

6 STATEMENT OF SIGNIFICANCE

6.1 Introduction

The Assessment Area is situated wholly within the UNESCO *Pontcysyllte Aqueduct and Canal* WHS, contains a relatively small, but important element of Cadw's extensive *Pontcysyllte Aqueduct and Canal* Scheduled Monument, and also comprises the northern extent of WCBC's *Pontcysyllte Aqueduct* Conservation Area. In addition, it is located at the edge of the *Vale of Llangollen and Eglwyseg* Registered Historic Landscape of Wales, and is in the immediate setting of a number of Listed Buildings, the nearest being the *Bridge next to Telford Inn* (Cade Ref: 19966). This structure forms the south-western edge of the Assessment Area, and is also known as the *Scotch Hall Bridge*, described in its Listing entry as '*internationally significant as a very early example of an iron-arched canal bridge, internationally there may only have been one earlier example, used on a river navigation cut in Yorkshire, northern England*'.

Evidently, the Assessment Area is located within a wider landscape of very high heritage significance and, as such, is subject to a nested array of designations of regional, national and international importance. This statement of significance will describe the significance of the various designated areas that the Assessment Area inhabits in overarching terms, before assessing how the Assessment Area itself contributes, or has the potential to contribute, to this significance. Section 6 will then provide an assessment of the impact upon this significance of the proposed development within the Assessment Area.

6.2 *Pontcysyllte Aqueduct and Canal* World Heritage Site

The Statement of Outstanding Universal Value for the *Pontcysyllte Aqueduct and Canal* WHS (UNESCO Ref: 1303) provides a clear articulation of the significance of the WHS at an international level:

'Pontcysyllte Aqueduct and Canal in North Wales, built between 1795 and 1808, is a masterpiece of historic transport development and the greatest work of two outstanding figures in the history of civil engineering: Thomas Telford and William Jessop. Pontcysyllte Aqueduct crossed the Dee Valley by nineteen spans at a height of 126 feet (38.4 metres). Its application of the new technology of cast iron to create the tallest and longest navigable aqueduct in the world was a daring and spectacular achievement. The associated 11-mile (18-kilometre) section of navigable waterway is an outstanding example of advances in canal building in the Industrial Revolution, one of the fundamental turning points of human history. The Site exhibits important international interchanges of values in inland navigation, civil engineering and the application of iron to structural design.'

In order to be included on the World Heritage List, sites must be of 'Outstanding Universal Value' and meet at least one out of ten selection criteria. *Pontcysyllte Aqueduct and Canal* meet the following three criteria:

- ♦ **Criterion (i) – 'represents a masterpiece of human creative genius':** *The Pontcysyllte Aqueduct is a highly innovative monumental civil engineering structure, made using metal arches supported by high, slender masonry piers. It is the first great masterpiece of the civil engineer Thomas Telford and formed the basis of his*

outstanding international reputation. It bears witness to the production capacities of the British ironmaking industry, which were unique at that time.

- ♦ **Criterion (ii) - ‘exhibits an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design’:** *The intensive construction of canals in Great Britain, from the second half of the 18th century onwards, and that of the Pontcysyllte Canal in particular in a difficult region, bear witness to considerable technical interchanges and decisive progress in the design and construction of artificial waterways.*
- ♦ **Criterion (iv) - ‘be an outstanding example of a type of building or architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history’:** *The Pontcysyllte Canal and its civil engineering structures bear witness to a crucial stage in the development of heavy cargo transport in order to further the Industrial Revolution. They are outstanding representatives of its new technical and monumental possibilities.*

6.3 Pontcysyllte Aqueduct and Canal Scheduled Monument

Cadw’s entry for the Scheduled Monument (Cadw Ref: DE175) also provides a similar assessment of the significance of the *Pontcysyllte Aqueduct and Canal*, and concludes with the following statement regarding its national significance:

‘The monument is of national importance as the masterpiece of two exceptional figures from the heroic phase of civil engineering in the late eighteenth and early nineteenth centuries, reflecting the crucial developments within inland navigation, civil engineering and the use of iron. It is an outstanding example of the pivotal importance of transport improvement to the Industrial Revolution. As the largest civil engineering projects of their day, canal construction projects were responsible for numerous organisational and technical innovations. Pontcysyllte Aqueduct and Canal is an exemplary manifestation of the innovations which produced the British canals system and were carried forward into the development of later railways, roads and industrial projects. In organisation, innovations included principles of contract management, delegation of duties within engineering teams and the professional independence of engineers. In technology, innovations included hollow masonry and new waterproofing methods to reduce weight, composite use of cast iron and stone, earthwork calculations, construction railways, barrow inclines and cut-and-cover tunnels.

The outstanding feature of the Scheduled Ancient Monument is the Pontcysyllte Aqueduct, originally scheduled in 1958. However, the original designation did not reflect the sophistication of the engineering of the canal or the importance of the earlier Chirk Aqueduct (where Thomas Telford and William Jessop experimented with the use of cast iron) and the Schedule entry has been revised to include the entire length of the Llangollen Branch (including the weir at the Horseshoe Falls and the Pentrefellin Aqueduct), Trevor Basin and the heavily engineered canal section south of Pontcysyllte (including the Froncysyllte Embankment; the Chirk Tunnel and Whitehouse Tunnel; the Canal Wood Cutting and Irish Bridge Cutting; and the Chirk Basin and Aqueduct). The scheduled area comprises the remains described and an area around them within which related evidence may be expected to survive.

The scheduled area includes the canal, its towpath and immediate banks, cuttings and embankments. Where the canal comprises an architectural structure (such as an aqueduct or tunnel), that architectural structure is included in its entirety. Where the canal comprises an earthwork structure (such as an embankment or cutting), that earthwork structure is included in its entirety. Excluded from the schedule are the Llangollen Marina, the Chirk Marina and the many over bridges and associated buildings that line the canal and its wharves and basins (most of which are more appropriately protected under the Planning [Listed Buildings and Conservation Areas] Act 1990)'.

6.4 Pontcysyllte Aqueduct Conservation Area

The Pontcysyllte Aqueduct Conservation Area Assessment and Management Plan (WCBC 2009, 9-10) provides a 'Summary of Special Character' of the Conservation Area. This identifies that this special character derives from:

- ♦ **Pontcysyllte Aqueduct and its Landscape Setting:** *The aqueduct is the dominant, physical, architectural and historic element of the Conservation Area. A remarkable example of working industrial heritage; its size, scale and structural daring through a picturesque landscape have been a source of wonder since the 1790s.*
- ♦ **Contribution Made by Trees:** *A strong sense of enclosure is afforded by the wooded embankments adjacent to the Aqueduct and alongside the linear route from the Froncysyllte Basin to the Aqueduct. These woodlands provide a backdrop to the Conservation Area and form a buffer between the Conservation Area and the adjacent areas of urban housing and industry.*
- ♦ **Contrast Between Open and Enclosed Spaces:** *The open aspect from the Aqueduct and Dee Valley floor is in direct contrast with the tree-enclosed pathways on its approach to the most dominant feature of the Conservation Area. From the open fields of the Valley floor the sheer scale of the Aqueduct can be appreciated. Further contrast is made between the unplanned and open landscape of the Dee Valley with the strong linear form of the Aqueduct and its enclosure of water and pathways.*
- ♦ **Important Views:** *Significant views of the Aqueduct are obtained from the Valley floor as well as along its length from Trevor Basin. From Froncysyllte Basin, magnificent views can be obtained up the Vale of Llangollen whilst from the Aqueduct itself, panoramic views of the Dee Valley can be appreciated.*
- ♦ **Cefn Stone:** *The yellow Cefn sandstone is the predominant material within the Conservation Area, used in the construction of the Aqueduct itself as well as associated canal bridges, buildings and boundary walls.*
- ♦ **Canal Structures:** *The structures and associated buildings create focal points along the length of the canal and within the Conservation Area. In particular, the Trevor Basin Dry Docks swivel bridge, Scotch Hall Bridge and the Froncysyllte Lifting Bridge link the network of footpaths and spaces throughout the area.*

6.5 The Assessment Area

With regard to the Assessment Area within which the proposed development is located, and how this contributes to the significance of the designated areas, this is discussed below in relation to the ‘heritage values’ as espoused in *Conservation Principles* (Cadw 2011).

6.5.1 Evidential Value

Evidential value *‘derives from those elements of an historic asset that can provide evidence about past human activity, including its physical remains or historic fabric. These may be visible and relatively easy to assess, or they may be buried below ground, under water or be hidden by later fabric.’* (Cadw 2011, 16).

With regard to the Assessment Area, this has a high *evidential value* due to the presence of the structural remains associated with the Ellesmere/Llangollen/Shropshire Union Canals, and, in particular, the two canal arms forming the docking area and adjacent wharf that connected this with the former Ruabon Brook Railway. There is also likely to be further hidden, below ground evidence, relating to the former Raubon Brook Railway Cottages and adjacent Beer House/Canal Tavern that formerly inhabited the wharf to the west of the canal arms, and possible evidence associated with the former transfer warehouse that straddled the eastern canal arm.

6.5.2 Historical value

The historical value of a heritage asset could derive from the way in which it *‘might illustrate a particular aspect of past life or it might be associated with a notable family, person, event or movement. These illustrative or associative values of an historic asset may be less tangible than its evidential value but will often connect past people, events and aspects of life with the present’* (Cadw 2011, 16).

The Assessment Area possesses a high level of *illustrative historical value* as the canal architecture of the canal arms and associated wharf and docking area exemplify the former transport node that formed the interface between the canal and railway networks. These were at the heart of the Industrial Revolution in this part of Wales, connecting the local industries with the wider UK and beyond, and although the railway has now been dismantled, the surviving canal arms at Trevor Basin remain as testament

The wider WHS evidently has a very high *associative historical value* as a result of its association with the pioneering civil engineers Thomas Telford and William Jessop. This association evidently extends to the Assessment Area, and this also has an association with locally important industrialists such as Exuperious Pickering and Thomas Ward who were associated with the later history of the basin and the development of the Plas Kynaston Canal.

6.5.3 Aesthetic Value

Aesthetic value *‘derives from the way in which people draw sensory and intellectual stimulation from an historic asset. This might include the form of an historic asset, its external appearance and how it lies within its setting. It can be the result of conscious design or it might be a seemingly fortuitous outcome of the way in which an historic asset has evolved and been used over time, or it may be a combination of both’* (Cadw 2011, 16).

With regard to the Assessment Area, this shares a number of the ‘special characteristics’ of the wider Conservation Area of which it forms a part, and therefore has a high *aesthetic value*. These include the contribution made by trees, as a strong sense of enclosure is afforded by the wooded embankments adjacent to this northern part of the Trevor Basin. The yellow Cefn stone of the canal structures within the assessment area also contributes to its aesthetic value, and the canal structures themselves, including the canal arms and the central pier are also important focal points. The Scotch Bridge also forms a distinctive blocking feature at the southern edge of the Assessment Area as well as affording significant views into it, as well contributing greatly to the *aesthetic value* of views from within it.

6.5.4 Communal Value

Communal value ‘*derives from the meanings that an historic asset has for the people who relate to it, or for whom it figures in their collective experience or memory. It is closely linked to historical and aesthetic values but tends to have additional or specific aspects.*’ ... ‘*Historic assets can also have social value, acting as a source of social interaction, distinctiveness or coherence; economic value, providing a valuable source of income or employment; or they may have spiritual value, emanating from religious beliefs or modern perceptions of the spirit of a place*’

The wider WHS has a high *communal value* due to the Pontcysyllte Aqueduct being such an iconic and internationally important structure, and, as such, has a high social and economic value as a tourist attraction. This evidently also extends to Trevor Basin and the Application Site, and this visitor offer has the potential to be greatly enhanced within the Application Site as a result of the current proposals.

7 IMPACT ASSESSMENT

Impacts to heritage assets from development proposals can result from *direct, physical impacts*, for example to upstanding structures or earthworks or to buried archaeological remains, or from *indirect physical impacts*. Such indirect physical impacts might result from the effects of increased risks of exposure, erosion, disturbance, decay, dereliction or any other detrimental physical change resulting from the development, or changes in land use. *Indirect visual impacts* might also have an effect on the settings of heritage assets, which could be of an adverse or beneficial nature. Other *indirect impacts* might result from increased or decreased opportunities for education, understanding or enjoying the amenity of heritage assets.

7.1 Visibility Analysis

In order to gain a better understanding of the *extent* of the visual impact of proposals, a ‘Zone of Theoretical Visibility’ (ZTV) map was produced. Such maps are often produced to depict the predicted visibility of a development using a ‘bare-earth’ Digital Terrain Model (DTM) (i.e. without any vegetation or buildings) and are therefore indicative of a ‘worst case scenario’ which will not be a true reflection of the situation in reality. However, in reality these views would be greatly screened by intervening vegetation and built environment, and it is possible to produce an approximate model of this effect using LiDAR data, processed using the Quantum GIS Visibility Analysis plug-in. The LiDAR Digital Elevation Model (DEM) used was the Digital Surface Model (DSM) rather than the Digital Terrain