Replacing the structure on a 'like for like' basis, to what was previously in place, would require a departure from current design standards. It would also result in a structure being constructed that would be at risk of structural damage should similar amounts of debris/hydraulic loading occur as it did in February 2020.

To facilitate the installation of a more robust structure, the centre pipe must unfortunately be removed. The visual impact of this is discussed further in section 5 of this report.

The superstructure will be constructed from two vertical parapet trusses spanning between the abutments and intermediate piers and a horizontal deck truss spanning between abutments. At 3.6m intervals, steel out riggers will extend beyond the horizontal deck truss with diagonal bracing members connected between the outriggers and vertical parapet trusses.

It is proposed to increase the width of the bridge deck from 1.5m to 2.2m to improve accessibility across the bridge. The additional loading as a result of this increase is afforded as a by-product of the removal of the centre pipe. The increase in width will extend the deck over the existing pipes by an additional 0.35m each side, as shown in figure 2 below. To provide lateral restraint, steel out riggers will extend beyond the horizontal deck truss every 3.6m, allowing diagonal bracing members to be connected to the vertical parapet trusses. The steel outriggers and bracing members will extend a further 0.6m (approximately), at each location installed.



The deck is proposed to be constructed from open steel grating to reduce weight of the bridge (further facilitating a width increase) in addition to removing maintenance liability of a timber deck and risk of previous arson attacks to the structure.

The proposed structural form provides a greater resistance to debris build up/impact/hydraulic loading than that of the previous bridge. This is important as there is a history of significant debris build up at this bridge both prior to and during Storm Dennis.

4. Land Ownership and Access

Access to the site is restricted to pedestrian and cycle access only, via a footpath off Tram Road Side, Treharris and a series of footpaths leading from Alexandra Place, Abercynon. There is no registered Public Right of Way along either of these paths but the creation of one could be considered by RCTCBC and MTCBC on replacement of the bridge. Tram Road Side, Treharris forms part of Route 8 (Cardiff to Anglesey) of the National Cycle Network.

The presence of a large Dwr Cymru Welsh Water sewer pipe beneath the carriageway of Tram Road Side, Treharris restricts the use of appropriate lifting equipment that can be setup in the carriageway. Any lifting equipment would need to be site off the carriageway on a suitably constructed platform.

Land around the immediate site area, is not registered with Land Registry. Land ownership to the northwest side of the river has been established but ownership of land to the southeast of the river remains unconfirmed. A local resident has claimed ownership of the land to the southeast, between Tram Road Side and the footpath leading to the bridge, but ownership cannot be proven to the satisfaction of RCTCBC. Appropriate notices have been advertised in the Western Mail to satisfy planning requirements.

Given the unconfirmed ownership of land to the southeast, access to undertake the works will need be gained from the privately owned land to the northwest, with the agreement of the landowner.

Figure 3 below, identifies the results of the land ownership investigations undertaken.

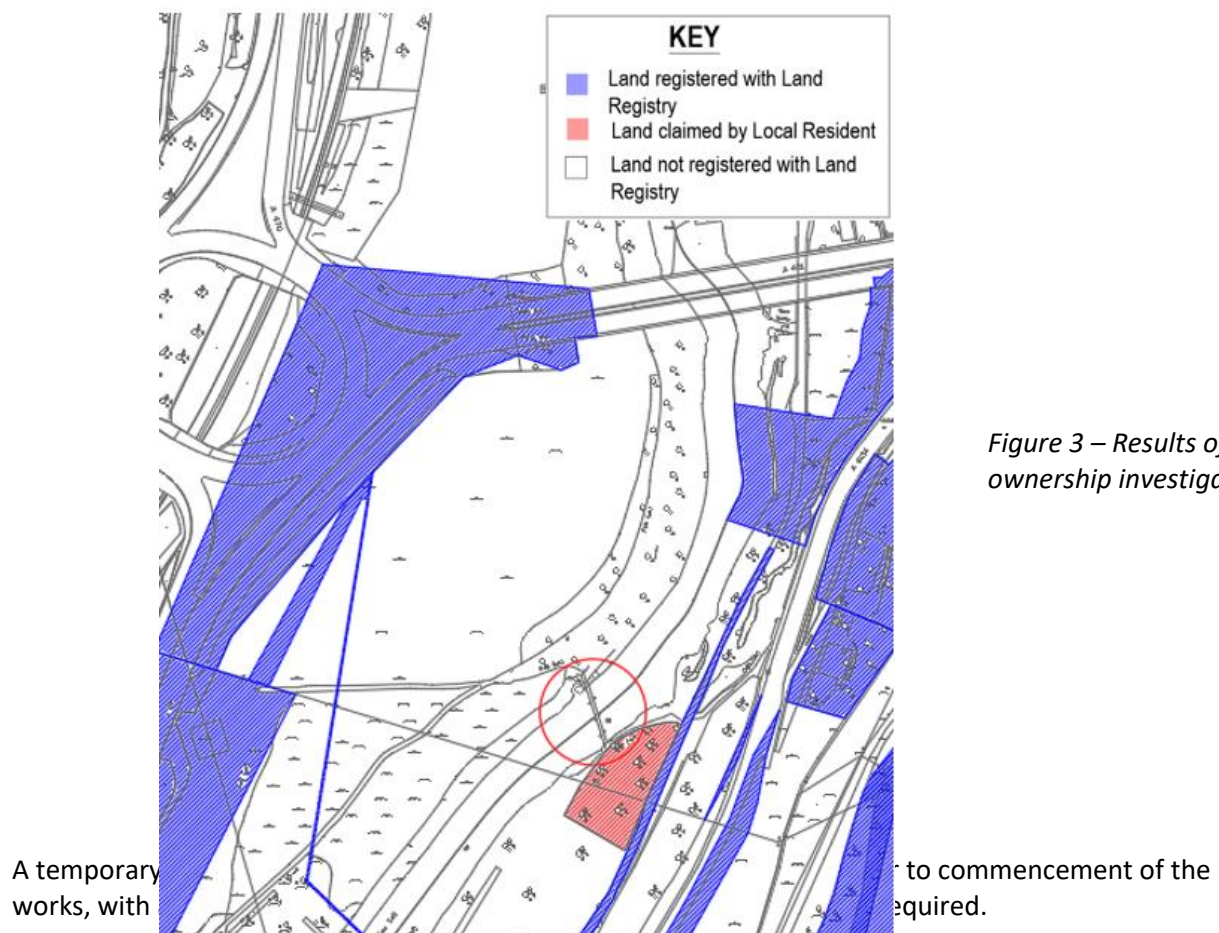


Figure 3 – Results of land ownership investigation

The works to create the temporary access road and compound area are anticipated to involve removal of the field surface and excavation to a suitable depth. A suitable aggregate will be placed in layers, potentially with the inclusion of a geotextile membranes, dependent on the results of ground testing. The access road will be approximately 400m in length and 5m wide, with the proposed route and compound location shown in Figure 4, below.

The proposed route has been chosen to avoid the ancient semi natural woodland that is present to the northwest of the bridge.

All temporary works will be removed on completion and the area reinstated to its original condition. Discussions with the private landowner is ongoing around the terms of the access agreement and the proposed route.

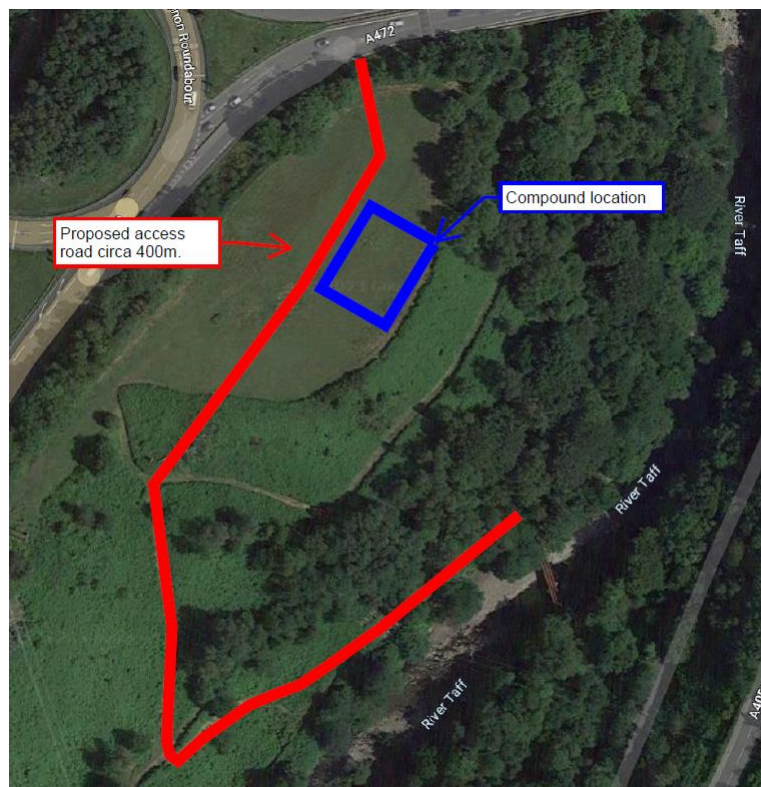


Figure 4 –Location of proposed access road and compound area

5. Landscape Impact and Visual Analysis

Given the damage caused by debris build up/impact/hydraulic loading in February 2020, the proposed footbridge will be designed to have a greater resistance to debris build up/impact/hydraulic loading. The proposed structure will comprise of two vertical parapet edge beam trusses spanning between the abutments and intermediate piers and a horizontal deck truss.

With the local historical value that the pipes hold, given their importance in improving the operations of the Glamorganshire Canal, ensuring that they remain visible is a key aim of the project. Generally, the approaches to the bridge, provide either an upstream or downstream elevational view before a change in direction of the approaches to access the bridge. Due to the direction of the approaches, the proposed increase in width of the deck and inclusion of outriggers for bracing is not anticipated to adversely obscure the view of the existing pipes.

To improve the connection between the bridge structure and top of the piers and provide cross bracing to supports, it is proposed to remove the central pipe to allow installation of cross bracing between supports and a more robust fixing arrangement. It is unlikely that the previous fixing arrangement used, to the now removed bridge structure, would meet current standards.

Sections of the central pipe have previously been removed to enable the steel supports to be installed and fixed to the top of the piers. To enable a more robust connection arrangement to be installed, it is possible further sections of the central pipe would need to be removed, potentially weakening the structural integrity of the pipe. To mitigate against this, it is proposed to remove the central pipe completely to allow access for the installation of the fixings and cross bracing.

The two remaining pipes will be refurbished to improve their appearance and ensure they remain structurally sound, albeit as a visual reminder of the history of the bridge and area.

The visual impact that removal of the central pipe will have is considered to be low. It is currently obscured by the two outer pipes and is only visible when stood within the river channel and viewing from beneath.

6. Ecology

A Preliminary Ecological Appraisal (PEA) was carried out by Redstart on behalf of RCTCBC in August 2022. The focus was to assess the proposals in the context of ecological and environmental impacts. The report summarised the details of what species were found on site, identified the need for further surveys required and listed the control measures that would be required in place during/after construction.

The below outlines the key points from the PEA.

Priority Habitats – The Taff and Rhondda Rivers SINC and the Lower Taff and Edwardsville Woods SINC are present within the works site and are classified as priority habitats. The area to the northwest of the site is an area of ancient semi-natural woodland which could be impacted by removal of trees to facilitate access for plant and machinery during construction works.

Mitigation

Tree clearance to the ancient semi-natural woodland to be kept to the minimum required to implement the scheme, with the proposed access road being routed to avoid the need for tree clearance. Access routes will be clearly defined and fenced and plant sized to minimise extents of clearance whilst ensuring suitable for the works required. Consultation with NRW will be undertaken if clearance within the ancient woodland is required.

Standard best practice and pollution control measures will be implemented in accordance with relevant guidance to prevent pollution of the River Taff occurring by silt, dust, uncontrolled surface water run-off, inappropriate storage of materials and/or inappropriate refuelling of machinery.

A risk prevention plan will be adopted and will include the following measures:

- The compound and all materials (especially if hazardous or toxic) will be stored securely at least 7m away from any watercourses.
- Refuelling of machinery will be carried out away from any watercourse and in a controlled location to reduce the risk of spillage/contamination occurring.
- All static machinery will be placed on drip-trays or oil absorbent nappies. Trays will be emptied regularly to ensure that they contain any spills.

Bats - Habitats on site are highly likely to support commuting and foraging bats and there is moderate potential within stone walls, existing pipes, and abutments, to provide roosting sites for bats. Previous bat surveys undertaken in October 2020 and June 2021 concluded no bats were roosting in the structure and six species were using the area for commuting and foraging.

Mitigation

Further surveys will be undertaken prior to commencement of the works. The extent of these surveys will be dependent on the proposed commencement date. Contractors work methodology will consider the impact of works on bats to avoid obstruction of the river corridor and introduction of artificial lighting at night.

Otter - A previous otter survey undertaken in October 2020 indicated otters were actively using this section of the River Taff for commuting and foraging purposes. Additionally, fresh evidence of otter was identified during the August 2022 PEA update survey, indicating the scheme area is likely to be

frequently used by otter. No holt sites were identified within 30 m of the scheme area during this survey, and it was concluded there was no potential for holts to be established within 30 m of the bridge due to the presence of the steep sided natural outcrop and stone walls associated with the existing bridge structure. There may be potential for otter to be disturbed if using the log piles/fallen tree debris, in the wider area, as resting sites.

Mitigation

Full extents of site will be established and an otter survey will be carried out within 30m upstream and downstream of the site at least 6 weeks before the proposed commencement date.

Protection measures for any uncovered excavation, storages areas etc. will be implemented to reduce risk of otters being trapped. Suitable measures to ensure otters are not restricted from feeding and sheltering areas will be implemented.

Dormouse, Hedgehog, Reptiles and Amphibians - A combined method statement inclusive of dormouse (on a precautionary basis), reptiles, amphibians and hedgehog, will be provided for all vegetation clearance and terrestrial ground excavations.

This will include the following measures:

- Timing – Clearance works should ideally be carried out within the active period for each species (between April and early October).
- Methods - directional 2-stage cut using hand-tools only, finger-tip search and hand dismantlement of potential refugia i.e., log piles.
- Ecological supervision - All vegetation clearance will be undertaken under the supervision of an Ecological Clerk of Works (ECOW).

The method statement will also detail actions needed to be taken for each species in the event any are discovered during clearance works.

Birds - There is potential for site clearance works and construction activity on and near the river or within woodland areas to cause disturbance to nesting birds if works are conducted during the breeding season (March to August inclusive).

Mitigation

Any vegetation or tree clearance will ideally be undertaken outside the bird breeding season (i.e. works conducted during September to February inclusive). If avoidance of the bird breeding season is not possible, clearance works will be carried out carefully following a check by an ecologist for active bird nests immediately prior to works commencing.

If an active nest is discovered, all works in the immediate area will cease and an exclusion zone established as determined by the ecologist, and the nest protected until the young have fledged and/or the nest is no longer active.

Fish - Priority fish species such as brown trout are known to use the River Taff and are likely to be present within the scheme area. Proposed works have the potential to disrupt commuting pathways for fish species if in channel works were to block the river corridor. There may also be potential for species such as stone loach to be spawning in the scheme area.

Mitigation

In-channel works will be required. These works will take place outside of the fish spawning season (i.e. be carried out between 30th June and the 14th October), unless carried out within a dry bed or under appropriate consent from Natural Resources Wales.

Pollution prevention measures for any in river working will also be implemented. NRW will be consulted on in river working and where necessary, appropriate consent from NRW will be obtained.

Invasive Species

Schedule 9 invasive plant species are present in abundance across the site, including Himalayan balsam and Japanese knotweed, which were growing within 1 m of the bridge.

Mitigation

The appointed contractors will provide an appropriate Invasive Species Method Statement for the proposed works. This will be followed for the duration of the works, to minimise the risk of spreading invasive plant species recorded on site.

7. Conclusion

This application seeks to obtain approval for planning permission for the replacement of Feeder Pipe Bridge following structural damage during Storm Dennis in February 2020.

Feeder Pipe Bridge provided a pedestrian link across the River Taff between Tram Road Side, Treharris and Alexandra Place, Abercynon. Tram Road Side, Treharris forms part of Route 8 (Cardiff to Anglesey) of the National Cycle Network. Replacing Feeder Pipe Bridge will reinstate pedestrian access onto this route from Alexandra Place, Abercynon and will provide an opportunity for RCTCBC and MTCBC to consider formalising the existing path into a designated public right of way.

The proposed structure will provide a greater resistance to debris build up/impact/hydraulic loading during flood events and will provide an increased deck width of 2.2m, compared to the previous 1.5m.

The proposals will require the removal of the central original feeder pipe to install the new bridge structure. It is acknowledged that these pipes hold local historical value, given their importance in improving the operations of the Glamorganshire Canal and ensuring that they remain visible is a key aim of the project. With the bridge in place, the central pipe is only visible when stood within the river channel and therefore the visual impact on removing it is negligible. The remaining two pipes will be cleaned and refurbished as part of the works.

Preliminary ecological surveys have been completed. The report summarises the details of what species/habitats were found on site, identified the need for further surveys required and listed the control measures that will be in place during/after construction. Additional surveys required will be completed by the contractor, as appropriate both prior to and during the construction works. Further ecological surveys along the proposed access road to the site may be required, once route agreed with landowner. Any additional requirements as a result of these surveys will be undertaken.