Glandŵr Cymru
Canal & River Trust in Wales

Trevor Basin Education Centre
Green Infrastructure and Net Biodiversity Benefit Plan

15 May 2025

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Version Control Table

As this is a working document and is subject to periodic change, a version control table is included below to track each update, for the benefit of all parties involved.

Version	Purpose/Change	Author/Reviewed By	Date
1.0	Final, for submission	Jenny Spelling, Ecologist, Canal & River Trust	15/05/2025

Project Introduction and Description of Proposed Works

About Canal & River Trust

We are the charity responsible for looking after and bringing to life 2,000 miles of canals & rivers. Our waterways contribute to the health and wellbeing of local communities and economies, creating attractive and connected places to live, work, volunteer and spend leisure time. These historic, natural and cultural assets form part of the strategic and local green-blue infrastructure network, linking urban and rural communities as well as habitats. By caring for our waterways and promoting their use we believe we can improve the wellbeing of our nation.

In addition to the statutory functions of navigation, the Trust is also required to:

- Conserve waterway heritage;
- Promote and enable rural and urban regeneration;
- Maintain and enhance leisure, recreation, tourism and education opportunities for the public; and
- Facilitate waterway transport.

Introduction

Trevor Basin is located in Wrexham, North Wales at the World Heritage Site within the Scheduled Ancient Monument boundary of the Pontcysyllte Aqueduct and within the Pontcysyllte Aqueduct Conservation Area. As a UNESCO landmark attraction, the site has high visitor numbers for the aqueduct, tourism, leisure, education and recreational purposes.

The location of the proposed development is shown in Figure 1 below and photographs of the site can be found overleaf. The application site is located in Trevor Basin, Wrexham, LL20 7TY. The Ordnance Survey grid reference is SJ 2715 4225. The application site is within Wrexham County Borough Council.

Figure 1 - Map showing the site location



Photo 1: Grey shed and grassland



Photo 2: Eastern boundary hedge/treeline



Photo 3: Container and bare ground south of shed



Photo 4: Garden to south of shed



The proposals are to demolish the existing grey storage shed to allow construction of a new education centre, with surrounding landscaping. Further detail on the scope of works can be found within the following documents submitted with the application:

- Design and Access Statement, Buttress, September 2024.
- Proposed Elevations, Buttress, drawing ref. TREVR-BUT-XX-XX-DR-A-05001-P04, 19 March 2025.
- Proposed Landscape Plan, Canal & River Trust, May 2025.
- Arboricultural Appraisal, Salopian Consultancy, 12 May 2025.
- Ecological Assessment, Canal & River Trust, 15 May 2025.
- Habitats Regulations Assessment Screening, Canal & River Trust, 15 May 2025.
- A Construction Environmental Management Plan (CEMP) will be prepared, which will identify protective and preventative measures required to minimise the impact of the proposals on the environment, including biodiversity. The document is a working document and will be updated as site conditions require, taking into account any new or changed conditions or requirements.

The following activities have the potential to affect Green Infrastructure (GI) and biodiversity within the red line boundary of the site:

- Pruning of a hedgerow/treeline along the eastern boundary.
- Demolition/removal of the grey shed.
- Removal/compaction of areas of semi-improved grassland within the site during construction.

Relevant Legislation and Planning Policy

This section sets out the legislative and planning policy requirements for the development.

Environment (Wales) Act 2016

As a statutory undertaker, under the Environment (Wales) Act 2016, the Trust is classed as a Public Authority. Section 6 Biodiversity and resilience of ecosystems duty, of the Act states:

"(1) A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.

(2) In complying with subsection (1), a public authority must take account of the resilience of ecosystems, in particular the following aspects—

(a) diversity between and within ecosystems;

(b) the connections between and within ecosystems;

(c) the scale of ecosystems;

(d) the condition of ecosystems (including their structure and functioning);

(e) the adaptability of ecosystems."

Planning Policy Wales (Edition 12)

Chapter 6 of Planning Policy Wales (PPW) 12[1] requires that a Green Infrastructure (GI) Statement, proportionate to the scale and nature of the proposals, must be submitted with all applications, in order to demonstrate the delivery of "positive multi-functional outcomes which are appropriate to the site in question". It also states that GI can be delivered through individual design measures and by wider landscape measures. The GI Statement must highlight relevant baseline data collected for the site, such as ecological or arboriculltural surveys. Figure 12 in PPW 12 identifies the step-wise approach to "maintain and enhance biodiversity, build resilient ecological networks and deliver net benefits for biodiversity". PPW 12 specifies that "Enhancement must be secured by delivering a biodiversity benefit primarily on site or immediately adjacent to the site, over and above that required to mitigate or compensate for any negative impact." A copy of Figure 12 is provided below for reference:



Figure 2 - PPW Figure 12 showing the Step-wise Approach

[1] Welsh Government (2024) Planning Policy Wales, Edition 12. Available from: Planning Policy Wales - Edition 12 (gov.wales) [Accessed: 04/06/2024]

Paragraph 6.4.5 of PPW 12 sets out that "development should not cause any significant loss of habitats or populations of species (not including non native invasive species), locally or nationally…[and] provide a net benefit for biodiversity and improve, or enable the improvement, of the resilience of ecosystems."

The concept of net biodiversity benefit (NBB) is defined as: "development should leave biodiversity and the resilience of ecosystems in a significantly better state than before, through securing immediate and long term, measurable and demonstrable benefit, primarily on or immediately adjacent to the site".

Future Wales: The National Plan 2040

Future Wales – the National Plan 2040[2] provides a national development framework to 2040, incorporating elements of climate resilience and developing strong ecosystems. Policy 9 – Resilient Ecological Networks and Green Infrastructure describes how Welsh Government will work with key partners to identify, protect and create ecological networks, as well as identifying opportunities where green infrastructure can be maximised.

Planning authorities are required to secure the "maintenance and enhancement of biodiversity (to provide a net benefit), the resilience of ecosystems and green infrastructure assets…as part of development proposals through innovative, nature-based approaches to site planning and the design of the built environment".

Nature Recovery Action Plan for Wales 2020-21

The Nature Recovery Action Plan for Wales[3] includes the Welsh Government's commitment to reversing the decline of biodiversity in Wales and the action required to meet this commitment.

Natural Resources Wales Area Statements

Area Statements are produced by Natural Resources Wales (NRW) to assist "planners to understand environmental issues, priorities and opportunities in their particular area and, based on that information, help them identify strategic actions and policies to address through the planning system". The county of Wrexham is included in the North East Wales Area Statement[4], which includes the following five themes:

- Climate emergency: resilience and adaptation
- Develop and improve urban/rural green infrastructure
- Increasing woodland cover for social, environmental and economic benefits
- Promoting the resilience of ecosystems in maintaining and enhancing biodiversity
- Protecting water and soil through farming and sustainable land management

Local Planning Policy

Wrexham County Borough Local Development Plan 2013-2028[5] includes the following objectives and policies relevant to the proposals:

- Objectives SO09 and SO10, which relate to the protection and sustainable management of natural resources, and the promotion of green infrastructure.
- Policy SP14: Natural Environment, where natural resources will be protected, conserved and enhanced by development proposals.
- Policy SP19: Green Infrastructure, which requires development to create new connectivity of green and blue infrastructure, or improve existing connections.

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[2] Welsh Government (2021) Future Wales The National Plan 2040. Available from: Update to Future Wales - The National Plan 2040 (gov.wales) [Accessed: 04/06/2024]

[3] Welsh Government (2020) The Nature Recovery Action Plan for Wales 2020 – 21. Available from: The Nature Recovery Action Plan for Wales 2020 to 2021 (gov.wales) [Accessed: 04/06/2024]

[4] Natural Resources Wales (unknown) North East Wales Area Statement. Available from: Natural Resources Wales / North East Wales Area Statement [Accessed: 04/06/2024]

[5] Wrexham County Borough Local Development Plan 2013-2028 (adopted 20 December 2023) available from Wrexham County Borough Council

- Policy NE1: International and National Nature Conservation Designations, and Policy NE2: Local Designations for Nature Conservation and Geological Importance, which protect the nature conservation value of designated nature conservation sites, habitats and species.
- Policy NE3: Trees, Woodlands and Hedgerows, requiring the conservation and management of hedgerows, trees and woodland, with development that significantly negatively affects such features not permitted. Development affecting all existing and new proposed woodlands must also "Support proposals which assist in the respectful and appropriate use and protection of woodlands and boundary edges".

Summary of Relevant Baseline Conditions

Details of the results of the surveys can be found in the Ecology Assessment report prepared by the Canal & River Trust and submitted with the application. The report findings are summarised below:

Statutory and Non-statutory Designated Sites

- The Application Site is situated 0.2 km from the River Dee and Bala Lake/Afon Dyfrdwy a Llyn Tegid (Wales) Special Area of Conservation (SAC). It is also designated as Afon Dyfrdwy (River Dee) Site of Special Scientific Interest.
- There are several Restored Ancient Woodland Sites and Ancient Semi-natural Woodlands within 1km of the application site, principally located to the south, south west and south east along the River Dee corridor. The closest site is situated 111 metres to the south west.
- The project lies within the North East Wales Important Invertebrate Area (IIA).
- Three non-statutory designated sites are within 1km of the application site, the closest being Froncysyllte Quarries Local Wildlife Site (LWS) 0.6km south.

Phase 1 Habitat Survey

- The application site contains an existing building, a grey, corrugated metal shed, surrounded by mown semi-improved grassland, patches of bare ground, a tall hedgerow/treeline along the east boundary and part of a garden to the south.
- To the west of the application site lies the towpath and Llangollen Canal. This part of the canal is a busy location, with visitors both on foot and by boat and a popular boar hire business on the opposite bank to the application site. The canal banks are formed of concrete and steel piling with no semi-natural habitat present.

Protected Species

- Badgers *Meles meles* have been recorded within 1km of the application site, however no evidence of badgers was found within the application site or within a 30 metre radius.
- Bats have been recorded within 1km of the site and the site provides suitable foraging habitat for bats. However, the buildings and trees do not support features that could be used by roosting bats.
- A variety of bird species have been recorded within 1km of the site. The application site provides suitable nesting habitat only for more common bird species within the eastern boundary hedgerow/treeline and the grey shed.
- There are records for reptiles within a 1km radius. The eastern boundary feature provides habitat for the more common species of reptiles, such as grass snake *Natrix helvetica*, with potential to be used for sheltering or hibernating.
- There is no aquatic or wetland habitat within the application site. The eastern boundary provides suitable foraging and sheltering habitat for amphibians.
- There is potential for otters *Lutra lutra* to be present within the adjacent canal, however the application site does not contain habitat for otter holts or resting places.
- There are no records for water voles *Arvicola amphibius* within 1km of the application site and a lack of suitable habitat within the site and nearby suggests that water voles are unlikely to be present.
- Records for notable invertebrates were identified during the desk study. Four of these are associated with freshwater river/stream habitats and are unlikely to be using the habitats within the site. Wall butterfly *Lasiommata megera* and white-letter hairstreak, *Satyrium w-album* may be found moving through the site however, elm *Ulmus* spp., which is the foodplant for the white-letter hairstreak, is absent from the site. The habitats on site may provide suitable habitat for a range of common invertebrates only.
- Records for notable fish species were found within 1km, primarily associated with the River Dee. The site does not contain suitable habitat for fish, however the Llangollen Canal may contain lamprey *Lampetra*

species, due to being fed by an intake from the River Dee at Horseshoe Falls, several kilometres upstream.

- The hedgerow/treeline within the application site provides limited habitat for hedgehogs and small mammals, but in general the application site is unsuitable for other notable mammal species such as hare and dormouse.
- A species of Cotoneaster is present within the garden towards the south of the site. No other invasive species were observed within the application site or adjacent habitats, however mink *Neovison vison*, signal crayfish *Pacifastacus leniusculus* and other invasive species may be present within the canal. Mink, Japanese knotweed *Reynoutria japonica* and Himalayan balsam *Impatiens glandulifera* are known to be present along the River Dee nearby.

Arboricultural Information

A tree survey to BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations was carried out by Salopian Consultancy Ltd in September 2024. The survey recorded all significant trees that have potential to be affected. The survey recorded 7 individual trees and 2 tree groups. The works will require the removal of one tree and will also encroach into the Root Protection Areas of retained trees 2T, 3T, 5G, 6G and 7T. The Arboricultural Appraisal, incorporating an Arboricultural Impact Assessment and Tree Protection Measures identifies potential arboricultural impacts of the proposals and offers protection measures and construction methodologies to prevent accidental damage and other adverse effects on the health of retained trees. Mitigation measures will be incorporated into the Construction Environmental Management Plan (CEMP).

The table below describes each component of GI within and surrounding the site and how the step-wise approach has been applied in the design of the project and approach to implementation and biodiversity net benefit. Protection, mitigation and restoration measures will be carried out within the site and surrounding areas within Trust ownership. Enhancement measures will be limited to Trust-owned land, to ensure success of implementation and longevity of management. The extent of Trust-owned land is illustrated in Figure 3.

Type of GI	Description	Mitigation/Restoration Measures to be Implemented	Enhancement/Net Biodiversity Benefit Measures
Watercourses	Llangollen Canal and River Dee. Such features provide continuous wildlife corridors along which species can breed, forage, shelter and migrate. River Dee is designated as a SSSI and SAC.	Protecting and retaining the quality of such features is required by implementing pollution prevention measures. Biosecurity measures to prevent spread of invasive species.	None.
Grassland	Mown semi-improved grassland to north, south and west of grey shed. Grassland contains a diversity of species beneficial to pollinators.	Ground protection measures or fencing to protect grassland outside of construction footprint. Once construction is complete, bare ground will be seeded with a wildflower grassland mixes, such as Emorsgate Seeds EL1 Flowering Lawn Mixture.	Areas of grassland around new Education Centre to be left long to encourage structure and diversity. The lawn area to the south of the proposed new building will be scarified to remove the moss then reseeded with EL1 Flowering Lawn Mixture. Managed on an ongoing basis by the Trust, as per Trust standard procedures.
Trees and hedgerow	Scattered trees within site and hedgerow along eastern boundary. These habitats also provide ecological connectivity, diversity of structure plus shelter, nesting and foraging habitat for a range of species.	One ash tree at the north east corner of the building is to be removed. The material from the felled tree will be incorporated into a habitat pile for invertebrates and small mammals. This will be located in a sunny, quiet location within the site. Retained habitats will be protected where necessary using fencing, including fencing of the root protection areas of trees and hedgerows. Pollution prevention measures will be implemented to minimise effects of dust, waste etc. Minor pruning of trees may be required to facilitate construction works.	Removal and appropriate disposal of the Cotoneaster hedge within the garden. Hedge gap/infill planting will be carried out within the boundary hedgerow within the application site. New hedge planting will be carried out along the southern boundary. This will be a native hedgerow mix of local provenance, using species commonly found within the canal hedgerows but with an improved mix to increase species diversity. Dense ivy ground cover will be removed and a hedgerow wildflower seed mix sown,

			such as Emorsgate Seeds EH1 Hedgerow Mixture. A new hornbeam hedge will also be planted to the west of the new building. New Welsh heritage fruit trees will also be planted within the site, between the reading circle and canal towpath. Managed on an ongoing basis by the Trust, as per Trust standard procedures.
Building	Grey shed present within site, provide nesting habitat for birds. A robin has been recorded as nesting in the shed.	To be demolished and replaced with new building. Checks for nesting birds to be carried out by Ecological Clerk of Works prior to demolition. 3 x bird boxes installed on or integrated within the new building to mitigate for habitat loss. This will include a sparrow colony box, one robin nest box and one 26mm nest box.	The new hedge planting around the site will provide bird nesting habitat in the longer term, once it matures. It will be managed to encourage suitable structure for nesting birds. 3 x bat boxes will be installed on trees within Canal & River Trust ownership away (see Figure 3) from the basin, where artificial light levels are lower. These will comprise 2F Schwegler Bat Box (General Purpose) or similar. The new building includes a habitat wall on the north east elevation, to provide new habitat for a variety of invertebrates. Managed on an ongoing basis by the Trust volunteers.

Further details of the construction-phase monitoring and implementation of protective measures is provided in the CEMP. Each member of the project team will have a defined responsibility, including the Trust as landowner and applicant, the contractor/site manager as responsible for on-site activities, and Ecological Clerk of Works, to oversee the works/monitor compliance.

Once the construction work has been completed, the Trust will take responsibility for implementing the enhancement activities defined in the table above. The Trust Ecologists will be responsible for:

- Identifying appropriate wildflower seed mixes and hedge whips/tree species.
- Identify suitable locations for installation of bird and bat boxes, according to the specific needs of the species in question.
- Implementing wildflower seeding and hedge whip/tree planting, either by site contractors, Trust volunteers or Trust Operational staff. All planting will be carried out at the appropriate time of year

(autumn or spring for seeding; autumn and winter for whip/tree planting), under suitable conditions and will be supervised by the Ecologists.

- Monitoring the success of regeneration of habitats and rectification of any unsuccessful measures. Monitoring will be carried out for 12 months after the completion of the construction phase, with site visits every six months during this time.

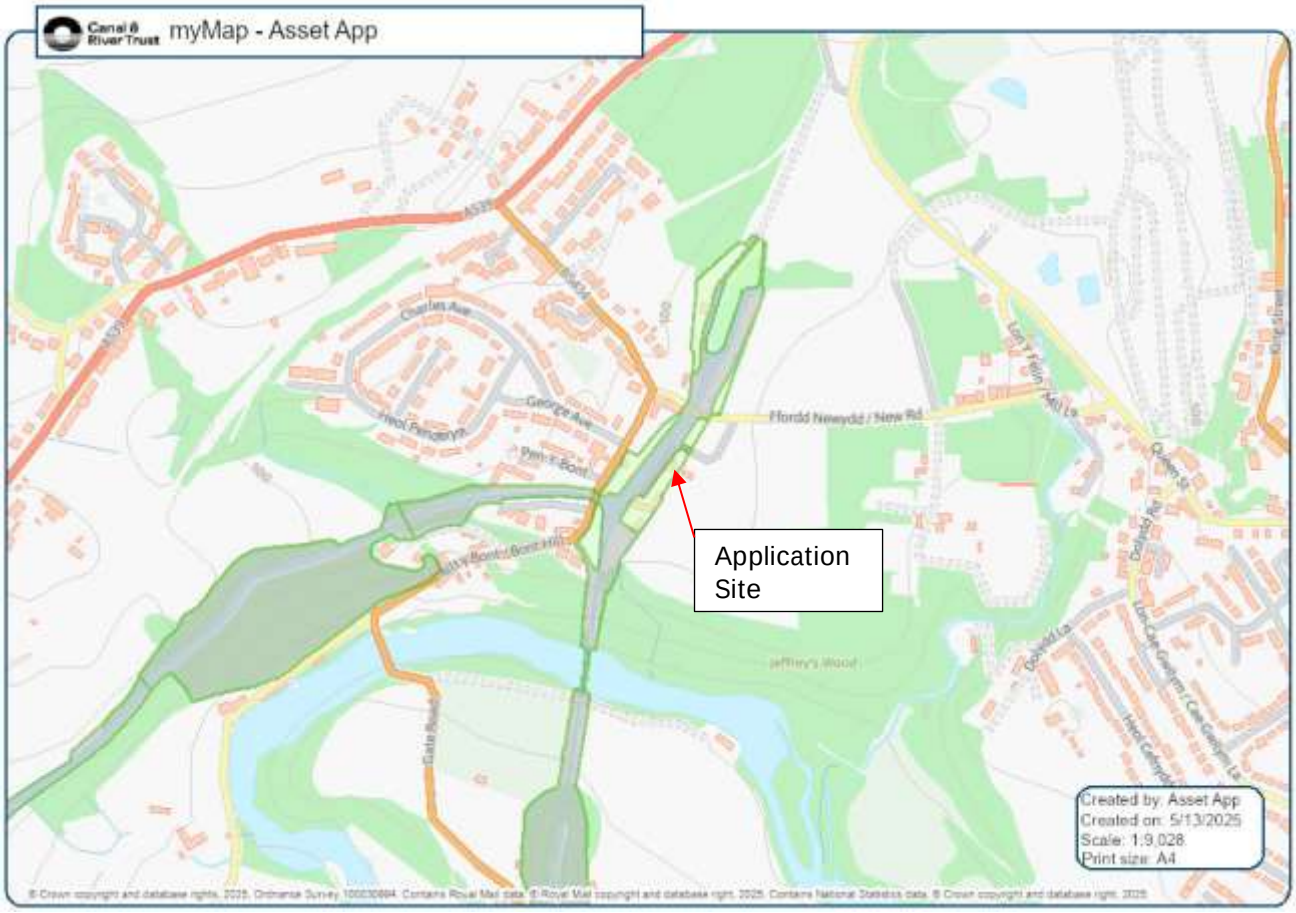


Figure 3 – Canal & River Trust land ownership at Trevor Basin, outlined in green

Conclusion

This report defines the measures required to protect and enhance GI and biodiversity within the site and to achieve a net biodiversity benefit as a result of the proposed works. The measures proposed are proportionate to the scale and nature of the proposed works and will ensure the ecological continuity of the habitats and species within the site and surrounding area.