

Desk Based Assessment:

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

July 2022



Report No. 2080

By

Irene Garcia Rovira MCIfA



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Prepared for AxisPED

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Archaeology Wales Limited

Main Office, Unit D11.6 Treforest Industrial Estate

Pontypridd - CF37 5UR

Tel: +44 (0) 1686 440371

Email: admin@arch-wales.co.uk

Web: arch-wales.co.uk



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Summary

In March 2022, Archaeology Wales Ltd was commissioned by AxisPED to carry out an archaeological Desk Based Assessment (DBA) to determine the archaeological potential of land northeast of Kronospan, Maesgwyn Farm, Wrexham LL14 5NT – NGR SJ 328825 339096. The DBA focuses on the proposed construction of an access road, lorry park, 132kV substation and other ancillary works.

The Proposed Development is located within Pontcysyllte Canal and Aqueduct World Heritage Site (WHS) Buffer Zone. The latter includes Chirk Conservation Area (PRN 144098) as well as Chirk Castle Registered Park and Garden (PGW (C) 63; NPRN 70048), Chirk Castle (LB 598, PRN 101107, NPRN 145757) and the WHS and Scheduled Monument of Llangollen Canal (DE 175; PRN 124694, NPRN 405725) – all located in close proximity to the site. Without effective mitigation measures, the Proposed Development is likely to trigger visual impacts over the aforementioned assets. It is recommended that a Heritage Impact Assessment following Cadw and ICOMOS guidelines is carried out to further assess the impact of the Proposed Development on the surrounding heritage.

Afon Bradley Farm (PRN 14527-31) is located adjacent to the northern boundary of the Proposed Development. It is recommended that any visual impact is mitigated with soft screening along the farm's access road and southern boundary.

No Conservation Areas will be indirectly affected by the Proposed Development. The Registered Park and Garden of Whitehurst (PGW (C) 011; NPRN 266506) as well as its associated assets will not be directly or indirectly affected by the Proposed Development.

Furthermore, in December 2022, the current DBA was amended to reflect the advice given by Cadw in a pre-application response dating to the 10th of November 2022. Additional heritage assets located outside the applied search area were subsequently assessed within the current report as they fall within the Pontcysyllte Canal and Aqueduct World Heritage Site Buffer Zone. Except for Offa's Dyke stretches DE 133 and 135, the additional assessed assets will not be impacted by the Proposed Development.

Crynodeb

Ym mis Mawrth 2022, comisiynwyd Archaeology Wales Cyf gan AxisPED i gynnal Asesiad Desg archeolegol i bennu potensial archeolegol tir yn Kronospan, Fferm Maesgwyn, Wrecsam LL14 5NT - NGR SJ 328825 339096. Mae'r Asesiad Desg yn canolbwyntio ar y cynllun arfaethedig i adeiladu ffordd fynediad, parc lorïau, is-orsaf 132kV a gwaith ategol arall.

Mae'r datblygiad arfaethedig wedi'i leoli o fewn Lleoliad Hanfodol Safle Treftadaeth y Byd Camlas a Dyfrffordd Pontycyllte. Mae'n cynnwys Ardal Warchodaeth y Waun (PRN 144098) yn ogystal â Pharc a Gardd Gofrestredig Castell y Waun (PGW (C)63 ; NPRN 70048), Castell y Waun (LB 598, PRN 101107, NPRN 145757) a Safle Treftadaeth y Byd a Heneb Gofrestredig Camlas Llangollen (DE 175; PRN 124694, NPRN 405725) - y maent oll yn agos at y safle. Heb fesurau lliniaru effeithiol, mae'n debygol y bydd y datblygiad arfaethedig yn cael rhywfaint o effaith weledol ar yr asedau y cyfeiriwyd atynt yn flaenorol. Argymhellir y dylid cynnal Asesiad o'r Effaith ar Dreftadaeth gan ddilyn canllawiau Cadw ac ICOMOS i asesu ymhellach effaith y datblygiad arfaethedig ar y dreftadaeth amgylchynol.

Mae Fferm Afon Bradley (PRN 14527-31) wedi'i lleoli ger ffin ogleddol y datblygiad arfaethedig. Argymhellir y dylid lliniaru unrhyw effaith weledol gyda sgrinio meddal ar hyd ffordd fynediad a ffin ddeheuol y fferm.

Ni fydd unrhyw Ardaloedd Gwarchodaeth yn cael eu heffeithio'n anuniongyrchol gan y datblygiad arfaethedig. Ni fydd Parc a Gardd Gofrestredig Whitehurst (PGW (C) 011; NPRN 266506) na'u hasedau cysylltiedig yn cael eu heffeithio'n uniongyrchol neu'n anuniongyrchol gan y datblygiad arfaethedig.

Yn ogystal, ym mis Rhagfyr 2022, diwygiwyd yr asesiad desg i adlewyrchu'r cyngor a roddwyd gan Cadw yn yr ymateb cyn y cais sy'n dyddio o'r 10fed o Dachwedd 2022. Aseswyd nifer o asedau sydd wedi'u lleoli y tu allan i'r ardal chwilio gymwys o fewn yr adroddiad presennol oherwydd maent yn cynrychioli nodweddion Parth Clustogi Safle Treftadaeth y Byd Camlas a Dyfrffordd Pontcysyllte. Ar wahân i rannau DE 134-135 o Glawdd Offa, ni fydd yr asedau a ddewiswyd yn cael eu heffeithio gan y Datblygiad Arfaethedig.

1. Introduction

- 1.1 In March 2022 Archaeology Wales Ltd (henceforth – AW) was commissioned by AxisPED to carry out an Archaeological Desk Based Assessment (DBA) and site visit at land NE of Kronospan, Maesgwyn Farm, Wrexham LL14 5NT – NGR SJ 328825 339096 (Figure 1-2).
- 1.2 The Proposed Development comprises the construction of an access road, lorry park, 132kV substation and other ancillary works. The DBA assesses the impact that the proposals will have on the archaeological resource (Figures 1-3).
- 1.3 The purpose of the DBA, detailed in the following report, is to provide Clwyd Powys Archaeological Trust – Development Control (henceforth – CPAT-DC), advisors to the local planning authority, Wrexham County Borough Council (WCBC), with the information they are likely to request in respect of the Proposed Development, the requirements for which are set out in Planning Policy Wales (revised edition 11, 2021), Section 6.1 and Technical Advice Note (TAN) 24: The Historic Environment (2017).
- 1.4 The work is to highlight and assess the impact upon standing and buried remains of potential archaeological interest and to ensure that they are fully investigated and recorded if they are disturbed or revealed as a result of subsequent activities associated with the Proposed Development.
- 1.5 Addendum: In December 2022, the current DBA was amended to reflect the advice given by Cadw in a pre-application response dating to the 10th of November 2022. The letter specified a requirement to assess several assets which fall outside the search areas established for this report: DE117 Castell y Waun Castle Mound, DE133 Offa's Dyke: Caeau-Gwynion Section, DE134 Offa's Dyke: Chirk Castle Section extending NE from Castle Mill, DE135 Offa's Dyke: Chirk Park Section extending NE from the Lake, DE138 Offa's Dyke: Section N & S of Plas-Offa , DE140 Offa's Dyke: Section N & S of Tan-y-Cut, DE198 Offa's Dyke: Chirk Park Section extending 340m NE of Home Farm, DE223 Darland Wood Round Barrows, DE288 The Holyhead Road: the Chirk Embankment and earlier trackways, PGW(C)15(WRE) Brynkinalt,

2. Site Description

- 2.1 The Proposed Development is located immediately north 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 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 has been used in recent years for grazing purposes.
- 2.2 The underlying geology is comprised of mudstone, siltstone, sandstone, coal, ironstone and ferricrete from the Pennine Lower Coal Measures and the South Wales Lower Coal Measures, formed during the Carboniferous Period. This is overlain by superficial deposits of Till - Diamicton, formed during the Quaternary Period (BGS 2022).

3. Methodology

- 3.1 The primary objective of this Desk Based Assessment is to assess the impact of the Proposed Development on the historic environment. This will help inform future decision making, design solutions and potential mitigation strategies. The aim is to make full and effective use of existing information in establishing the archaeological significance of the site; to elucidate the presence or absence of archaeological material, its character, distribution, extent, condition and relative significance.
- 3.2 The work includes a comprehensive assessment of regional context within which the archaeological evidence rests and aims to highlight any relevant research issues within national and regional research frameworks.
- 3.3 This report provides information of sufficient detail to allow informed planning decisions to be made, which can safeguard the archaeological resource. Preservation in situ has been advocated where at all possible, but where

engineering or other factors could result in the loss of archaeological deposits, preservation by record has been recommended.

3.4 This assessment considers the following:

A. The nature, extent, and degree of survival of setting of designated heritage assets, structures, deposits and landscapes within the study area through assessment of various readily available primary sources:

- Collation and assessment of all relevant information held in the regional HER at the Clwyd-Powys Archaeological Trust, within a 0.5km buffer zone around the Proposed Development area.
- Collation and assessment of the impact on all Designated archaeological sites (Scheduled Ancient Monuments, Listed Buildings, Historic Parks & Gardens, landscapes, Conservation Areas) within 1km buffer zone¹ around the Proposed Development area.
- Assessment of all available excavation reports and archives including unpublished and unprocessed material affecting the site and its setting.
- Assessment of aerial photographic and satellite imagery evidence.
- Assessment of archive records held at the County Archive, the National Library of Wales (NLW) and the Royal Commission on Ancient and Historical Monuments in Wales (RCAHMW).
- Records held by the developer e.g. bore-hole logs, geological/geomorphological information, aerial photographs, maps, plans, Zone of Theoretical Visibility (ZTV) data.
- Map regression analysis using all relevant cartographic sources e.g. all editions of the Ordnance Survey County Series, Tithe and early estate maps (as available).
- Place-name evidence.

¹ The report was amended in December 2022 to include a number of assets outside the search area, as requested by Cadw on a pre-application response.

- Historic documents (e.g. charters, registers, estate papers).
- B. The significance of any remains in their context both regionally and nationally and in light of the findings of the desk-based study.
- C. The history of the site.
- D. The potential impact of any Proposed Development on the setting of known sites of archaeological importance.
- E. The potential for further archaeological remains to be present, which have not been identified in pre-existing archaeological records.
- F. The potential for further work, with recommendations where appropriate for a suitable investigative and/or mitigation methodology.
- 3.5 In assessing the value of archaeological assets, and the potential impacts upon them by the Proposed Development, the terms and guidance used in the Design Manual for Roads and Bridges, Volume 11, Section 3 (Highways England 2007) has been utilised. Values are given as:
- **Very High** (World Heritage Sites and other sites of international importance).
 - **High** (Scheduled Monuments, undesignated assets of schedulable quality, assets of National importance that can contribute significantly to acknowledged national research objectives).
 - **Medium** (Designated or undesignated assets of Regional importance that contribute to regional research objectives).
 - **Low** (assets of local importance, assets compromised by poor preservation or poor survival of contextual associations).
 - **Negligible** (assets with little or no surviving archaeological interest).
 - **Unknown** (the importance of the resource has not been ascertained).
- 3.6 The significance of the potential impact on the archaeological assets (which can be either positive or negative), is given as:
- **Major** (change to most or all key archaeological materials, such that

the resource is totally altered; comprehensive changes to setting).

- **Moderate** (changes to many key archaeological materials, such that the resource is clearly modified; considerable changes to setting that affect the character of the asset).
- **Minor** (changes to key archaeological materials, such that the asset is slightly altered; slight changes to setting).
- **Negligible** (very minor changes to archaeological materials or setting).
- **No Change.**

3.7 This work conforms to the Standard and Guidance for Historic Desk Based Assessment, as produced by the Chartered Institute for Archaeologists (CIfA 2020).

4. Archaeological and Historical Background

4.1 A HER search within a 500m radius of the Proposed Development has retrieved 44 records including one Scheduled Monument and World Heritage Site, and eleven Listed Buildings (Figure 4; Table 1). No records are located within the area of the Proposed Development; however, some HER entries are recorded in nearby locations. The results are presented here within a brief history of development of Chirk (PRN 1425411; NPRN 33080) and its surroundings and summarised on Table 1 (below).

4.2 It is worth noting that Offa's Dyke - PRN 28338 - is recorded within the area of Kronospan main factory. The location of this record is incorrect. The asset crosses the western region of Chirk Castle Registered Park and Garden instead (see Scheduled Monument section).

Prehistoric: Palaeolithic (c.450,000 - 10,000 BC), Mesolithic (c.10,000 - 4000 BC), Neolithic (4000 BC - 2300 BC), Bronze Age (2300 BC - 700 BC) & Iron Age (700 BC - AD 43)

4.3 No records of prehistoric date are documented in the HER within 500m of the Proposed Development area.

Roman (AD 43 - c. AD 410)

- 4.4 The history of Chirk and its surroundings can be traced back to the Roman period. A Roman Vexillation camp is recorded southeast of the village, and a Roman Marching Camp located some thirteen miles southeast of Chirk (Todd 2008).
- 4.5 A projected line for a Roman Road - Rhyn Park to Rhug (PRN 47505) - is documented in the HER running adjacent to the eastern boundary of the Proposed Development area.

Early Medieval (c. AD 410 - AD 1086), Medieval (1086 - 1536)

- 4.6 The town of Chirk (PRN 142411; NPRN 33080) originates from the Norman conquest during the 11th and 12th centuries², which saw the invasion of Welsh territory by Norman lords. Following Roger Montgomery's son's rebellion, his lands were returned to the crown and subsequently given to William Perceval of Dover who built a number of motte and bailey castles at Whittington, Ellesmere and Chirk (DE 117; PRN 101109; NPRN YU)³.
- 4.7 The Church of St Mary (LB 615; PRN 101108; NPRN 12599) appears to have also been built sometime during the 12th century⁴. It was originally dedicated to Tysilio.
- 4.8 During the 13th century King Edward I granted land at Chirkland to Roger Montgomery of Wigmore. The Montgomerys built a new castle between 1295 and 1310 (LB 598; PRN 101107; NPRN 145757).
- 4.9 By the 14th century however, Chirk was in hands of Edmond Fitzalan Earl of Arundel. It was during this time that the town was carefully planned. In 1234 Chirk obtained a market charter. However, the prosperity of Chirk ceased with the turmoil triggered by the campaigns of Owain Glyndwr and later by the War of the Roses.

² PRN 142411 highlights the possible maedref predating the conquest based on toponyms (Silvester 2015)

³ See Scheduled Monuments and World Heritage Sites for further details

⁴ See Listed Buildings and Conservation Areas for further details.

Post Medieval (1536 - 1899) & Modern (1900 - present day)

- 4.10 The records dating to these periods can largely be divided into three categories: (1) farm buildings that reflect the character of the area, (2) heritage assets associated with the Registered Park and Garden of Whitehurst (PGW (C) 011; NPRN 266506), and (3) entries, which correspond to listed structures mostly within Chirk's built environment.
- 4.11 The first category corresponds to buildings/remains of buildings and structures largely recorded during the examination of cartographic sources, steaming from the Glastir Traditional Building project.
- 4.12 Maes-Gwyn (PRN 126304-7; NPRN 6067608) main building and associated structures are documented in cartographic sources. The National Monuments Record (NMR) states that the main structure was a two-storey house, partly timber-framed, and partly mock timber framed. The NMR record also includes an image of the structure.
- 4.13 Afon Bradley Farm (PRN 14527-31) is located adjacent to the northern boundary of the Proposed Development site. The HER records highlight five buildings of interest. The NMR also indicates the presence of a number of ruined limekilns located at the western side of the canal⁵ (NPRN 405795); a culvert built at the beginning of the 19th century to take a small stream under the canal and toward the farm complex (NPRN 406721); an overflow sluice leading to the abovementioned culvert built under the instructions of William Jessop and Thomas Telford (NPRN 405792), and a stream feeder (NPRN 406667).
- 4.14 A number of HERs (PRN 147261-77; NPRN 26973) are recorded for Lodge Farm, located c. 360m to the northeast of the Proposed Development. These HERs correspond to the exhaustive recording carried out by the Glastir Traditional Building project and are largely records associated with the identification of traditional buildings on cartographic sources. This concentration of assets also includes a Grade II listed building (LB 626; PRN

⁵ Probably associated with the canal construction.

25631).

4.15 As noted above, the second category corresponds to heritage assets associated with Whitehurst Registered Historic Park and Garden (PGW(C) 11; PRN 22993; NPRN 266506):

4.16 PRN 144300 documents the remains of a shallow canal crossing the Registered Park and Garden from mid-17th to mid-19th century. The canal was evidenced during a field evaluation carried out by CPAT in 2016 (Logan 2016). Other assets include a Grade II listed garden wall, gatepiers and gates (LB 1286; PRN 25803; NPRN 26987), the 17th century house of Dumore (LB 1289; PRN 25806), the Grade II* Queen Anne Cottage (LB 1288; PRN 25805).

Table 1 Designated and undesignated records within applied search area.

PRN	Grade	Listed Building	Scheduled Monument	NPRN	Site Name	Period	Other
145627					Afon Bradley Farm	Post Medieval	
145628					Afon Bradley Farm	Post Medieval	
145629					Afon Bradley Farm	Post Medieval	
145630					Afon Bradley Farm	Post Medieval	
145631					Afon Bradley Farm	Post Medieval	
144300				266506	Chirk Castle, Whitehurst Gardens, Ornamental Canal	Post Medieval	Whitehurst RPG
25803	II	1286		26987	Chirk Castle, Whitehurst Gardens, walls, gatepiers and gates	Post Medieval	Whitehurst RPG
132631					Chirk, Black Park, The Lodge, Stables	Post Medieval	Whitehurst RPG
25804		1287		35592	Chirk, Whitehurst House	Post Medieval	Whitehurst RPG
25806	II	1289		27120	Chirk, Drumore	Post Medieval	Whitehurst RPG
165023					Chirk, milestone, DEN_HH82	Post Medieval	Whitehurst RPG
25805	II*	1288		23052	Chirk, Queen Anne Cottage	Post Medieval	Whitehurst RPG
42883	II	20224		35591	Upper Terrace Wall at Whitehurst Gardens	Post Medieval	Whitehurst RPG
42869	II	20225		20225	Second Terrace Wall at Whitehurst Gardens	Post Medieval	Whitehurst RPG
42856	II	20226		35591	Lowest Terrace Wall at Whitehurst Gardens	Post Medieval	Whitehurst RPG
25631	II	626			Chirk, The Lodge	Post Medieval	Whitehurst RPG
147261				26973	Lodge Farm	Post Medieval	
147262				26973	Lodge Farm	Post Medieval	
147263				26973	Lodge Farm	Post Medieval	
147264				26973	Lodge Farm	Post Medieval	
147265				26973	Lodge Farm	Post Medieval	
147266				26973	Lodge Farm	Post Medieval	
147267				26973	Lodge Farm	Post Medieval	
147268				26973	Lodge Farm	Post Medieval	

PRN	Grade	Listed Building	Scheduled Monument	NPRN	Site Name	Period	Other
147269				26973	Lodge Farm	Post Medieval	
147270				26973	Lodge Farm	Post Medieval	
147271				26973	Lodge Farm	Post Medieval	
147272				26973	Lodge Farm	Post Medieval	
147273				26973	Lodge Farm	Post Medieval	
147274				26973	Lodge Farm	Post Medieval	
147275				26973	Lodge Farm	Post Medieval	
147276				26973	Lodge Farm	Post Medieval	
147277				26973	Lodge Farm	Post Medieval	
126304				6067608	Maes-gwyn, building I	Post Medieval	
126305				6067608	Maes-gwyn, building II	Post Medieval	
126306				6067608	Maes-gwyn, building III	Post Medieval	
126308				6067608	Maes-gwyn, building IV	Post Medieval	
126307				6067608	Maes-gwyn, building V	Post Medieval	
28338					Offa's Dyke - DC entry	Early Medieval	
124694			DE175	405725	Llangollen canal	Post Medieval	
47505					Rhyn Park to Rhug	Post Medieval	
42859	II	20236			North Gate Piers to Chirk Town Council Offices	Post Medieval	Chirk CA
42870	II	20229			South Gate Piers to Chirk Town Council Offices	Post Medieval	Chirk CA
42840	II	20215			Chirk Town Council Offices	Post Medieval	Chirk CA

Scheduled Monuments and World Heritage Sites (Figure 5 and 7)

4.17 No Scheduled Monuments are located within the Proposed Development.

Llangollen Canal (DE 175; PRN 124694, NPRN 405725) is located adjacent to the Proposed Development.

4.18 This section also considers the following Scheduled Monuments (see table below) following advice from Cadw's pre-application response letter dating to November 2022.

Table 2 Additional assets selected for assessment after Cadw's pre-application response

SM Number	Description
DE117	Castell y Waun Castle Mound
DE133	Offa's Dyke: Caeau-Gwynion Section
DE134	Offa's Dyke: Chirk Castle Section extending NE from Castle Mill
DE135	Offa's Dyke: Chirk Park Section extending NE from the Lake
DE138	Offa's Dyke: Section N & S of Plas-Offa
DE140	Offa's Dyke: Section N & S of Tan-y-Cut
DE198	Offa's Dyke: Chirk Park Section extending 340m NE of Home Farm
DE223	Darland Wood Round Barrows
DE288	The Holyhead Road: the Chirk Embankment and earlier trackways

4.19 The Proposed Development is located close to the remains of the Glyn Valley Tramway, and Llangollen Canal (DE 175; PRN 124694, NPRN 405725). The canal is not only designated as a Scheduled Monument (DE175), but also as a World Heritage Site (WHS) alongside Pontcysyllte Aqueduct (PRN 101202; NPRN 34410). The existing industrial complex itself as well as the Proposed Development fall within the Buffer Zone of the WHS (see Section - Historic Landscape).

4.20 Llangollen canal was proposed in 1771 by a group of industrialists, who owned coal and iron mines within the landscape surrounding 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. The civil engineer William Jessop and Thomas Telford, acting as the General Agent, were involved in the construction of the canal (Arcadis 2019).

- 4.21 Between 1795 and 1805 the Hurleston to Llangollen section was built. This section was particularly challenging due to the mountainous nature of the landscape. To resolve it, Jessop and Telford cut two tunnels) and constructed an aqueduct to carry the canal across the river Dee (ibid).
- 4.22 In 1958 the aqueduct was designated as a Scheduled Monument. However, this designation did not include the canal and other associated infrastructure. It was subsequently revisited to encompass the entire length of the Llangollen Branch (including the weir at the Horseshoe Falls), the Trevor Basin and the heavily engineered canal section south of Pontcysyllte (including the Froncysyllte Embankment; Chirk Tunnel and Whitehouse Tunnel; the Canal Wood Cutting and Irish Bridge Cutting; and the Chirk Basin and Aqueduct⁶.
- 4.23 In 2009, the UNESCO declared the monument a World Heritage Site. The decision document notes that:

The Pontcysyllte Canal is a remarkable example of the construction of a human-engineered waterway in a difficult geographical environment, at the end of the 18th century and the start of the 19th century. It required extensive and boldly conceived civil engineering works. The Pontcysyllte Aqueduct is a pioneering masterpiece of engineering and monumental architecture by the famous civil engineer Thomas Telford. It was constructed using metal arches supported by tall, slender masonry piers. The Pontcysyllte Aqueduct and Canal are early and outstanding examples of the innovations brought about by the Industrial Revolution in Britain, where they made decisive development in transport capacities possible. They bear witness to very substantial international interchanges and influences in the fields of inland waterways, civil engineering, land-use planning, and the application of iron

⁶ Cadw's official listing [Scheduled Monument - Full Report - HeritageBill Cadw Assets - Reports \(cadwpublic-api.azurewebsites.net\)](https://cadwpublic-api.azurewebsites.net/)

in structural design.

Criterion (i): 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): 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): 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 possibilities⁷.

4.24 A pre-application response from Cadw dating to the 10th of November 2022, indicates a requirement to include the following Scheduled Monuments within the assessment: DE117 Castell y Waun Castle Mound, DE133 Offa's Dyke: Caeau-Gwynion Section, DE134 Offa's Dyke: Chirk Castle Section extending NE from Castle Mill, DE135 Offa's Dyke: Chirk Park Section extending NE from the Lake, DE138 Offa's Dyke: Section N & S of Plas-Offa , DE140 Offa's Dyke: Section N & S of Tan-y-Cut, DE198 Offa's Dyke: Chirk Park Section extending 340m NE of Home Farm, DE223 Darland Wood Round Barrows, DE288 The Holyhead Road: the Chirk Embankment and earlier trackways (Figure 12).

4.25 The origin of Castell y Waun Castle Mound (PRN 101109; DE117; NPRN 30701⁸) dates from the 11th and 12th centuries. This period saw the invasion by Norman lords into Welsh territory. Following the rebellion of Arnulf de Montgomery, his lands were returned to the crown and subsequently given to

⁷WHS official listing <https://whc.unesco.org/en/list/1303/>

⁸ Cadw's official listing <https://coflein.gov.uk/en/site/307013>

William Perceval of Dover who built a number of motte and bailey castles including Chirk Castle mound. The castle was central to the area until the Montgomery's built a new castle – Chirk Castle – 2km further west.

- 4.26 The remains of Castell y Waun Castle Mound (PRN 101109; DE117; NPRN 30701) are located 1.5km south of the Proposed Development, within Chirk itself, and located within the WHS Buffer Zone. The Castle mound is considered an important attributes of the WHS.
- 4.27 The London to Holyhead Road – Chirk embankment (DE288, PRN 79833⁹) represents one of the most significant remains of post-medieval activity in the area. The road was completed c.1826 to make the journey to the ferry crossing in Holyhead more accessible for government officials following the Act of Union with Ireland in 1800. The stretch scheduled as DE288 corresponds to Chirk embankment, a gradually rising earthen embankment which carries the road for a length of about 200m as it approaches from the SE before it traverses the slope of the hill.
- 4.28 The London to Holyhead Road – Chirk embankment (DE288, PRN 79833) is located 2km south of the Proposed Development. The asset is included within the WHS Buffer Zone, and it is considered an important attribute.
- 4.29 DE223 Darland Wood Round Barrows¹⁰ comprised earthen round barrows of probable Bronze Age date, levelled during the 19th century as result of ploughing and other agricultural activities. The barrows are located almost 3km north of the Proposed Development, but are not included within the WHS Buffer Zone.
- 4.30 Offa's Dyke is a Scheduled Monument generally accepted to date to the 8th century AD, created to demarcate the western boundary of the Kingdom of Mercia. The linear earthwork extends for approximately 129km through the English and Welsh borders. The earthen bank is 3.5 meters at its highest point, and the ditch is 18 meters wide at its widest point.
- 4.31 to the facilitate the scheduling and management of the monument, it has been

⁹ Cadw's official listing <https://coflein.gov.uk/en/map/?term=chirk>

¹⁰ Cadw's official listing <https://coflein.gov.uk/en/site/307057>

sub-divided into stretches. Cadw has requested that the following stretches are integrated within the assessment: DE133, DE134, DE135, DE138, and DE140.

- 4.32 DE134 Offa's Dyke: Chirk Castle Section extending NE from Castle Mill measures 400m running from Castle Mill to Home Farm. In places it has been truncated by the park boundary, access road and buildings (Jones 2017). This stretch is not included within the WHS Buffer Zone; however, it is one of the key attributes of the Registered Park and Garden of Chirk Castle (PGW (C) 63; NPRN 70048).
- 4.33 DE198 Offa's Dyke: Chirk Park Section extending 340m NE of Home Farm runs north of DE134. In some stretches it measures 9m wide and between 1 and 1.5m high. The monument has been truncated at its northernmost point by an ornamental lake (ibid). The asset forms part of the Registered Park and Garden of Chirk Castle (PGW (C) 63; NPRN 70048) and it is included within the boundaries of the WHS Buffer Zone.
- 4.34 DE135 Offa's Dyke: Chirk Park Section extending NE from the Lake runs from the ornamental lake toward the NNE for 810m. The monument runs within Pool wood, until it reaches a path at its northernmost end which offers long distance views to Chirk and its surroundings (ibid). The asset forms part of the Registered Park and Garden of Chirk Castle (PGW (C) 63; NPRN 70048) and it is included within the boundaries of the WHS Buffer Zone.
- 4.35 DE133 Offa's Dyke: Caeau-Gwynion Section stretches from Caeaugwynion towards Wern wood. This stretch of the monument also falls within the WHS Buffer Zone and, in places, commands long distance views (ibid).
- 4.36 DE140 Offa's Dyke: Section N & S of Tan-y-Cut runs for c 500m and it is truncated by Llangollen Canal (ibid). The asset is located within an area which, due to the topography, commands long distance views to Chirk and its surroundings (ibid). The asset is included within the boundaries of the WHS Buffer Zone.

Listed Buildings and Conservation Areas (Figure 6)

- 4.37 There are thirteen listed buildings within the assessment area (see Table 1). No listed buildings are located within the boundary of the proposed site.
- 4.38 Three Grade II listed buildings are located towards the northernmost end of Chirk Conservation Area (North Gate Piers to Chirk Town Council Offices - LB 20236, PRN 42854- South Gate Piers to Chirk Town Council Offices -LB 20228, PRN 42870, and Chirk Town Council Offices - LB 20215, PRN 42840.
- 4.39 Chirk Conservation Area (PRN 144098) was designated in 1975, although its boundaries have been altered in two occasions (1997 and 2014). The village sits in a shallow valley bounded to the west by the Clywdian Range and Dee Valley AOSB. This area is partly occupied by Chirk Estate and Castle (LB 598; PRN 101107; NRPN 145757). Brynkinalt Estate and Hall (LB 599; PRN 2561; NRPN 26866) borders the valley to the east (WCC 2014).
- 4.40 The protected area integrates the historic core and encompasses the medieval settlement around the Church of St Mary (LB 615; PRN 101108; NPRN 12599), extending west to Station Avenue and Castle Road to include the WHS aqueduct and viaduct.
- 4.41 The character of the Conservation Area is diverse resulting from the many influences over its history of development. The area within and around Church Street is largely commercial and has respected to a large degree its historic pattern. Other regions of the Conservation Area such as Castle Road and Trevor Road are dominated by a sense of peace and tranquillity. Overall, the Conservation Area still reflects its original medieval plan (ibid).
- 4.42 Construction within the Conservation Area is predominantly in brick and sandstone. The sandstone is more prominent in prestigious structures such as the Church of Saint Mary (LB 615; PRN 101108; NPRN 12599). Chirk Viaduct (LB 20210; PRN 25624; NPRN 87002) and Aqueduct (LB 618; DE175; PRN 102925; NRPN 34406) are also constructed in yellow sandstone.
- 4.43 The topography of Chirk is defined by a flat plain enclosed by two ridges which give the area a sense of enclosure and views over the landscape which are constitutive of the setting of the Conservation Area. The Clywdian Range and

the Dee Valley are located to the west whilst the Ceiriog Valley is found immediately south of Chirk.

- 4.44 The listed buildings located within the Conservation Area give distinctiveness to the village. Many act as landmarks and provide key views of the Conservation Area. The Hand Hotel (LB 1298; PRN 25813; NPRN 27289) and The Mount (LB 617; PRN 25622; NPRN 27532) are good examples of this.
- 4.45 Nine structures are also located within the Registered Park and Garden of Whitehurst (PGW(C) 11; NPRN 266506). They are all Grade II listed, except one which is Grade II* (see Table 1). Details of the listed structures and the Registered Park and Garden are offered below.

The Historic Landscape (Figure 7)

- 4.46 The Proposed Development does not fall within any Registered Historic Landscape. However, it is within the Buffer Zone of the Pontcysyllte Aqueduct and Canal WHS (LB 1303; PRN 101202; NPRN 34410) (Figure 5). The latter is an extensive buffer which ensures that the site is protected and appreciated within its landscape setting.
- 4.47 Within the stretch running north-south to the west of Chirk, the WHS designation focuses on the ten-span aqueduct; a project completed by 1801 and seen as a complement to the parkland at Chirk Estate which includes the visual setting of the water meadows of the Ceiriog (Arcadis 2019).
- 4.48 The Buffer Zone includes Telford's embankment (NPRN 406698), the viaduct for the railway (PRN 87002), an area of worker houses, the canal tunnels as well as Chirk Castle (LB 598; PRN 101107; NPRN 145757) and its estate grounds. It is therefore characterised by the imprint of post-medieval developments which blend into the more rural landscape to the west; one replete with historic elements echoing the historic development of the area from medieval times. The industrial complex within which Kronospan is located also forms part of the Buffer Zone of the WHS within this stretch, although providing a negative visual impact on its picturesque surroundings.
- 4.49 The Registered Park and Garden of Chirk Castle (PGW (C) 63; NPRN 70048) is located within the search area. Some details regarding the castle itself have

been presented when outlining the history of development of Chirk¹¹.

- 4.50 Its origins date to the 14th century when the Mortimer family built the castle and the associated deer park. It is known that by 1391, the park included 10 acres of woodland.
- 4.51 By the Civil War, the Myddelton's cleared the woods, and it was only during the Restoration Period when replanting occurred again. In 1675, the park was extended to hold a further 500 deer.
- 4.52 A depiction of the park exists, dating to 1742. The depiction documents a baroque formal garden. This layout was superseded by changes dating to 1760. The remnants of the baroque layout are still found on the park southern road (now a drive) and the lake.
- 4.53 A new scheme was carried out by William Emes for Richard Myddleton. His work includes the ha-ha, a large bank, which obscured views of the park to passing travellers, and an icehouse among other elements. Subsequent developments such as oak planting during the 1800s and 1950s gave shape to the Registered Garden as seen today (ibid).
- 4.54 The eastern side of the registered park gently slopes down to the east from the castle, with its boundaries close to the canal. A number of wooded areas such as Deershed Wood protect views from the estate to the industrial complex. Yet the impact of the industrial complex on the setting of the Registered Park is indisputable. It is significant to note that the eastern areas of the park are also included within the WHS Buffer Zone.
- 4.55 The Cadw listing mentions significant views from the northern front of the castle and terrace to the east, looking over the surrounding park. Further significant views are recorded of the castle from the northeast and northwest.
- 4.56 The Registered Park and Garden of Whitehurst (PGW(C) 11; NPRN 266506) is a rare example of an ornamental fruit garden dating to the 17th century (Hankinson 2018). The garden is located on sloping south facing ground. The garden was built by the 2nd Sir Thomas Myddleton in 1651 and was established

¹¹Cadw's official listing <https://coflein.gov.uk/en/site/86629/>

as a productive as well as ornamental garden. The Myddletons used this space to entertain visitors. A number of structures within the garden are listed, including its terraces (LBs 20224-6), the Grade II* Queens Anne's Cottage (LB 1288), Whitehurst house (LB 1287) and the gates and gate piers associated with the garden wall (LB 1287)¹².

4.57 Cadw's pre-application response dating to the 10th of November 2022, indicates the need to include the following Registered Parks and Gardens: PGW(C)15(WRE) Brynkinalt, PGW(C)42(WRE) Argoed Hall, and PGW(C)64(WRE) Wynnstay.

4.58 PGW(C)15(WRE) Brynkinalt park belongs to Brynkinalt Hall, located at the uppermost region with commanding views of Chirk as well as toward the Berwyn Hills and Shropshire. The estate has been associated with the Trevor family since AD 942. However, the earliest house standing today dates to AD 1612. The associated park lies to the east of Chirk on rolling ground. The southwest end of the park abuts Telford's embankment (DE288) and runs immediately south of DE117¹³.

4.59 The Registered Park and Garden is located to the east of Chirk, and it is partly within the WHS Buffer Zone.

4.60 PGW(C)42(WRE) Argoed Hall¹⁴ was built for Robert F Graesser, founder of the Wrexham Larger Brewery. The hall was built in the early Victorian period in neo-Elisabethan style, later adding Queen Anne classical elements. The estate grounds include the remains of a Victorian garden and extensive woodland with numerous walks above the River Dee and a lake on the flood plain.

4.61 The Registered Park and Garden is located c 2.8km north-northwest of the Proposed Development, and it is included within the boundaries of the WHS Buffer Zone.

4.62 PGW(C)64(WRE) Wynnstay is one of the largest parks in Wales. The park is

¹² Cadw's official listing <https://coflein.gov.uk/media/17/864/cpg099.pdf>

¹³ Cadw's official listing <https://coflein.gov.uk/media/18/131/cpg102.pdf>

¹⁴ Cadw's official listing <https://coflein.gov.uk/media/19/40/cpg063.pdf>

defined as an outstanding 18th century landscape park which, although cut by the A55 it retains much of its historic features. The park includes designs attributed to Richard Woods and Capability Brown. A number of monuments and other historic assets are located within the park.

- 4.63 The southern end of the Registered Park and Garden is located some 2km north from the Proposed Development, and although it is not included within the WHS Buffer Zone, in places, it lies adjacent to the buffer area.

5. Map Regression

Chirk Castle Estate map 1775 and 1820

- 5.1 These maps document the castle and its surroundings. They offer great detail of the estate grounds and document the rural nature of the region to the east, outside the Registered Park and Garden.

Tithe map of the parish of Chirk in the County of Denbigh 1839 (Figure 8)

- 5.2 By 1839, the Proposed Development is divided into six fields (plots 549-44). All the fields were owned by Mrs Charlotte Myddleton. The fields to the south (544-545) are associated with a house and gardens, while the others correspond to land used for agricultural purposes – e.g. 546 Barley Field, 547 Cae Coch and 548/9 Maes y Felin.
- 5.3 The canal (LB 1303; PRN 101202; NPRN 34410) is already depicted on this map edition, as well as Afon Bradley Farm (PRN 14527-31) complex to the west of the Proposed Development. Furthermore, limekilns (NPRN 405795) are recorded to the west of the canal in plot 554.

OS County Series 1874 1:2500

- 5.4 The field division observed on the tithe map is not depicted on this map edition. The house and gardens shown on plots 544-545 of the tithe map are at this point labelled as Ivy Cottages. Furthermore, Maes Gwyn (PRN 126304-7; NPRN 6067608) is also depicted south from the Proposed Development. A wharf runs E/W at the southernmost end of the Proposed Development which runs towards the Black Park Colliery. The Great Western Railway runs adjacent

to the eastern side of the canal.

- 5.5 There are no substantial changes between the 1874 map edition and the 1892 and 1910 map edition.

OS plan 1963

- 5.6 By 1963, the field divisions observed within the Proposed Development area are virtually identical to those observed today. An area of works is demarcated adjacent to the SW end of the Proposed Development.

6. Aerial Photographs

- 6.1 All aerial photographs stored at the Welsh Government Cartographic department have been examined for the present report. Other collections stored by the Cambridge University Collection of Aerial Photography (CUCAP) and at the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) have also been consulted. Only those photographs containing information of interest for the present report are discussed below.
- 6.2 **1971 71127 OS71-478 431:** this is a black and white vertical photograph centred in the area now occupied by the factory complex. The picture documents the factory currently owned by Mendelez, Chirk, bounded by the former railway and Llangollen Canal (DE175; PRN 124694, NPRN 405725). A series of woodland and other natural features belonging to Chirk Castle grounds are observed further west. Furthermore, the former sidings providing connection between the railway and the colliery are still visible on the ground to the north of the complex. Only the southernmost end of the Proposed Development is documented by the photograph.
- 6.3 **1973 7370 OS 73_220 004:** this is a black and white vertical photograph taken at a high altitude. It documents the setting of the factory and its surroundings, including Chirk Castle (LB 598; PRN 101107; NPRN 145757) and Chirk itself. This image documents the main building at Kronospan, established in 1972. The fields within which development is proposed are at this point a single field with no evidence of structures or other features.
- 6.4 **1985 8534 JAS 5484 067:** this is a black and white vertical photograph also

taken at a high altitude. No major changes are observed on this photograph.

- 6.5 **Google Earth Satellite Images** dating to 2006, 2009 and 2010 evidence an anomaly (see Figure 10 – anomaly F2) at the northwest end of the field which is also identified on the geophysical survey carried out by Archaeology Wales in 2022 (Muller 2022). This anomaly is of modern origin and appears to be linked to the works at Afon Bradley Farm (PRN 14527-31).

7. LiDAR

- 7.1 LiDAR 1m DTM was processed (Hillshade) for this report (Figure 9). The former boundaries documented on the map regression/aerial photography are shown. Furthermore, the modern anomaly related to Afon Bradley Farm and observed on the geophysical survey (see Figure 10 – F2- section 8) located toward the northeast end of the field is also apparent.

8. Geophysical survey (Figure 10)

- 8.1 From the 13th to 17th of June 2022, Archaeology Wales Ltd carried out a geophysical survey on the site, using a Bartington Grad601 dual-fluxgate gradiometer (Muller 2022). The aim of the geophysical survey was to determine the nature and extent of any buried archaeological features within the Proposed Development area.
- 8.2 The survey identified anomalies of possible archaeological origin in two fields (Fields A and B), namely positive curvilinear anomalies, one of which is a ditch-like feature in Field A (F1) that extends outside the survey area; and a sub-rectangular, ditched enclosure in the northern end of Field B (F4). Further to these, two anomalies of positive polarity with negative polarity in their centres within Field B (F5 and F6) merit further investigation as possible pits.

9. Site Visit (Plate 1-13; Figure 11)

- 9.1 A site visit was carried out at the Proposed Development site to the north of the existing Kronospan complex. Local assets were also visited to check for

intervisibility between them and the proposed site, placing emphasis on Whitehurst Gardens (PGW(C) 11; NPRN 266506), Llangollen Canal (DE175; PRN 124694, NPRN 405725) and Chirk Castle (LB 598; PRN 101107; NPRN 145757) and estate grounds (PGW (C) 63; NPRN 70048).

- 9.2 The visit was undertaken by Jerry B Bond BA (Hons) ACIfA on 30th March 2022. The weather was sunny with cloudy intervals and visibility was good.
- 9.3 The Proposed Development currently sits on agricultural land defined by large open fields bounded by the Afon Bradley farm (PRN 14527-31) to the north and northwest, the B5070 to the east, the Kronospan industrial complex to the south and a green field to the west.
- 9.4 The Proposed Development is demarcated largely with low hedgerows with areas of thick tree cover towards the eastern side of Afon Bradley Farm access track, and towards Kronospan. The site is currently used for grazing. During the site visit no below/above surface remains of archaeological significance were identified (Plates 1-3).

Llangollen Canal (DE175; PRN 124694, NPRN 405725; WHS)

- 9.5 The canal runs some 200m to the west of the Proposed Development. In general, the vegetation and topography constrain views from the canal to the development and vice versa (Plates 4-5). However, from certain locations, a small portion of the Proposed Development site is visible. This is due to the presence of low vegetation defining the eastern boundary of the canal (Plate 6). The views will change depending on the season, with intervening vegetation filtering the views within the winter and providing fuller coverage in the summer. This visit was undertaken in the spring and so reflects the transitional stage between filtered and full coverage.

Listed Buildings and Conservation Areas

- 9.6 The ZTV model¹⁵ produced for the Proposed Development suggests that no views of the Proposed Development may be gained from any listed building,

¹⁵ ZTV model can be viewed on Landscape Visual Impact Assessment associated to this application.

or from the Chirk Conservation Area (PRN 144098) within the 1km search area. This suggestion was further validated during the site visit. Views are present from Chirk Castle which sits outside of the agreed search area for this DBA but is addressed within the associated Settings Assessment.

Chirk Castle Registered Park and Garden (PGW (C)63 (WRE); NPRN 70048)

- 9.7 The results of the ZTV note that most views to the Proposed Development are achieved from the north and east of the Registered Park and Garden. During the site visit, partial views of the development could be seen from locations 9-10 (see Figure 11, Plates 9-10). In every circumstance, only the southern regions of the Proposed Development can be viewed.

Whitehurst Gardens (PGW(C) 11; NPRN 266506)

- 9.8 The ZTV model suggests that no intervisibility exists between the Proposed Development and Whitehurst Gardens. The site visit corroborated that the Proposed Development will not impact the Registered Park and Garden (Plate 11).

10. Impact Assessment

Assessment of Archaeological Potential and Importance

- 10.1 The Proposed Development lies to the north of a large industrial complex occupied by the Kronospan factory, which dominates the landscape, defined by a mix of rural and urban areas.
- 10.2 The Proposed Development - and its associated industrial complex - is surrounded by a landscape heavily imprinted by past human activity going back to at least the medieval period. These remains not only help record the history of development of Chirk and its surroundings, but also, given their integrity and significance, are key to the character of the surrounding landscape. This landscape and its attributes are protected with a number of designations, some overlapping, which act to protect the sense of place.
- 10.3 The Proposed Development is located in proximity to two Registered Parks and Gardens (Chirk Castle c1km to the southwest and Whitehurst c.500m to

the north); Chirk Conservation Area (PRN 144098) immediately to the south of the existing Kronospan site; and by the World Heritage Site canal and aqueduct directly to the west. More significantly, these designations are also contained within the WHS Buffer Zone, the protection of which is of utmost importance as it ensures that the WHS is appreciated within its landscape setting. The Proposed Development falls within the buffer of the WHS.

Previous Impacts

10.4 The Proposed Development site is located north of the main factory complex, and its development will effectively act as an extension of the complex. The Proposed Development is currently undeveloped agricultural land. Examination of cartographic sources note that these areas were associated to Maes Gwyn farm (PRN 126304-7; NPRN 6067608) prior the 1970s. The use of the area for farming purposes highlights that if subsurface features are present, they are likely well preserved below plough levels. Furthermore, satellite images as well as LiDAR and the geophysical survey results indicate the use of a portion of land located within the Proposed Development area by Afon Bradley Farm (PRNs 145627-31).

Proposed Development

10.5 Figure 3 shows the development design for the Proposed Development. As noted, the Proposed Development will include:

- ✓ the construction of a 132 Kv substation,
- ✓ a north access road, a lorry park (21400m²) and lorry park facility block,
- ✓ weighbridges, weighbridge building and car park
- ✓ two round wood storage areas (3558m² and 4435m²),
- ✓ site drainage scheme
- ✓ site landscaping scheme

10.6 The Proposed Development will be constructed on undeveloped agricultural land to the north of the main complex and will effectively be an extension of the complex.

Possible Impacts on non-designated assets

- 10.7 No recorded sites fall within the Proposed Development. As noted, the Proposed Development area has remained undeveloped. While the potential for encountering remains dating to the post-medieval period is low, earlier remains may be encountered below plough levels. Furthermore, the results obtained during the geophysical survey (Muller 2022), highlight the presence of some anomalies of possible archaeological origin. The significance and character of these remains should be tested with a targeted field evaluation. The evaluation should also consider the possible presence of the Roman Road (PRN 47505) within the Proposed Development area.
- 10.8 During the site visit it was noted that there are views to and from Afon Bradley Farm (PRNs 145627-31) from the Site. While the value of the asset is **Low** as it is considered of local importance, the magnitude of the potential impact is considered **Moderate** as the Proposed Development would have a significant impact on the immediate setting of the asset without planned mitigation. The mitigation measures within the proposed design (see section 11) would lessen the impact to **Slight**.

Possible Impacts on scheduled monuments

- 10.9 A scheduled monument is located within the search area: Llangollen Canal (DE175; PRN 124694, NPRN 405725; WHS). The value of this asset is **Very High** as it also holds World Heritage Status. The asset is protected by woodland on some stretches. However, from SJ 285556 39415 to SJ 28555 39473, the eastern canal boundary is populated by hedgerows which allow some views as far away as the northern end of Chirk during the winter. Views during the summer are negligible. Mitigation measures proposed in the project design (see section 11) conceal the visual impact of the Proposed Development, while causing a change in the setting of the WHS. The Proposed Development will therefore trigger a **Moderate Change** on the setting of the monument. Following the ICOMOS scoring system (ICOMOS 2011) designed for WHS properties, the magnitude of the impact is considered **Moderate**.
- 10.10 Cadw's pre-application response dating to the 10th of November 2022,

recommended the inclusion of the following Scheduled Monuments within the assessment: DE117 Castell y Waun Castle Mound, DE133 Offa's Dyke: Caeau-Gwynion Section, DE134 Offa's Dyke: Chirk Castle Section extending NE from Castle Mill, DE135 Offa's Dyke: Chirk Park Section extending NE from the Lake, DE138 Offa's Dyke: Section N & S of Plas-Offa, DE140 Offa's Dyke: Section N & S of Tan-y-Cut, DE198 Offa's Dyke: Chirk Park Section extending 340m NE of Home Farm, DE223 Darland Wood Round Barrows, DE288 The Holyhead Road: the Chirk Embankment and earlier trackways.

- 10.11 DE117 Castell y Waun Castle Mound will not be directly/indirectly impacted by the Proposed Development. The asset is located more than 1.5km south of the Proposed Development, and it is visually concealed by the surrounding built environment and by topography existing between the Proposed Development and the asset. While the value of the asset is **High**, the magnitude of the impact is deemed to be **No Change** (or **Negligible**, considering that the asset is an attribute of the WHS Buffer Zone).
- 10.12 DE288 The Holyhead Road: the Chirk Embankment and earlier trackways, located 2km south of the Proposed Development. The existing landform and surrounding vegetation constrain any views from the asset to the Proposed Development and vice versa. While the value of the asset is **High**, the magnitude of the impact is deemed to be **No Change** (or **Negligible**, considering that the asset is an attribute of the WHS Buffer Zone).
- 10.13 DE223 Darland Wood Round Barrows are also located at sufficient distance and within a topography which conceals long distance views south, and therefore toward the Proposed Development. The asset is located within the boundaries of the Registered Park and Garden PGW(C)64(WRE) Wynnstay. It is possible to indicate that while the value of the asset is **High**, the magnitude of the impact is deemed to be **No Change**.
- 10.14 Contrastingly, some stretches of Offa's Dyke – particularly DE 133 and DE 135 – may be indirectly (visually) impacted by the Proposed Development. While it is acknowledged that intervening vegetation and landform largely screen intervisibility between the asset and the Proposed Development, some views

are likely to remain. The value of the assets is considered to be **High**, and the predicted impact **Slight**, for the setting of the monument might be slightly altered.

Possible Impacts on listed buildings

- 10.15 No listed building will be directly or indirectly affected by the Proposed Development. It is not expected that the Proposed Development will have an impact on Chirk Conservation Area (PRN 144098), nor on any listed structure within Whitehurst Registered Park and Garden.
- 10.16 Chirk Castle (LB 598; PRN 101107; NPRN 145757) – Grade I – falls outside the search area. However, during the site visit it was noted that a degree of intervisibility exists from the roof and upper floors, as well as from the entrance at ground level, to the site. The value of the asset is **High** and the significance of the impact is considered **Slight/Moderate** without mitigation measures proposed by the project design.

Possible impacts on Historic Landscapes

- 10.17 Two Registered Parks and Gardens are located within the search area. Whitehurst Garden Registered Park and Garden is populated by dense woodland on the southern region of the park. This arrangement helps to conceal views of the Proposed Development. Furthermore, the undulating nature of the topography result in some views toward Kronospan, but not to the fields to the north, or closer to the park. While the value of the asset is **High**, the magnitude of the impact is considered **Neutral**.
- 10.18 Given the topography of Chirk Castle Registered Park and Garden (PGW (C)63 (WRE); NPRN 70048), the Proposed Development can be viewed from certain areas of the park. The development will not affect the significant views listed within the Registered Park and Garden listing from the castle and park key viewpoints. However, without the mitigation proposed within the project design, the magnitude of the impact would be considered **Slight/Moderate**. The significance of the impact takes into consideration that the Registered Park is a key element within the Setting of the WHS.

10.19 Cadw's pre-application response dating back to the 10th of November 2022, indicates the need to include the following Registered Parks and Gardens: PGW(C)15(WRE) Brynkinalt, PGW(C)42(WRE) Argoed Hall, and PGW(C)64(WRE) Wynnstay. During the assessment, it has become evident that these assets will not be directly/indirectly affected by the Proposed Development given the distance and landform that exists between the assets and the Proposed Development.

Possible impacts on the WHS Buffer Zone

10.20 UNESCO's Operational Guidelines describe a buffer zone as:

'an area surrounding a World Heritage Site which has complementary legal and/or customary restrictions placed on its use and development to give an added layer of protection. Cadw guidance goes on to describe a buffer zone as a management tool which 'can be used to highlight areas where potential impacts need to be given careful consideration by developers and decision-makers, and where planning restrictions may be appropriate'.

10.21 The WHS Buffer Zone within this area encompasses Chirk Castle (LB 598; PRN 101107; NPRN 145757) and estate ground to the west, Chirk and its Conservation Area to the south and southwest, and an extension of Chirk to the east with the industrial complex in between the settlement and the canal. Toward the north, the Buffer Zone consists of a largely rural landscape.

10.22 The 2019 Management Plan indicates the key attributes that define the Buffer Zone include Chirk aqueduct, viaduct and embankment, the castle and its parkland, the worker's cottages and the tunnel.

10.23 The proposed is located at sufficient distance from Chirk Aqueduct, viaduct, the worker's cottages and the tunnel, concealing any potential impacts caused by the Proposed Development. However, it indirectly affects the castle and parkland. The value of these assets is **Very High** as they are part of the Buffer Zone and Setting of the WHS. If the proposed mitigation measures are established, the magnitude of the impact would be **Slight**, only triggering slight visual changes in the landscape and limited change to noise and sound quality (ICOMOS 2011).

11. Mitigation and Conclusion

- 11.1 The present DBA has assessed the impact that the Proposed Development may have on the archaeological/historic resource. During the production of the report, it has been noted that the industrial estate within which Kronospan is included is surrounded by a cultural landscape of significant value, which includes elements from the medieval to post medieval periods.
- 11.2 This landscape helps to establish the Essential Setting from which the WHS is experienced in and around Chirk, and therefore its integrity should be protected.

Afon Bradley Farm complex - mitigation

- 11.3 The Proposed Development is likely to trigger a visual impact on the Afon Bradley Farm Complex (PRNs 145627-31). The complex can be clearly viewed from the eastern areas of the proposed site which is situated at a higher topographic position. While the value of the assets is **Low**, it has been noted that the impact may be **Moderate** if mitigation measures are not considered.
- 11.4 In order to protect the asset, it is recommended that the partial line of trees delimiting the access road leading from the B5070 to Afon Bradley farm complex is populated with trees acting as soft screening.

Llangollen Canal (DE175; PRN 124694, NPRN 405725) - mitigation

- 11.5 Some seasonal visibility of the site from the Llangollen Canal has been noted within winter months. The asset is considered of **Very High** importance as it is a Scheduled Monument and a WHS. Without mitigation measures the impact is considered **Moderate**.
- 11.6 The proposed soft screening in the form of planted vegetation would lessen the impact of the Proposed Development over the asset. An additional impact assessment is offered in the Settings Assessment included as Appendix I of the present report and via a Heritage Impact Assessment associated with the planning application. After mitigation, the impact can be reduced to **Slight/Moderate**.

Chirk Castle (LB 598; PRN 101107; NPRN 145757) and Chirk Castle Registered Park and Garden (PGW (C)63; NPRN 70048)

- 11.7 The site visit demonstrated that some views exist from the Castle and estate grounds to the proposed site. The Landscape Visual Impact Assessment produced for the present application suggests that only the southernmost region of the Proposed Development can be viewed from the assets.
- 11.8 Current mitigation proposals comprise the plantation of trees in certain locations to break up the views that can be achieved from the castle grounds by blurring the Proposed Development with the general landscape of the area. While this design may not completely block views from the castle grounds to the Proposed Development site, it will trigger a residual visual impact. An additional impact assessment is offered in the Settings Assessment included as Appendix I of the present report and through a Heritage Impact Assessment associated with the planning application. These reports also integrate an assessment of the following Offa's Dyke stretches - DE133, DE135 - all located within the boundary of the park. After mitigation, the overall impact is considered Slight for Chirk Castle and estate grounds as well as for Offa's Dyke DE133 and DE135.

WHS Buffer Zone

- 11.9 The Proposed Development site is located within the WHS Buffer Zone and triggers slight direct impacts over Chirk Castle (LB 598; PRN 101107; NPRN 145757) and parkland to the east. The castle is considered a key attribute on the definition of the Buffer Zone.
- 11.10 The Proposed Development site will have a direct effect on the Buffer Zone as it will alter its surrounding landscape. However, the landscape of this particular area has already been largely altered through the development of Chirk and the industrial complex.
- 11.11 The present DBA has highlighted that Chirk Castle (LB 598; PRN 101107; NPRN 145757) and parkland will be slightly visually affected by the Proposed Development. However, proposed mitigation measures would lessen the magnitude of the impact to **Slight**. While this might be the case, it is important

that a thorough study of the effects on these assets is established in the form of a HIA. This should be carried out taking into consideration the ICOMOS *Guidance on Heritage Impact Assessment on World Heritage Properties* (ICOMOS 2011), as well as Cadw's *Heritage Impact Assessment in Wales* (2017) and *Settings of Historic Assets in Wales* (2017).

11.12 The HIA will highlight other impacts associated with noise and sound quality, it will also provide the opportunity to fully assess the degree to which the Proposed Development affects the sense of place and the way the assets are approached and experienced.

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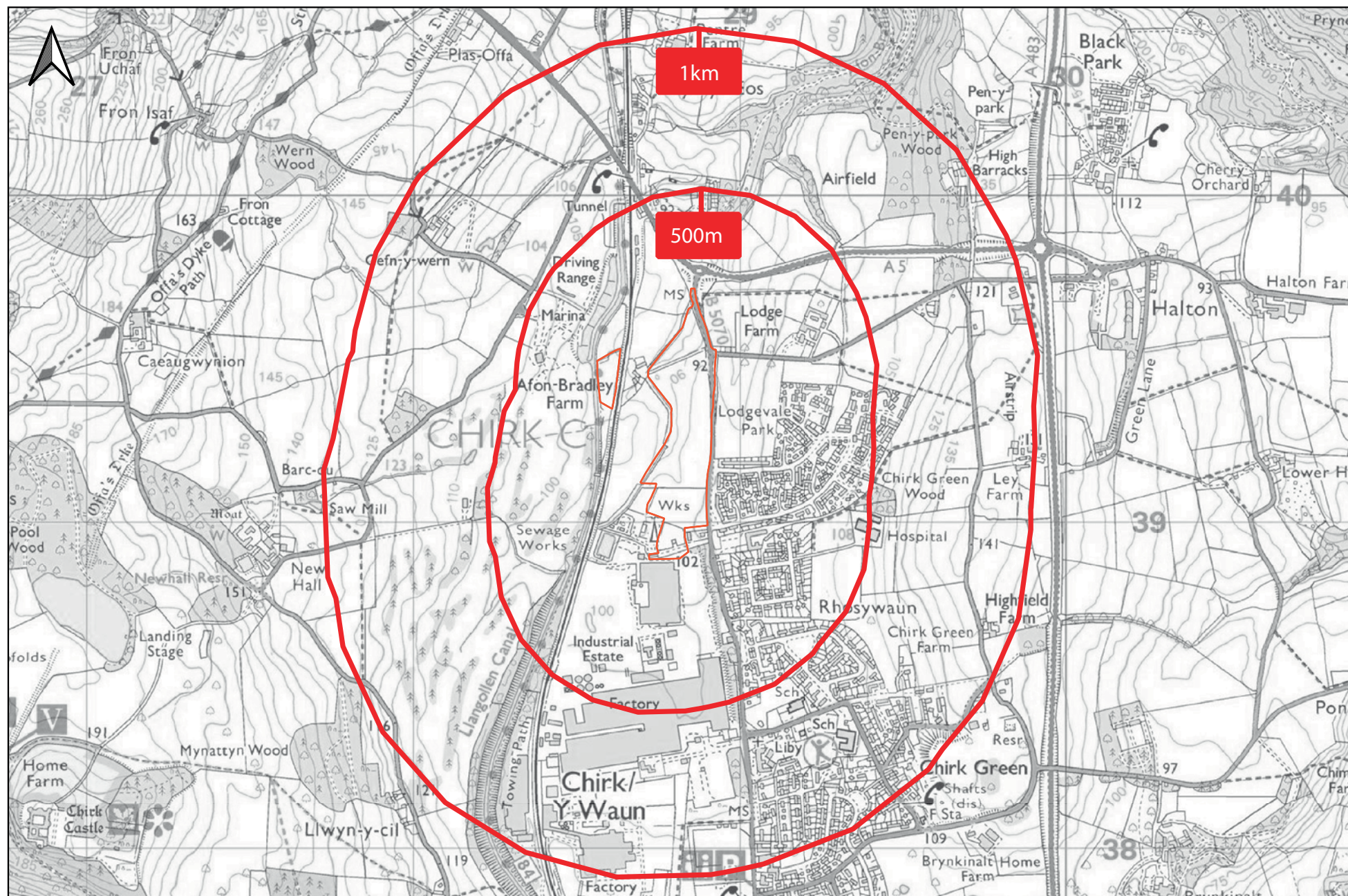
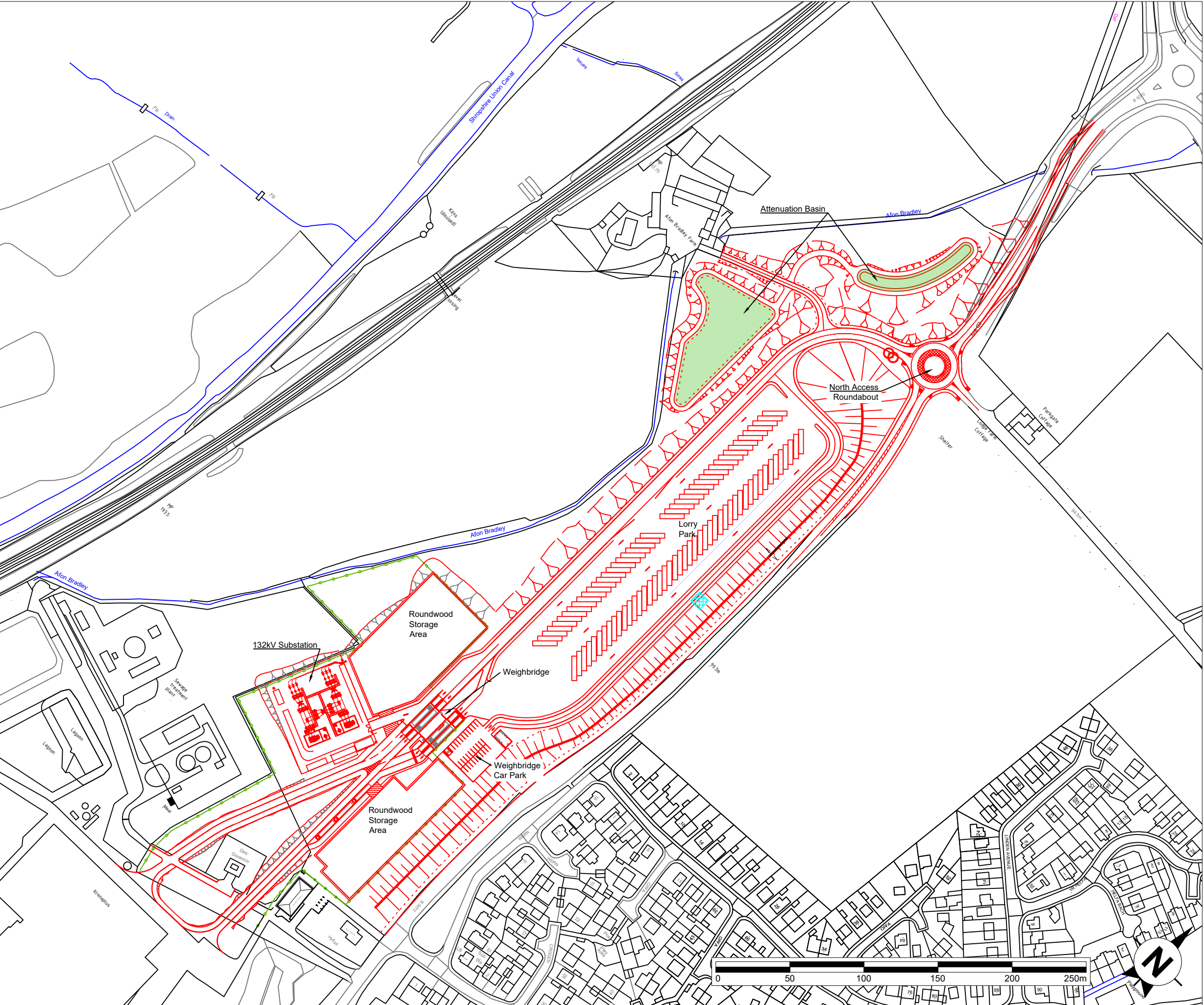


Figure 2. Proposed development site within 500m and 1km search area.



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axis

Key

Proposed Development

Proposed Fence

Attenuation Basin

Detailed design to include measures to protect lime kiln from construction damage

KRONOSPAN NORTH ACCESS ROAD

Figure 4.1

Proposed Development - General Arrangement

Scale
1:2,500@A3

Date
December 2022