

Heritage Impact Assessment:

Kronospan, Holyhead Road, Chirk Access road, lorry park, 132kV substation and other ancillary works

August 2022



Report No. 2120

By

Susan Stratton PhD



Heritage Impact Assessment:

Kronospan, Holyhead Road, Chirk

Access road, lorry park, 132kV substation and other ancillary works

July 2022

Prepared for AxisPED

By
Susan Stratton PhD

Report No.2120

Version	Date	Sections Revised	Prepared/Revised by	Checked & Authorised by
1	4.9.22	Original	Susan Stratton PhD	Irene Garcia Rovira MCIfA
2	8.12.22	Various	Susan Stratton PhD	Irene Garcia Rovira MCIfA

Copyright Notice: Archaeology Wales Ltd. retain copyright of this report under the Copyright, Designs and Patents Act, 1988, and have granted a licence to AxisPED Ltd and their agents to use and reproduce the material contained within.

The Ordnance Survey has granted Archaeology Wales Ltd a Copyright Licence (No.100055111) to reproduce map information; Copyright remains otherwise with the Ordnance Survey.

Contents

1. Introduction.....	4
2. Legislation, planning policy and guidance	4
3. Methodology	5
4. Baseline.....	7
5. The Development Proposals	15
6. Identifying Impacts	19
7. Mitigation and enhancement.....	23
8. Conclusions.....	24
9. Sources.....	26
Figures.....	27

Figures

Figure 1: Site location.	28
Figure 2: Proposed development area (PDA)	29
Figure 3. Proposed development – latest design.....	30
Figure 4. Pontcysyllte Aqueduct and Canal WHS and Buffer	31
Figure 5. Pontcysyllte Aqueduct and Canal WHS and Buffer	32
Figure 6 Heritage assets directly associated to WHS within Chirk.....	33
Figure 7 Early project design – superseded.....	34
Figure 8 Location and direction of shots.....	35

Plates

Plate 1. View from Llangollen Canal toward development obstructed by topography and vegetation.	36
Plate 2. View from Llangollen Canal toward development.....	36
Plate 3. View from the grounds of Chirk Castle	37
Plate 4. View from the grounds of Chirk Castle, view of small fraction of proposed development area	37

Copyright Notice:

Archaeology Wales Ltd. retain copyright of this report under the Copyright, Designs and Patents Act, 1988, and have granted a licence to the Client, to use and reproduce the material contained within.

The Ordnance Survey has granted Archaeology Wales Ltd a Copyright Licence (No. 100055111) to reproduce map information; Copyright remains otherwise with the Ordnance Survey.

Summary

In August 2022, Archaeology Wales (AW) was commissioned by AxisPED to carry out a Heritage Impact Assessment in relation to a proposed development of construction of an access road, lorry park, 132kV substation and other ancillary works at land NE of Kronospan, Maesgwyn Farm, Wrexham LL14 5NT - NGR SJ 328825 339096.

The development area lies within 140m of the World Heritage Site (WHS) Pontcysyllte Aqueduct and Canal and Scheduled Monument (SM) Llangollen Canal (DE175; PRN 124694, NPRN 405725) and within the WHS Buffer Zone. The purpose of the HIA is to identify and evaluate potential impacts of the development on attributes that contribute to the Outstanding Universal Value of the WHS and to provide solutions to ensure its protection.

The HIA has identified that four heritage assets would be indirectly impacted by the proposed designs: Pontcysyllte Aqueduct and Canal WHS / Llangollen Canal DE175, Chirk Castle Registered Park and Garden PGW(C)63(WRE), Chirk Castle LB598, and Offa's Dyke Sections DE133 and DE135. The mitigation to minimise these impacts is woodland planting, both on and off-site, which will screen the development area from view.

The Proposed Development also has the potential to impact the sense of arrival at the WHS. However, the HIA has identified that there is a low sense of arrival in this part of the WHS. Proposed mitigation to limit impacts for those arriving by road include further woodland planting and a screening bank. Enhancements are also suggested to increase awareness of the WHS for those arriving in Chirk.

1. Introduction

- 1.1.1. In August 2022, Archaeology Wales (AW) was commissioned by AxisPED to carry out a Heritage Impact Assessment (HIA) in relation to a proposed development of construction of an access road, lorry park, 132kV substation and other ancillary works at land NE of Kronospan, Maesgwyn Farm, Wrexham LL14 5NT - NGR SJ 328825 339096 (Figure 1-3).
- 1.1.2. The development area lies within c.150m of the World Heritage Site (WHS) Pontcysyllte Aqueduct and Canal and Scheduled Monument (SM) Llangollen Canal (DE175; PRN 124694, NPRN 405725) and within the WHS Buffer Zone.
- 1.1.3. This assessment has been undertaken in line with relative legislation and planning policies and in accordance with the guidance set out by UNESCO for assessing impacts to World Heritage Sites in Guidance and Toolkit for Impact Assessments (UNESCO, 2022). It also draws on the assessments made within the Setting Assessment (Garcia Rovira 2022).

2. Legislation, planning policy and guidance

2.1. National Planning Policy

- 2.1.1. National Policies relating to archaeology and cultural heritage include the following:
 - Ancient Monuments and Archaeological Areas Act 1979;
 - Planning (Listed Buildings and Conservation Areas) Act 1990;
 - Planning Policy Wales (Edition 11, 2021) Section 6.1;
 - Technical Advice Note (TAN) 24: The Historic Environment, 2017. Particularly, Sections 3,4 and 7.

2.2. Local Planning Policy

- 2.2.1. Local Planning Policies relating to archaeology and cultural heritage include the following: Wrexham Unitary Development Plan (UDP) 1996 - 2011, Policy EC7, EC9 and EC11; and Wrexham Local Development Plan 2013 -

2028 Deposit Plan (March 2018), Policy SP10 Conserving, Protecting and Enhancing the Historic Environment and Pontcysyllte Aqueduct and Canal World Heritage Site.

2.3. Legislation and Guidance

2.3.1. This assessment has been informed by the following documents:

- Guidance and Toolkit for Impact Assessments in a World Heritage Context (UNESCO/ICCROM/ICOMOS/IUCN 2022)
- Setting of Historic Assets in Wales (Cadw 2017)
- Sustainable Management of the Historic Environment in Wales (Conservation Principles) (Cadw 2011)
- Pontcysyllte Aqueduct & Canal – local planning guidance note
- Pontcysyllte Aqueduct & Canal. Supplementary Planning Notice (2012)
- Pontcysyllte Aqueduct and Canal World Heritage Site Management Plan 2019-2029 (ARCADIS 2019)
- Research Framework for the Archaeology of Wales (2017)

3. Methodology

3.1.1. The purpose of the HIA process is to assess the potential impacts of the Proposed Development on the Outstanding Universal Value (OUV) of the WHS to enable informed decisions to be made about the suitability of the proposals. The process identifies potential negative impacts and provides solutions to ensure the protection of the OUV.

3.1.2. This report will present the assessment process and conclusions in the following four stages based on the *Guidance and Toolkit for Impact Assessments in a World Heritage Context* (UNESCO/ICCROM/ICOMOS/IUCN 2022):

- Stage One – Baseline: Describes the existing condition of the WHS and identify the values and attributes of the WHS that contribute to the site's OUV.

- Stage Two – The Development Proposals: Describes the development proposals including potential alternatives to achieve the project’s objectives.
- Stage Three – Identifying Impacts: Identifies the potential impacts of the proposed development and evaluates their significance.
- Stage Four – Mitigation and Enhancement: Explores alternatives and mitigation measures to reduce or remove negative impacts and enhance positive impacts.

3.1.3. The assessment will utilise the assessment terminology described in *Guidance on Heritage Impact Assessments for World Heritage Properties* (ICOMOS 2011) to identify and describe the scale and severity of impacts on the heritage assets and their settings (Table 1).

Value of Heritage Asset	Scale & Severity of Change/Impact				
	No Change	Negligible Change	Minor Change	Moderate Change	Major Change
For WH Properties Very High – attributes which convey OUV	Significance of Effect or Overall Impact (Either Adverse or Beneficial)				
	Neutral	Slight	Moderate/ Large	Large/Very Large	Very Large

For other heritage assets or attributes	Significance of Impact (Either Adverse or Beneficial)				
Very High	Neutral	Slight	Moderate/ Large	Large/ Very Large	Very Large
High	Neutral	Slight	Moderate/ Slight	Moderate/ Large	Large/ Very Large
Medium	Neutral	Neutral/Slight	Slight	Moderate	Moderate/ Large
Low	Neutral	Neutral/Slight	Neutral/Slight	Slight	Slight/ Moderate
Negligible	Neutral	Neutral	Neutral/Slight	Neutral/Slight	Slight

Table 1. Scale or Severity of Impacts or Changes (ICOMOS 2011, pp. 9-10).

4. Baseline

- 4.1.1. In 2009, Pontcysyllte Aqueduct and Canal was inscribed as a World Heritage Site (WHS). Information regarding the asset was detailed in *Pontcysyllte Aqueduct & Canal Nomination as a World Heritage Site Nomination Document* (Wrexham County Borough Council and RCAHMW 2008), and its management updates is reflected in *Pontcysyllte Aqueduct and Canal World Heritage Site Management Plan 2019-2029* (ARCADIS 2019).
- 4.1.2. The WHS is 11 miles long, 10.5 miles are located within Wales and 0.5 in England (Figure 4). It can be divided into two distinct sections: (1) from Gledrid Bridge to Trevor Basin and (2) the Llangollen arm from Trevor Basin to the Horseshoe Falls (ARCADIS 2019). It is the first section that the proposed development area lies adjacent to. This area also lies within the Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (Figure 4-5).

Historic Background

- 4.1.3. Llangollen Canal was first envisaged in 1791 by a group of industrialists who owned coal and iron mines in the vicinity of Ruabon. They wanted to establish better routes to export goods whilst also being able to exploit new centres of industry that had emerged around the Welsh border. In 1793, they obtained an Act of Parliament, subsequently founding the Ellesmere Canal Company.
- 4.1.4. By the end of the 18th century, Thomas Telford and William Jessop designed a canal which would enable transport raw materials and good from the Welsh uplands to the English lowlands; a project which had to use pioneering techniques to cross two rivers and a ridge (ARCADIS 2019).
- 4.1.5. The Canal has been in continuous use since its construction, first to transport coal, iron, slate, and limestone and subsequently to carry pleasure boats. The WHS has become an important tourist attraction for the area (ibid).

Pontcysyllte Aqueduct and Canal WHS

- 4.1.6. The OUV of the WHS is derived from the ambitious and innovative

engineering employed in its construction (see Appendix I for the full Statement of Outstanding Universal Value). The Canal is an early example of the advances in civil engineering that occurred during Britain's Industrial Revolution. It crosses a challenging landscape, requiring the construction of two aqueducts and two tunnels along its route, as well as a weir (Horseshoe Falls) at its start to draw water from the River Dee, earthworks, and embankments. It utilised new building materials and new designs; the Pontcysyllte Aqueduct itself, constructed of tall masonry piers supporting iron arches, is the best example of this.

- 4.1.7. The nature of the landscape through which the Canal runs means that its visibility varies along the route. At some points it forms an important part of the aesthetic of the local landscape. The aqueducts, both Pontcysyllte in the Dee valley and Chirk in the Ceiriog valley, are significant landmarks and their impressive appearance contributes to the beauty of their respective valleys. There are numerous contemporary paintings from the time of their construction that demonstrate that they were considered both aesthetically and technically admirable. Other sections of the Canal are less prominent, not only where it flows through tunnels, such as at Chirk, but also through cuttings or between high embankments. In such locations it would be easy not to know the Canal existed unless one was on the towpath.
- 4.1.8. The WHS boundary includes the key attributes designation includes not just the Pontcysyllte Aqueduct and Llangollen Canal, but also all those associated assets which also represent an expression of its OUV, such as embankments, bridges, cuttings, aqueducts, and all other associated features which demonstrate the improvement of civil engineering and transport during the Industrial Revolution (Figure 6; Wrexham County Borough Council and RCAHMW 2008).
- 4.1.9. The WHS is surrounded by a Buffer Zone that covers an area of 4,145 ha in total. The aim of the Buffer Zone is to provide an extra layer of protection to the wider setting of the WHS. The landscape and assets within it support the OUV of the WHS and contribute to its character and sense of place. It plays

an important role in understanding the character of the area and the WHS's position within that.

4.1.10. Assets that are associated with the attributes of the OUV of the Canal in the vicinity of the Proposed Development include DE288 The Holyhead Road: the Chirk Embankment and earlier trackways, the early 19th century Park and Garden PGW(C)15(WRE) Brynkinalt, and Chirk Conservation Area.

4.1.11. Other assets within the Buffer Zone are not linked to the WHS, but nevertheless contribute to its wider cultural and aesthetic setting. Such assets with the potential to be impacted by the Proposed Development are Chirk Castle Registered Park and Garden, PGW(C)63(WRE) and the 18 Listed Buildings within it (including Chirk Castle, LB598), Whitehurst Registered Park and Garden PGW(C)11(WRE), Castell y Waun Mound DE117, and sections of Offa's Dyke DE133, DE135, and DE138.

4.1.12. Site visits and ZTV models have established that assets located to the south and south-east of the Kronospan facility and Chirk have no visibility to the proposed development area due to the local topography and built environment. These assets are:

- DE288 The Holyhead Road: the Chirk Embankment and earlier trackways;
- DE117 Castell y Waun Mound;
- PGW(C)15(WRE) Brynkinalt; and,
- Chirk Conservation Area.

4.1.13. The remaining assets which could potentially be impacted by the Proposed Development are described below.

Chirk Castle Registered Park and Garden, PGW(C)63(WRE)

4.1.14. Chirk Castle is a Grade I listed park that forms the grounds of Chirk Castle. The park has its origins in the 14th century when the Mortimer family built a wooden-fenced deer park around the castle which included 100 acres of woodland. By the time of the Civil War the Myddeltons had cleared the

woods, and it was only during the Restoration Period that replanting occurred again. In 1675, the park was extended and was recorded as holding 500 deer.

- 4.1.15. A depiction of the park from 1742 shows that it then included baroque formal gardens with avenues extending across the park. The remnants of the baroque layout are still found in the route of the southern road (now a drive) and the lake. However, most of this layout was superseded by a new landscape design created by William Emes for Richard Myddleton in the late 18th century. His additions included the ha-ha, formal gardens, layout of the grassland, and woodland planting. Planting of the formal gardens dates to the late 19th and early 20th centuries.
- 4.1.16. The park survives in good condition. It is now owned by the National Trust and is open to the public. Including the castle itself there are 26 listed buildings within the park, which are all features of the park, such as gates, entrance lodges, formal garden walls and ornaments, and estate workers' cottages. Offa's Dyke runs roughly north - south across the park at its highest point.
- 4.1.17. The park is located on high ground to the north of the River Ceiriog. The castle sits at its highest point, and the land slopes away steeply to the south and more gradually to the east and north. The slope of the ground means that there are views towards Chirk and the existing Kronospan site from more elevated areas of the east-facing slope. The greatest visibility is towards the north-eastern part of the park, where from some locations factory buildings are visible. However, for the most part the views are only of the upper stacks and emission plumes and the buildings are largely screened by woodland, either within the park or along the canal. Views of the Kronospan site in the southern areas of the park are entirely blocked by woodland within the park.

Chirk Castle LB598

- 4.1.18. Chirk Castle is thought to have been built around 1295 for Roger Mortimer after the lands of Llewelyn ap Gryffydd ap Madog were granted to him by

Edward the I. The original design was rectangular with large towers at the four corners and halfway along the long sides. Mortimer's nephew, also Roger Mortimer, was imprisoned in 1322 for leading a revolt of the Marcher lords, and the castle was given to the Earls of Arundel. It was bought by Thomas Myddleton, a merchant, in 1595 and remained in the Myddleton family until it was bought and given to the National Trust in 1978.

- 4.1.19. The 13th century core of the building remains, despite numerous alterations over the years, including the additions of windows and crenelations to the upper parts of the towers in the 19th century.
- 4.1.20. The castle's elevated position at the top of an east-facing slope means that it has views across the north of Chirk. The existing Kronospan site is almost entirely obscured by woodland within the park in winter, and entirely obscured in the summer.

Whitehurst Registered Park and Garden PGW(C)11(WRE)

- 4.1.21. Whitehurst Park is small Grade II* walled garden. It is a rare example of an ornamental fruit garden dating to the 17th century (Hankinson 2018). The garden was built by Sir Thomas Myddleton II in 1651 and was established as a productive as well as ornamental garden. The Myddletons used banqueting houses (probably Grade II* Queens Anne's Cottage (LB 1288), Whitehurst house (LB 1287)) in the gardens to entertain visitors instead of Chirk Castle. A number of other structures within the garden are listed, including its terraces (LBs 20224-6), and the gates and gate piers associated with the garden wall (LB 1286).
- 4.1.22. The garden is bounded by the A5 to the west and south, and the Afon Bradley to the south-east. The railway lies 50m to the west and the Llangollen Canal lies immediately west of that. Views to the existing Kronospan site are obscured by trees along the A5 and on intervening field boundaries.

Offa's Dyke Sections DE133, DE134, DE135, DE138, DE140, and DE198

- 4.1.23. Offa's Dyke is the UK's longest linear earthwork, stretching approximately 220km from Treuddyn in north-east Wales to Sedbury Cliffs in south

Gloucestershire. The monument is believed to have been constructed during the reign of King Offa and so dates to the late 8th century AD. The Dyke is thought to have formed a boundary between the Saxon kingdom of Mercia and the Welsh kingdoms, although its exact function has been debated with suggestions it may have served as a defensive structure as well as a boundary (Hadley, 2017).

- 4.1.24. The Dyke is formed of an earthen bank with a ditch on its western side, with the ditch having a counterscarp (Williams, 2019). It survives in varying states of preservation, with some sections surviving as visible earthworks while some have been buried and levelled. Along its best-preserved sections the bank stands to 3.5m high, with excavated sections showing the ditch to be at least 3.5m wide and 1.7m deep (Hill, 2020).
- 4.1.25. There are six sections of the Dyke in the vicinity of Kronospan, where it runs along the top of the higher ground to the west of the WHS. The Offa's Dyke Path is a national long-distance footpath that follows the route of the Dyke. At this part of the route, it only runs along the Dyke on Section DE140. For the other five sections it runs roughly parallel to the Dyke but to the west. Three of the sections, DE134, DE198 and DE135, lie within the Chirk Castle Registered Park and Garden. Sections DE133 and DE138 are on private land.
- 4.1.26. There are currently intrusive views of the Kronospan site, including warehouse buildings, from the Offa's Dyke Path. The Dyke itself is at a slightly lower elevation, meaning that there is greater tree screening of the site but still with partial views in winter. The affected sections are DE133 and DE135.

Darland Wood Round Barrows DE223

- 4.1.27. The remains of two round barrows, thought to date to the Bronze Age. Both are circular, with rounded profiles. Barrow A has a diameter of 15 – 20m and is around 0.5 – 1m high, despite being reduced by levelling in 1890 and subsequent ploughing. Barrow B is 26m in diameter and between 0.4 and 1.3m high. Despite the levelling disturbance the barrows are likely to be

well preserved and have significant archaeological potential. They may contain surviving burial deposits, and environmental and structural evidence.

- 4.1.28. The barrows' topographical position prevents any views of Chirk and the existing Kronospan site.

Argoed Hall PGW(C)42(WRE)

- 4.1.29. Argoed Hall is a Victorian Grade II listed Park and Garden. The garden consists of a formal terraced garden around Argoed Hall (LB1348) and stables (LB1349) and woodland on the steep slope down to the River Dee. The woodland is laid out with walks, and steps lead from the Hall to a summer house on the riverbank.

- 4.1.30. The gardens survive reasonably well intact, although a narrow lake in the woodland to the north is now overgrown and partially silted up. There are views to the west due to the park's location on the steeply sloping east bank of the Dee. There are no views from the park to the Kronospan site due to its position on a west-facing slope.

Wynnstay PGW(C)64(WRE)

- 4.1.31. Wynnstay is a large Grade I Park and Garden on high land rising north of the River Dee, with views to the south and west. The park has its origins as a Deer Park created by Sir John Wynn in 1678. An estate map dating to c. 1740 shows that some of the formal landscaping still existing has already been carried out, including a north-west – south-east running avenue. In the late 18th century, Sir Watkins Williams Wynn, 4th baronet, commissioned major alterations by Richard Woods and later Lancelot 'Capability' Brown, which included a new lake that has not survived. He also commissioned the architect James Wyatt to build a bath house on the edge of the lake.

- 4.1.32. Much of the park survives intact, including the Victorian mansion house (LB1627), formal and informal gardens, walled kitchen garden, a ha-ha, the Bath House (LB15745) and other listed estate buildings, parkland, and woodland. The park is crossed by the A483, which runs north – south through the middle of the area, while a section of the former parkland in the

north-west has had residential streets and housing built on it. Despite the park's situation on a south-facing slope to the north of the Kronospan site there is currently no visibility of the existing buildings due to local topography and trees.

Sense of Arrival

- 4.1.33. The main visitor focus to the WHS is the Pontcysyllte Aqueduct c. 3km north of Chirk, and the main road routes to this are unaffected by Kronospan. The Chirk Aqueduct is less than 1km south of the Kronospan site. Access to this part of the WHS by road from the north is either by the A5 to the east of Chirk or the B5070, which runs adjacent to the Kronospan site. The canal in this area is low-lying. It passes through Chirk Tunnel and then continues north between high embankments that gradually lower before the canal passes through the Whitehurst Tunnel. Travelling into Chirk via the A5 and the B5070, there is no clear visual indication of the canal, even if approaching from the west on the A5 over Whitehurst Tunnel.
- 4.1.34. The Kronospan complex is partially visible from the northern end of the B5070, although views are intermittent and screened by some trees along the roadside. Travelling south along the B5070, despite the proximity to the road there is limited opportunity for clear views of the existing Kronospan facility due to screening provided by vegetation. However, the B5070 is also the existing route by which lorries access the Kronospan site and it receives heavy traffic. Lorries are sometimes forced to wait on the road before being able to access the site, increasing the generally busy feel of the route.
- 4.1.35. Another important access route which runs through the Buffer Zone is the Chester to Shrewsbury railway, which runs immediately to the east of the WHS. Travelling from the south, the railway crosses the Ceiriog Valley over a 16 arch stone viaduct, built in 1858, and itself a Grade II* listed building, LB20210. The viaduct runs next to and slightly higher than the aqueduct, providing travellers with an impressive view of the WHS. When travelling from the south this is the first experience of the WHS. Views of the Canal are

lost as it enters Chirk Tunnel and then the Archwood factory sits between the railway and Canal north of Chirk station. Once past the industrial area the Canal runs at ground level and the railway sits above it on a low embankment. There are intermittent views of the Canal, punctuated by tree cover. The railway also forms the western boundary of the Kronospan site, and existing structures are clearly visible at short range from the stretch of railway immediately north-west of the Kronospan site.

The Canal is now used for leisure and tourism, and the WHS can be travelled through by boat or on foot along the towpath. The section of the Canal that runs alongside the Kronospan site is in a cutting, meaning there are no views of the site. However, to the north where the Canal runs at ground level there are more open views, and when travelling south along the Canal there are clear views of the Kronospan site which jar with the generally rural setting. The Site of the Proposed Development (to the north of the existing Kronospan facility) can be seen during winter through intervening vegetation cover, but is wholly screened in summer. Recent woodland planting implemented as part of the Kronospan Landscape Strategy will provide further screening of views from the canal corridor over time.

5. The Development Proposals

5.1. History of the development (Figure 3, 7)

- 5.1.1. The Kronospan site at Chirk was established in the 1970s. It currently covers 41.2 ha and includes large industrial buildings with emissions stacks up to 70m in height, raw material storage areas, warehouses, offices, car parking, and lagoons for surface water run-off from the site. The facility continues to develop as changes to industrial processes, market conditions, and other factors or issues emerge.
- 5.1.2. The Proposed Development is located immediately to the north-east of an industrial estate which includes the main factory and other infrastructure associated with Kronospan. The Proposed Development is bounded to the east by the B5070 and Chirk, to the west by the disused railway and

Llangollen Canal (DE 175; PRN 124694, NPRN 405725), to the south by the main industrial complex, and to the north by open fields. The proposed development area has been used in recent years for grazing (Figures 1-3).

- 5.1.3. The location of the development is constrained by the availability of suitable sites. Both the lorry park and the substation need to be adjacent to the existing facility. The existing Kronospan site is bounded by the B5070 to the east, the Mendelez site immediately to the south, and the railway and WHS immediately to the west. The proposed area on land to the north of the facility is therefore the only viable location available.
- 5.1.4. A new 132kV substation is proposed for the site, which will connect into the nearby high voltage electricity line, reducing the demand on the local network. Not only will this improve the reliability of the local electricity supply for Chirk, reducing the likelihood of network failure, but it will also provide a more reliable supply for the Kronospan facility. It is considered that this will increase operational efficiency, reduce the use of fossil fuels in onsite generators, and enable the development of renewable energy sources onsite.
- 5.1.5. The creation of the proposed northern access road would remove around 1,500 heavy goods vehicles (HGV) movements per day from the residential section of the B5070/Holyhead Road. The use of local roads through Chirk by HGVs is of considerable concern to local residents, who have been advocating for a northern access route for several years. Kronospan currently manages the HGV flow onto the site by providing arrival time windows, ensuring that there is adequate short-term parking available on-site. This results in those HGVs which arrive before their timeslot having to make use of parking along the local trunk roads. The provision of the lorry park would enable wider delivery slots to be created which would help reduce congestion on the local trunk road network by reducing the likelihood of vehicles arriving early and needing to park on the road awaiting to access the site.

5.2. Alternative sites

- 5.2.1. Consultation with Cadw during the pre-application process raised the question as to why an off-site lorry park (in which HGVs could be held prior to unloading) outside of the Pontcysyllte Aqueduct and Canal WHS Buffer Zone would not be feasible as an alternative to the Proposed Development.
- 5.2.2. From a logistical perspective, an off-site lorry park would be required to be as close as possible to the existing Kronospan Facility and close to the strategic road network to minimise impacts on the local highway network and to avoid or minimise the requirement to build further highway infrastructure to the off-site lorry park. Therefore, only sites adjacent the A5/A483 east of the existing Kronospan Facility would be practicable in this regard.
- 5.2.3. Adopting the existing HGV shunting operation using an off-site lorry park would increase the coverage required from approximately 400m (on-site) to approximately 12-20km (depending on the off-site location) for each worst-case scenario HGV shunting movement (four separate movements between the existing Kronospan Facility and the off-site lorry park). This would result in a requirement for a greater number of HGV shunting vehicles and would increase the number of HGV movements to and from the Kronospan Facility. Although there is no data to suggest the surrounding highway network is badly congested, an increase in HGV numbers would represent an unnecessary increase in traffic demand.
- 5.2.4. In addition, an off-site lorry park would require significant infrastructure which is already available or easy to extend at the existing Kronospan Facility, such as CCTV, security, operational IT systems, driver facilities and services.
- 5.2.5. Further detail of the above is provided at **ES Chapter 3.0 (Alternatives)**.

5.3. Summary of Development Proposals

- 5.3.1. The current development proposals consist of:

- North access road. The proposed access road would exit the B5070 at a new, purpose-built roundabout on the existing road north of Chirk. The access road would exit the roundabout to the west before curving to the south. It would run as a two-way road until immediately north of the weighbridges, where it would split into two. To the north, a separate access road to the west would lead to Afon Bradley Farm.
- Lorry park. The proposed lorry park is a roughly rectangular, 2.1 ha area in the centre of the development with parking for 92 lorries.
- Weighbridges and building. There are four proposed weighbridges, three 'in' and one 'out,' to be located at the south of the access road, two to each side of the access road division, and south-west of the lorry park. Between the pairs would be a weighbridge building for checking timber samples. The building is a timber-clad, three-storey, gable-ended structure with gantries extending over the weighbridges to either side. The building would be approximately 9m high.
- Weighbridge car park. To the east of the weighbridges and south of the lorry park would be a staff and visitor car park covering an area of 0.09ha. The access road for this would run along the east side of the lorry park and curve west around the north of the park to join the main access road.
- Facilities block. On the north side of the car park would be a facilities block providing welfare for the HGV drivers. It would be a single storey, timber-clad building.
- Roundwood storage areas. There are two proposed roundwood storage areas, one to the north of the substation and the other to the south of the weighbridge car park. They would cover areas of 0.47 ha and 0.39ha respectively. The surface would be permeable ground cover. The areas would be used for temporary storage of logs, with a maximum storage height of 4m.

- 132kV substation. The proposed substation would be located in the south-west of the development area in a roughly square plot covering c. 0.36ha. The substation would consist of electricity supply infrastructure within a 2.4m high steel palisade security fence. The infrastructure elements would stand around 6m high, with the tallest at 6.3m. It would also include an ancillary equipment brick building and a 11kV substation building in metal cladding, both c. 3m high.
- Site drainage scheme. Permeable paving would be used for the lorry park and car park areas. Surface water from both the permeable paving and other non-permeable hardstanding areas would be collected in geo-cellular crates below the paving, which in turn would discharge into two proposed attenuation basins at the north of the site.
- Site landscape scheme. An earth bund would be created along the eastern edge of the site to screen views from the B5070 and Chirk. There would be areas of woodland planting to the north and north-west sides of the development and two new attenuation basins to the north.

6. Identifying Impacts

Pontcysyllte Aqueduct and Canal WHS / DE175

- 6.1.1. The WHS runs roughly north - south to the west of the Kronospan site, at its closest coming within c. 130m of the Proposed Development area. The site visits carried out by AW in relation to the DBA and Settings Assessment as well as the LVIA (**ES Chapter 5**) established that views of the Proposed Development from the Canal towpath are screened by the railway embankment and vegetation adjacent to the southern area of the development. Beyond this to the north the Canal curves away from the railway embankment to Chirk Marina. Views of the development area are partially screened by existing vegetation during winter months and wholly concealed during the summer.

- 6.1.2. A lighting assessment (**Planning Statement Appendix D**) has assessed the impacts of the lighting on the WHS in terms of glow (the diffuse luminance of the night sky), light spill (the amount of light spilling beyond the intentionally lit area), and glare (degree of discomfort associated with a light source when viewed against a darker background). The Proposed Development will be compliant with the adopted heritage receptor criteria.
- 6.1.3. The Settings Assessment concluded that the Proposed Development would have an overall **Moderate** impact on the setting of the WHS of prior mitigation, and **Moderate/Slight** after mitigation.

Chirk Castle Registered Historic Park and Garden, PGW(C)63(WRE) / NPRN 70048

- 6.1.4. Chirk Castle Park and Garden lies 1.2km to the south-west of the Proposed Development. The Park slopes down from a high point where the castle is located towards the north and east. This topography provides views across the landscape, with significant views from the castle area to the north-east and east noted in the register.
- 6.1.5. The Settings Assessment established that there would be views of the Proposed Development area from some parts of the Registered Park, including the eastern edge, some areas in the north of the RPG, a short stretch of path, and from the Castle itself. The impacts include significant views from the castle entrance. However, across large parts of the park views are screened by vegetation. Where there are views of the Proposed Development these are intermittent, and partially screened by woodland in the park or bounding the Kronospan site. Given the distance and partial nature of these views they do not significantly affect the setting of the park, which already has views over the residential areas of Chirk. The Proposed Development will therefore cause **Minor Changes** to the setting of the park, resulting in a **Moderate/Slight** impact prior mitigation and **Slight** after mitigation.

Chirk Castle LB598 / PRN101107 / NPRN 145757

- 6.1.6. Chirk Castle lies within the Register Park and Garden at the highpoint of the

hillslope, 2km to the south-west of the Proposed Development area. Like the Park, it has commanding views across the landscape to the north and east.

- 6.1.7. As with the WHS, Chirk Castle has been subject to a lighting assessment and the impacts were found to be negligible.
- 6.1.8. The Settings Assessment found that views of the Proposed Development area were largely obscured by intervening vegetation, although the area of the proposed development was visible from the towers and castle entrance. The report concluded that the Proposed Development will cause Minor Changes to the asset, with **Moderate/Slight** impact prior mitigation and **Slight** after mitigation.

Whitehurst Registered Park and Garden PGW(C)11(WRE)

- 6.1.9. Whitehurst Park is located 250m to the north of the Proposed Development area, on low-lying land. The site visit and ZTV for the DBA established that there were no views of the development area due to the intervening vegetation and topography relating to the A5. There will therefore be **No Change** to the Park.

Offa's Dyke

- 6.1.10. Offa's Dyke runs roughly north-east - south-west across the landscape to the west of the development area. At its closest, in Section DE133, it is 1.2km from the site. It is situated on a low ridge, providing long views across the landscape to the east.
- 6.1.11. The Settings Assessment indicates that there are views of the development area from parts of DE133 and DE135. These views already include the industrial Kronospan complex and the urban area of Chirk behind. The scale and severity of the impact is considered **Minor**, and the overall impact would be **Slight**.

Darland Wood Round Barrows DE223

- 6.1.12. The Darland Wood Round Barrows lie on high ground c. 3km to the north of the development area. The barrows' topographical position beyond the

create of the hill prevents any views of the Proposed Development and therefore there will be **No Change** to their setting.

Argoed Hall PGW(C)42(WRE)

- 6.1.13. Argoed Hall is c. 2.6km to the north-west of the development area. The park is situated on a west-facing slope and has no views of the Kronospan site. There will therefore be **No Change** to the Park.

Wynnstay PGW(C)64(WRE)

- 6.1.14. Wynnstay is situated on an area of high ground above the River Dee, 1.5km to the north of the development area. Despite partially occupying a south-facing slope the park has no views of the development area due to local topography and trees. There will therefore be **No Change** to the Park.

Sense of arrival

- 6.1.15. As the assessment of the baseline conditions identified, there is little indication that one is approaching the WHS when travelling by road. The Canal is not visible from either the A5 or the B5070. Under the existing conditions there are some views of the Kronospan site, particularly the stacks and emission plumes, when travelling south along the northern part of the B5070. The new proposals include new woodland planting along the northern part of the road which will help to screen not only the new development but also the existing buildings. The existing hedgerow, which currently forms an effective screen farther south along the road will be retained and inside this a bank will be raised. The relative ground level of the Proposed Development is lower than the road, and this in combination with the bank would restrict visibility of the new structures and HGVS, with only the tallest parts of the new structures visible.
- 6.1.16. The development proposals include changes to the existing road layout, including a new roundabout on the B5070 for the new northern access road to the lorry park. This will make a minor difference to the experience of travelling along the B5070, making it feel slightly more developed. However, the continuation of the road to the south would receive considerably reduced traffic and provide a more pleasant experience in

journeys to the WHS through Chirk.

- 6.1.17. There are currently intermittent views of the development area from both the railway line and the canal. The proposals also include new woodland planting along the west and north-west of the development area to ensure that the setting of the WHS is not impacted by views of the lorry park and other buildings.
- 6.1.18. Overall, the new development will be effectively screened by woodland planting, which is in keeping with the rural setting of the WHS to the north and west.

7. Mitigation and enhancement

7.1. Mitigating negative impacts

- 7.1.1. An initial request for pre-application advice was made to WCBC for a new access road to the north of the Kronospan site from the B5070. The WCBC response expressed concerns about the potential impact on the WHS and identified the need for a HIA as part of any subsequent planning applications.
- 7.1.2. A second pre-application advice request was made in November 2021, which included not only an indicative design for the lorry park and substation but also other separate proposals for development on the existing Kronospan site that have subsequently been granted planning consent. The WCBC response to the lorry park and substation proposals again expressed concern regarding the impact on the WHS.
- 7.1.3. The visual impact of the development on the landscape and heritage has been a key consideration in the design process. The siting of the substation was chosen from five potential locations as the site which could be most effectively screened and with minimal visual impacts. Its location adjacent to the existing factory buildings is more in keeping with the current setting.
- 7.1.4. As part of the project environmental assessment, the possibility of using

planted bunds to screen views of the site from Chirk Castle was explored. However, visualisations of the idea demonstrated that a bund would not be high enough to screen the development. It was therefore decided that a better solution would be to break up the views with planting along the west of the site.

- 7.1.5. Screening to reduce visual impacts on heritage assets through woodland planting has been in-built in the design development process. The proposals combine with existing planting as part of the Kronospan Landscape Strategy and planning conditions on approved development within the existing Kronospan site. Use of woodland screening maintains the character of the setting of the WHS and other heritage assets which contribute to the OUV of the WHS in its Buffer Zone.

7.2. Enhancement

- 7.2.1. The assessment of the baseline conditions identified that there is currently little to indicate the presence of the WHS when arriving in Chirk by road. Therefore, potential enhancement options include the installation of panels which signpost the arrival into a WHS.
- 7.2.2. Information panels could also be placed along the canal towpath, including information regarding the OUVs of the WHS and the significance of the area during the industrialisation process as well as the highly technical engineering works carried out within the WHS in crossing Chirk and its surroundings.
- 7.2.3. A number of resources that convey the history of development of the area from the construction of Offa's Dyke to the Industrial Revolution are envisaged within the confines of the Registered Park and Garden of Chirk Castle (LB 598; PRN 101107; NPRN 145757), where heritage information currently focuses on the history of the Castle and park.

8. Conclusions

- 8.1.1. This Heritage Impact Assessment has examined the impact of a Proposed

Development for an access road, lorry park, 132kV substation and other ancillary works at land NE of Kronospan, Maesgwyn Farm, Wrexham LL14 5NT - NGR SJ 328825 339096.

- 8.1.2. The Proposed Development area lies within 140m of the Pontcysyllte Aqueduct and Canal World Heritage Site and within the WHS Buffer Zone. The Heritage Impact Assessment has identified those heritage assets that contribute to the character of the WHS Buffer Zone which may potentially be impacted by the proposals. It has outlined the rationale for the Proposed Development and described the steps carried out within the design process to mitigate against any impacts that may negatively affect the OUV of the WHS.
- 8.1.3. The HIA has identified that four heritage assets would be indirectly impacted by the proposed designs: Pontcysyllte Aqueduct and Canal WHS / Llangollen Canal DE175, Chirk Castle Registered Park and Garden PGW(C)63(WRE), Chirk Castle LB598, and Offa's Dyke Sections DE133 and DE135. The mitigation to minimise these impacts is woodland planting, both on and off-site, which will screen the development area from view.
- 8.1.4. The Proposed Development also has the potential to impact the sense of arrival at the WHS. However, the HIA has identified that there is a low sense of arrival in this part of the WHS. Proposed mitigation to limit impacts for those arriving by road include further woodland planting and a screening bank. Enhancements are also suggested to increase awareness of the WHS for those arriving in Chirk.

9. Sources

Legislation, planning policy and guidance

ARCADIS, 2019. *Pontcysyllte Aqueduct and Canal World Heritage Site Management. Plan 2019-2029.*

Cadw, 2011. *Conservation Principles for the Sustainable Management of the Historic Environment in Wales.*

Cadw, 2017a, *Heritage Impact Assessment in Wales.*

Cadw, 2017b, *Setting of Historic Assets in Wales.*

Chartered Institute for Archaeologists, 2021. *Principles of Cultural Heritage Impact Assessment in the UK.*

Chartered Institute for Archaeologists, 2020. *Standard and Guidance for Historic Environment Desk-Based Assessment*

Chartered Institute for Archaeologists, 2020. *Standards and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials.*

ICOMOS, 2011, *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties.*

Pontcysyllte Aqueduct & Canal – local planning guidance note

Pontcysyllte Aqueduct & Canal. Supplementary Planning Notice (2012)

Research Framework for the Archaeology of Wales (2017)

General

Axis, 2022. *Kronospan, Chirk. North access road into the Kronospan facility, lorry park, roundwood storage areas and associated structures, 132kV substation, and ancillary works. Environmental Statement Chapter 3.0 – Alternatives.*

Garcia Rovira, 2022. *Setting Assessment: Kronospan, Holyhead Road, Chirk. Access road, lorry park, 132kV substation and other ancillary works. Archaeology Wales Report 2109.*

Hill, D. 2020. Offa's and Wat's Dykes. *Offa's Dyke Journal* Vol 2, 141-159.

Pontcysyllte Aqueduct & Canal Nomination as a World Heritage Site Nomination Document 2008

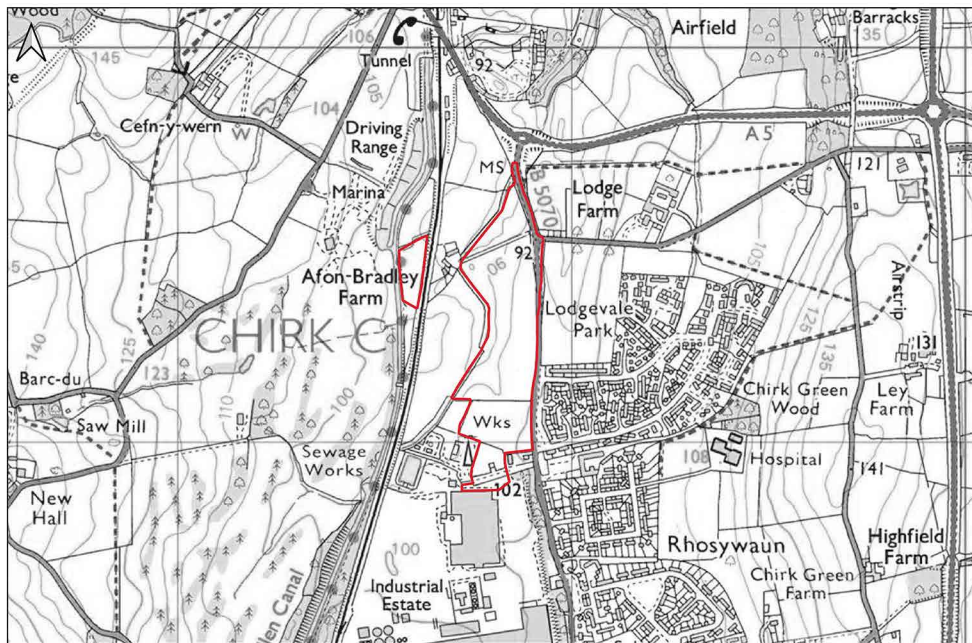
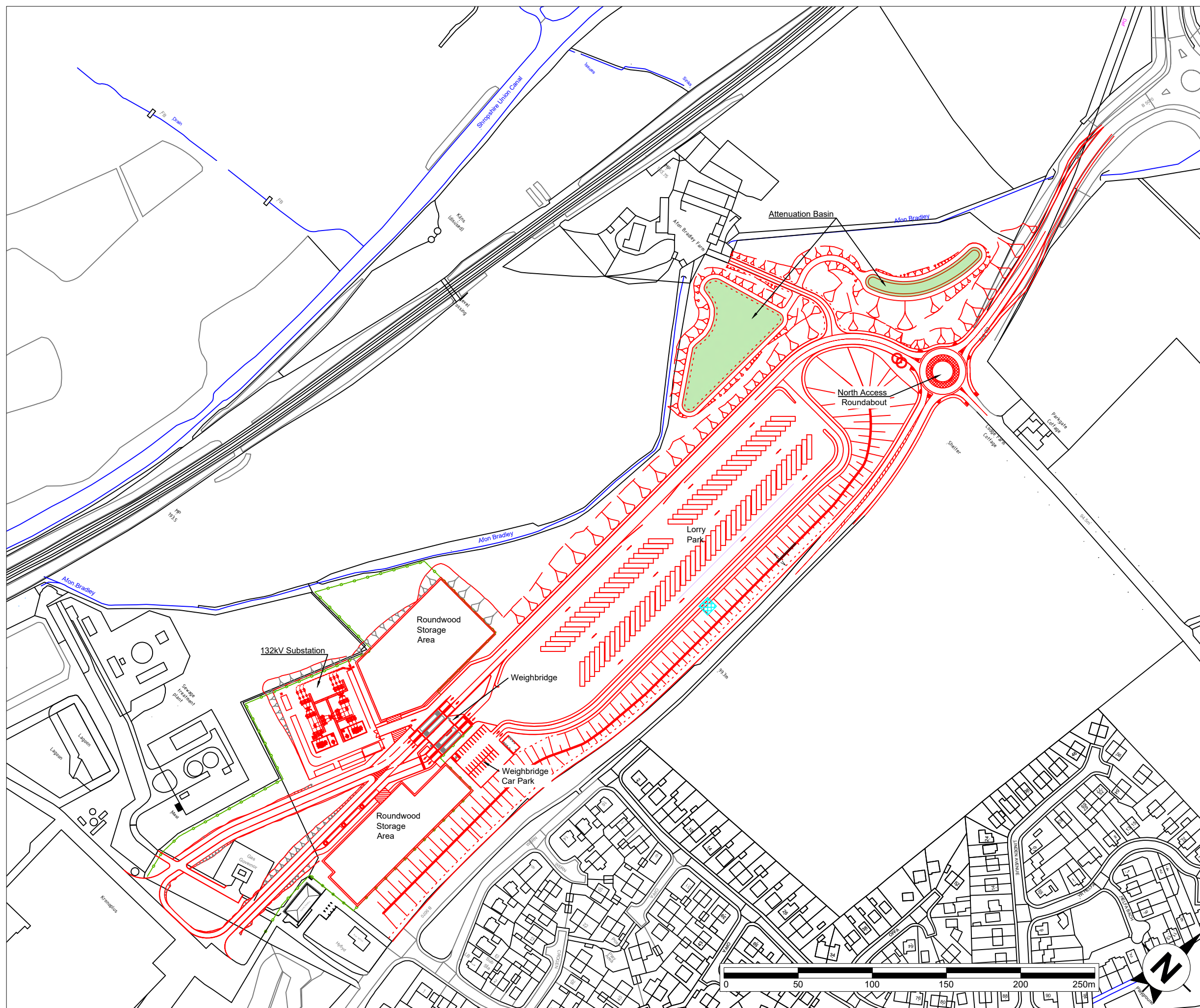


Figure 2. Proposed development boundary.



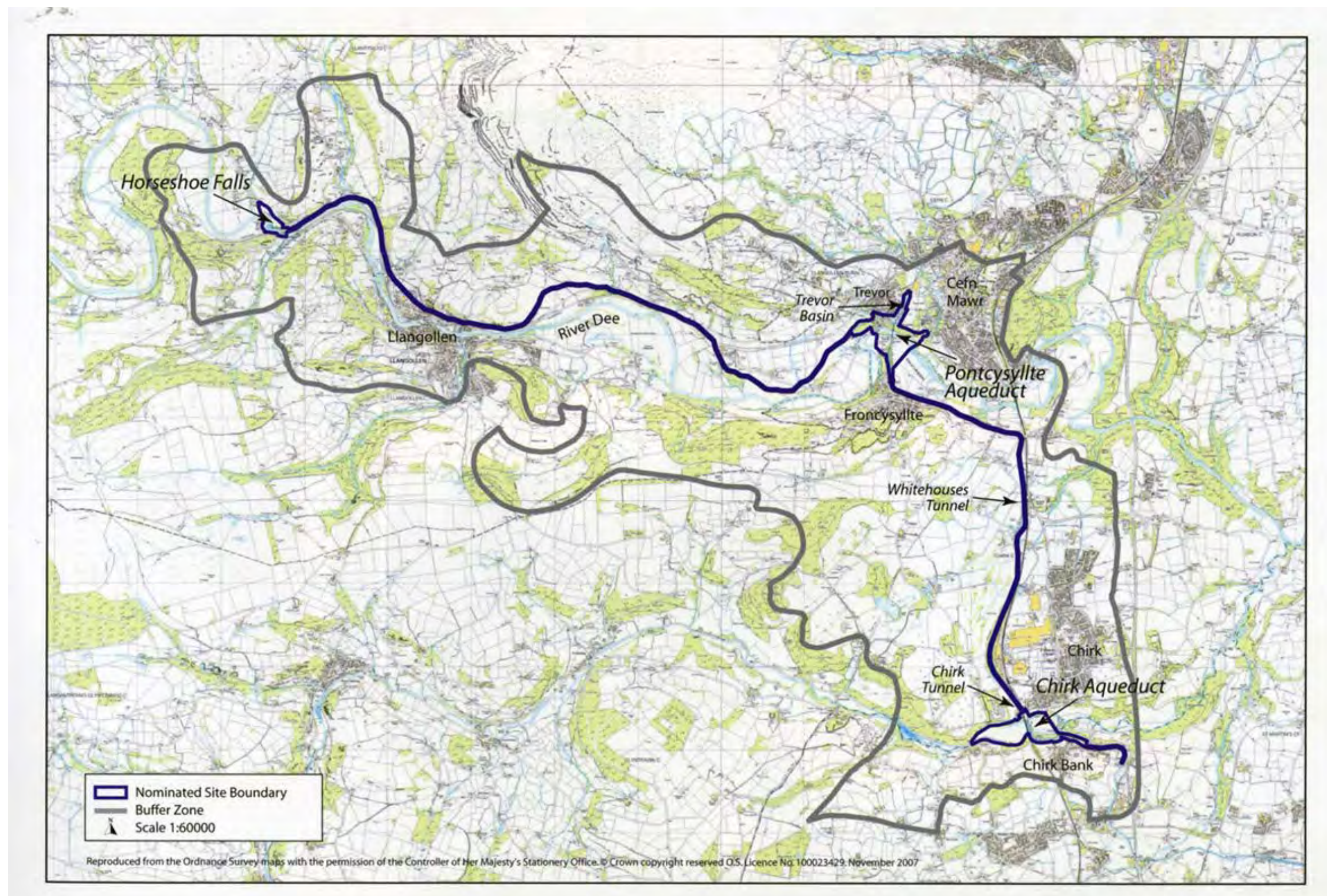


Figure 4. Pontcysyllte aqueduct and canal WHS and buffer (2009 nomination).