

Setting Assessment:

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

August 2022



Report No. 2109

By

Irene Garcia Rovira MCIfA



Settings Assessment:

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

August 2022

Prepared for AxisPED

By

Irene Garcia Rovira MCIfA

Report No.2109

Version	Date	Sections Revised	Prepared/Revised by	Checked & Authorised by
1	26.8.22	Original	Irene Garcia Rovira MCIfA	Rhiannon Philp PhD
2	8.12.22	Various	Irene Garcia Rovira MCIfA	Rhiannon Philp PhD

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.

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



Contents

Summary	3
Crynodeb	4
1. Introduction	5
2. Site description.....	5
3. Methodology and legislation.....	6
STAGE 1	7
4. The proposed development and selection of assets for assessment.....	8
STAGE 2	10
5. Asset's significance and setting	10
STAGE 3	17
6. Evaluation of potential impact	17
STAGE 4	22
7. Proposed mitigation - assessment.....	22
9. Sources.....	24

Figures

Figure 1 LiDAR 1m DSM showing location of Chirk Castle and Registered Park and Garden.	26
Figure 2 ZTV model (potential views from Chirk Castle).....	27
Figure 3 ZTV model - Registered Park and Garden of Chirk Castle	28
Figure 4 Landscape masterplan.....	29
Figure 5 Direction of shots.....	30

Plates

Plate 1 View of proposed development from Chirk Castle towers.....	31
Plate 2 View towards the proposed development site close to castle entrance.....	31
Plate 3 From E region of the park looking at proposed development site.	32
Plate 4 From NE region of the park looking at proposed development site	32
Plate 5 View from Llangollen Canal toward development obstructed by topography and vegetation	33
Plate 6 View from Llangollen Canal toward development obstructed by topography and vegetation.....	33
Plate 7 View from the grounds of Chirk Castle - view of small fraction of proposed development area.....	34

Summary

In August 2022 Archaeology Wales Ltd was commissioned to carry out a Setting Assessment and a Site Visit associated with the 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.

The assessment focused on the following assets: Llangollen Canal (DE175; PRN 124694, NPRN 405725), Chirk Castle (LB 598; PRN 101107; NPRN 145757), Chirk Castle Registered Park and Garden (PGW(C) 63; NPRN 70048).

The results note that the proposed development will have an impact over the setting of the abovementioned assets. Their value is considered to be Very High as, Llangollen Canal is a WHS and Chirk Castle and its estate grounds are key to the setting of the WHS. Without mitigation measures, the impact of the proposed development is considered Slight/Moderate for both the Castle and estate grounds, and Moderate for Llangollen Canal. However, the landscaping plan devised for the development appears to be effective concealing views to the proposed development and, therefore, the impact over the setting of the monuments may be considered Slight, and Slight/Moderate for Llangollen Canal.

In addition, in December 2022 the report was amended to add recommendations provided by Cadw on a pre-application response dating to the 10th of November 2022. An assessment of all assets detailed in the pre-application response are addressed in the Desk Based Assessment associated with the Proposed Development. Offa's Dyke stretches DE133 and DE135 have been added to the present report as it is acknowledged that long distance views are gained from certain points along these Scheduled Monuments.

Crynodeb

Ym mis Awst 2022, comisiynwyd Archaeology Wales Cyf i gynnal Asesiad Lleoliad ac Ymweliad Safle mewn perthynas â'r datblygiad arfaethedig i adeiladu ffordd fynediad, parc lorïau, is-orsaf 132kV a gwaith ategol arall ar dir i'r gogledd-ddwyrain o Kronospan, Fferm Maesgwyn, Wrecsam LL14 5NT.

Canolbwyntiodd yr asesiad ar yr asedau a ganlyn: Camlas Llangollen (DE175; PRN 124694, NPRN 405725), Castell y Waun (LB 598; PRN 101107; NPRN 145757), Parc a Gardd Cofrestredig Castell y Waun (PGW (C) 63; NPRN 70048).

Mae'r canlyniadau'n nodi y bydd y datblygiad arfaethedig yn cael effaith ar leoliad yr asedau a nodir uchod. Ystyrir bod eu gwerth yn Uchel lawn gan fod Camlas Llangollen yn Safle Treftadaeth y Byd a bod Castell y Waun a thiroedd ei ystâd yn allweddol i leoliad y Safle. Heb fesurau lliniaru, ystyrir y bydd effaith y datblygiad arfaethedig yn Gymedrol ar gyfer y Castell a thiroedd yr ystâd, ac yn Fawr ar gyfer Camlas Llangollen. Fodd bynnag, ymddengys bod y cynllun tirweddu a ddyluniwyd ar gyfer y datblygiad yn effeithiol o ran cuddio golygfeydd o'r datblygiad arfaethedig ac, felly, gellid ystyried bod yr effaith ar leoliad yr henebion yn Fach, ac yn Gymedrol/Bach ar gyfer Camlas Llangollen.

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

- 1.1.1. This report has been commissioned by AxisPED. It should be read in conjunction with the Desk Based Assessment (DBA) produced by Archaeology Wales Ltd in 2022 (Garcia Rovira 2022). The DBA is associated with the 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 (see DBA Figure 1-3).
- 1.1.2. The proposed development is in preapplication stages. This stage included consultations with Cadw which requested that a Settings Assessment is carried out in order to assess the impact of the proposed development on the following assets:
- *Llangollen Canal (DE175; PRN 124694, NPRN 405725)*
 - *Chirk Castle (LB 598; PRN 101107; NPRN 145757)*
 - *Chirk Castle Registered Park and Garden (PGW(C) 63; NPRN 70048)*
- 1.1.3. Offa's Dyke DE133 and DE135 were added to the report following advice from Cadw in their pre-application response letter dating to November 2022.
- 1.1.4. This report has been written by Irene Garcia Rovira MCIfA, Archaeology Wales Project Manager.
- 1.1.5. All work will be undertaken to the standards and guidance set by the Chartered Institute for Archaeologists (2020). AW is a Registered Organisation with the ClfA.

2. Site description

- 2.1.1. The Site is located immediately north of an industrial estate which includes the main factory and other infrastructure associated with Kronospan. It is bounded to the east by the B5070 and Chirk, to the west by the 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 site has been used in recent years for grazing purposes.
- 2.1.2. 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 and legislation

3.1.1. The present report follows the standard and guidance established in Setting of Historic Assets in Wales (Cadw 2017), and Conservation Principles: for the sustainable management of the historic environment in Wales (Cadw 2011).

3.1.2. In line with the 2017 guidance, the present report is divided into four main sections:

- STAGE 1: Identification of historic assets that might be affected by a proposed change or development.
- STAGE 2: Definition and analysis of settings to understand how they contribute to the significance of the historic assets.
- STAGE 3: Evaluation of potential impact of proposed change on that significance.
- STAGE 4: Possible mitigation.

3.1.3. The following data sets have been used to produce the baseline for the assessment. Please note that a full examination of the data sets has been carried out on the DBA accompanying this report:

- Collation and assessment of all relevant information held in the regional HER at Clwyd-Powys Archaeological Trust (henceforth CPAT), within a 500m buffer zone around the proposed development area.
- Collation and assessment of the impact on all designated archaeological sites (Scheduled Monuments, Listed Buildings, Historic Parks & Gardens, landscapes, Conservation Areas) within a 1km buffer zone around the proposed development¹
- Assessment of all available excavation reports and archives including unpublished and unprocessed material affecting the site and its setting;
- Assessment of aerial photographic (AP) and satellite imagery evidence; LiDAR imagery and ZTV models.
- 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).
- Map regression analysis using all relevant cartographic sources e.g. all

¹ Including Offa's Dyke DE133 and 135

editions of the Ordnance Survey County Series, Tithe, and early estate maps (as available).

- Place-name evidence.

3.1.4. The present report has been produced according to Planning Policy Wales Edition 11 Chapter 6 (Welsh Government 2021), and Technical Advice (TAN) Note 24 (Welsh Government, 2017). TAN 24 states that:

'[...] local planning authorities must treat World Heritage Sites, scheduled monuments, unscheduled nationally important archaeological remains, listed buildings, conservation areas and sites included in the Register of Historic Parks and Gardens in Wales in their consideration of planning applications and producing development plans. This includes the impact of proposed developments on the settings of these historic assets [...]

The setting of an historic asset includes the surroundings in which it's understood, experienced, and appreciated both in the past and in the present. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral'

3.1.5. Planning Policy Wales Edition 11 Chapter 6 establishes that:

'World Heritage Sites are international designations recognised for their Outstanding Universal Value, as inscribed by UNESCO. The planning system recognises the need to protect the Outstanding Universal Value of World Heritage Sites in Wales. The impacts of proposed developments on a World Heritage Site and its setting and, where it exists, the World Heritage Site buffer zone and its essential setting, is a material consideration in the determination of any planning application'

3.1.6. The following guidelines have also been consulted during the production of this report:

- Pontcysyllte Aqueduct & Canal – local planning guidance note (2012)
- Pontcysyllte Aqueduct and Canal World Heritage Site Management Plan 2019- 2029 (2019)
- Pontcysyllte Aqueduct & Canal WHS – Supplementary note (2012)
- Wrexham Unitary Development Plan (2005)

3.1.7. Given the WHS status of Llangollen canal and its direct relationship with Chirk Castle, its estate grounds, and Offa's Dyke DE 133 and 135, the present report has made use of the scoring system published in Guidance on Heritage Impact Assessments for Cultural World Heritage properties (ICOMOS 2011).

STAGE 1

4. The proposed development and selection of assets for assessment

4.1.1. The proposed development comprises the construction of an access road, lorry park, 132kV substation and other ancillary works associated with Kronospan (see Figure 3 DBA). The overall development will measure some 15 hectares and will be constructed on undeveloped agricultural land to the north of Kronospan, effectively functioning as an extension of the complex.

4.1.2. The proposed development comprises:

- the construction of a 132 Kv substation,
- an access road, a lorry park (21400m²) and lorry park facility road and roundabout
- a log yard reception, sample room and timber buying,
- two round wood storage areas (3558m² and 4435m²),
- two wetland areas (3060 m² and 835 m²)
- site landscaping scheme

4.1.3. As noted on the DBA, most of these elements will require groundworks. The proposed development area has been impacted to a degree by the works at Afon Farm complex, but it has largely been agricultural in nature, meaning that well- preserved archaeology could be present beneath the ground. The possibility of encountering archaeologically significant features cannot therefore be altogether discarded as suggested by the results obtained during the geophysical survey (Muller 2022).

4.1.4. Furthermore, and more importantly for this report, the DBA has highlighted that the development might result in degree of visual impact over assets of national and international importance located nearby. These impacts (as well as others) not only affect the assets but also their setting. During consultation with Cadw it was agreed that further assessments (Setting Assessment and Heritage Impact Assessment) were necessary to fully understand the impacts of the development over three assets and their setting.

4.1.5. The DBA accompanying this report contains a full account and examination of the data sets obtained during the search period. The DBA therefore acts as a baseline

4.1.6. from which a number of assets have been set apart and further examined on

the present report². A summary of results is outlined below:

- 4.1.7. A HER search within a 500m radius of the proposed development retrieved 44 records. None were included within the proposed development area. However, Afon Bradley Farm (PRN 14527-31) is located adjacent to the northern boundary of the proposed development site. While the assets will evidently be visually affected by the proposed development, the impact can be lessened with soft screening along the access track. Effective mitigation measures should also consider other potential impacts triggered by increased noise and pollution.
- 4.1.8. The search retrieved one Scheduled Monument within the search area: 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). It is also worth noting that the industrial complex falls within the Buffer Zone of the WHS.
- 4.1.9. The DBA highlights that the canal is well protected from views from the east by patches of ancient woodland defining its course. However, a degree of intervisibility exists during the winter³ leading to some views to the proposed development filtered by existing vegetation. The population of these areas with mature trees acting as soft screening will wholly screen views. However, the proposed development is located within the WHS Buffer Zone, and it is therefore of utmost importance to further assess the impacts that the proposed development will have on that setting.
- 4.1.10. There are thirteen listed buildings within the assessment area. No listed buildings are located within the boundary of the proposed site. A small portion of the proposed development is observed from the upper floors of Chirk Castle (LB 598; PRN 101107; NPRN 145757). Moreover, Chirk Castle as well as the Registered Park and Garden of Chirk Castle (PGW (C) 63; NPRN 70048) are key elements of the WHS setting, and therefore, it is important that the impact of the proposed development over the castle and its setting is well understood, and if necessary, suitably mitigated.
- 4.1.11. Similarly, Offa's Dyke DE133 and DE135 may be visually impacted by the

² Also, after consultation with Cadw

³ These views are wholly screened during the summer.

Proposed Development. In order to understand how views might affect the setting of the monument, the asset's setting is also assessed here.

STAGE 2

5. Asset's significance and setting

5.1.1. Based on the consultation with Cadw and taking into consideration the baseline results obtained during the production of the associated DBA (Garcia Rovira 2022), three designated assets have been selected for examination:

- Llangollen Canal (DE175; PRN 124694, NPRN 405725)
- Chirk Castle (LB 598; PRN 101107; NPRN 145757)
- Chirk Castle Registered Park and Garden (PGW (C) 63; NPRN 70048)
- Offa's Dyke DE 133 and 135

5.1.2. The assets are of national importance and Llangollen Canal (DE175; PRN 124694, NPRN 405725) is of international significance as it holds WHS status. As it will be noted, Chirk Castle (LB 598; PRN 101107; NPRN 145757), Chirk Castle Registered Park and Garden (PGW (C) 63; NPRN 70048) and Offa's Dyke DE133 and 135 are key attributes of the WHS Buffer Zone within this stretch.

Chirk Castle (LB 598; PRN 101107; NPRN 145757)

Historic setting

5.1.3. The castle's early history directly relates to the Norman conquest. In 1282 Edward I defeated Llywelyn ap Gruffydd, creating the Marcher Lordship of Chirklands. The latter were given to Roger Mortimer who built the castle to guard the Dee Valley to the north and the Ceiriog valley to the south (Plunkett Dillon and Latham 1998). As is often the case with defensive castles, its location is prominent over the landscape, sitting on a hilltop which drops steeply to the south bounded by the river Ceiriog and to the north (Figure 1). The eastern side drops away more gradually, also allowing long distance views, which are currently characterised by the built environment of Chirk and beyond.

5.1.4. While Roger Mortimer served both Edward I and Edward II, he eventually took arms against the king and was thrown in the Tower of London where he died in 1326. From that point onward, the castle was the property of several important families, including

- 5.1.5. the Earl of Arundel, Cardinal Henry Beaufort and the Dukes of Somerset (Cadw listing report 1998 – Chirk Castle).
- 5.1.6. In 1563, the queen granted the castle to Robert Dudley Earl of Leicester who sold it in 1595 to the Myddelton's, in whose lineage it has continued until the late 20th century.
- 5.1.7. During the late medieval and post-medieval periods, the castle ceased to function as a defensive structure to become the seat of noble families. It became the family seat for a number of lineages until the Myddleton's purchased it. The family continued to maintain the castle until recently. During these years, the defensive function of the castle ceased to exist, although the castle and its surrounding grounds continued to act as a symbol of power for those who owned and managed great extensions of land across Wales and beyond. It is worth noting that the land where Kronospan sits today as well as the adjacent land was owned by the Myddleton's as documented on the Tithe map of the parish of Chirk in the County of Denbigh 1839 (see Garcia Rovira 2022 – section 5).

Modern Setting

- 5.1.8. The castle was last used as a residence in 1946. In 1952 it was registered as a Grade I listed building, and in 1978 it was bought for the nation under the stewardship of the National Trust. The hills in which the castle and estate lie are within the extended boundary of the Clywdian Range and Dee Valley Area of Outstanding Natural Beauty, designated in 2011. The castle and estate grounds form part of the WHS Essential Setting within this particular stretch of Llangollen canal.
- 5.1.9. The castle is key to the narratives of the history of development of Chirk and is a popular tourist attraction. Its dominant position (setting) is still regarded as a significant key attribute from which visitors can enjoy long distance views over the landscape. The castle's immediate setting is its gardens are designated as a Registered Park and Garden (see below). Both the gardens and the castle are important tourist attractions in Chirk and key heritage assets for the definition of the history of development of the town.

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

- 5.1.10. Chirk Castle is located on high ground and surrounded by a terraced and

informal garden and parkland, covering more than 128 hectares. While the predominant

- 5.1.11. design results from the work of William Emes, the park still includes other features which date from the medieval period onwards.
- 5.1.12. The park is largely defined by grassland with deciduous trees. Topographically, as already noted, it is located in a dominant position with the ground raising to a ridge to the west and dropping to the south toward the river Ceiriog. Interestingly, Offa's Dyke cuts across the park on a northeast to southwest orientation.
- 5.1.13. There are two main entrances, one of which is located to the west of Chirk, and the main visitor entrance, which is reached through an access track running north and located c.1.2km to the west of the southern boundary of the proposed development site (Cadw listing report 1998 - Chirk Castle RPG).
- 5.1.14. The park contains several wooded areas including Mynattyn Wood, Deershed Wood, Baddy's Wood, The Belt, Gwyningar Wood, Mars Wood, Warren Wood and Top Plantation. Other regions of park are also wooded (e.g. around lakes) and dotted across the land (ibid).
- 5.1.15. The garden is located east from the castle. It has elements from different periods, but the planting mostly dates to the 19th century onward. The formal garden is carved into a series of terraces with sculpted hedging and yew topiary flanking the path.
- 5.1.16. The informal garden is to the east of the southern terraces and is defined by lawn. It contains a number of decorative elements such as a Grade II Listed statue (LB 20242), Grade II Listed sundial (LB 20246), Grade II Listed Hawk House (LB 20243), a Grade II Listed medieval font (LB 20245). Further north is a Grade II Listed gazebo (LB 20244). The woodland and terraces are bounded by a Grade II Listed ha-ha (LB 20247).

Historic Setting

- 5.1.17. During the time the castle functioned for defensive purposes, the land surrounding the castle, not only enabled a prominent position for the castle and views over the landscape but also offered natural defensive barriers to the south and north.
- 5.1.18. As previously noted, from very early on, the castle became the seat of a number of noble families, changing its function and acting as the key element

of an estate which was no longer just defined by the residence but also by the grandiosity and beauty of its surrounding landscape. The function of the land has remained virtually the same up until the 20th century, and it has become a palimpsest, which includes features (many of them currently designated) echoing the changing taste over time.

- 5.1.19. By 1392, historic records document a castle park bounded by a timber fence containing more than 100 acres of woodland. The park was expanded by the Myddleton family to become an area that was able to hold more than 500 deer.
- 5.1.20. By the early of the 18th century, the castle grounds were occupied by a baroque layout of formal garden with axes stretching as avenues. This layout was largely altered in the 1760s/70s with a landscaping scheme undertaken by William Emes. Many features still existing today date to this period.
- 5.1.21. The key setting of the park is found on its topographic position commanding views from the north to the front of the castle and from the eastern terraces. The park's different spaces (e.g. woodland areas, formal gardens etc) form a sensorial experience as it was perambulated and enhancing and displaying a sense of wealth of those who owned and managed the property.
- 5.1.22. The experience of the estate grounds was also documented in artistic expressions throughout time. The National Trust holds an online collection of paintings which depict the castle and its estate grounds through time⁴.
- 5.1.23. Although one must recognise that the paintings are not fully accurate, they give us some information of the changing nature of the estate grounds and bring us closer to the ways in which they were experienced. An example is found with John Wootton 1715 painting depicting the northern elevation of the castle with its entrance and two concentric ditches around it. While the existence of the ditches is not certain at this date, the house depicted to the west of the castle was been partly recovered through work carried out by CPAT in 2021⁵.
- 5.1.24. Another artistic expression depicting the castle is found on the Thomas Badesale engraving of 1742. This work documents the castle the area to the east toward the formal gardens with a number of venues and views towards the countryside. While it is not certain if the gardens were ever designed in a way

⁴ See <https://www.nationaltrustcollections.org.uk/results?PlaceOfOrigin=Chirk+Castle>

⁵ See <https://cpat.org.uk/chirk-castle-excavations-2021/>

conforming to this drawing, it does tell us that views to the east were also significant (ibid).

Modern Setting

5.1.25. The estate grounds were last associated with noble residence in 1946. By 1952 it was registered as a Grade I listed building, and in 1978 it was bought for the nation under the stewardship of the National Trust. In addition, the hills in which the castle and estate lie are located within the extended boundary of the Clywdian Range and Dee Valley Area of Outstanding Natural Beauty, designated in 2011. The castle and estate grounds also form part of the WHS Essential Setting within this stretch of Llangollen canal.

5.1.26. The park and garden are currently used as a tourist attraction. Visitors can walk through the designed landscapes, contemplating its beauty and the beauty of the park's surroundings from a number of viewpoints. Moving through the estate grounds, the visitor can experience the calmness and quietness while being constantly reminded of the power of those who designed and owned them.

5.1.27. The Registered Park and Garden is considered a key attribute of the essential setting of the WHS when crossing Chirk to the north.

5.1.28. Other elements observed within the surrounding landscape of the park include HGVs on the B5070 and some prominent features located on the existing Kronospan facility.

Llangollen Canal (DE175; PRN 124694, NPRN 405725)

5.1.29. A brief look into the history of Pontcysyllte Aqueduct and Canal has already been presented (see associated DBA). The section adjoining Llangollen to Hurleston was built at the beginning of the 19th century with some difficulty due to the topography of the region. This led to the development of ground-breaking engineering solutions pioneered by Jessop and Telford including cut tunnels (PRN 79832; DE175), and a major aqueduct was constructed to carry the canal across the river Dee.

Historic Setting

5.1.30. It has been noted that during late 18th and 19th centuries, the landscape

surrounding the proposed site was altered by developments directly associated with the extraction of mineral resources. This led to the construction of new modes of transport to move the raw materials from their source to processing plants and markets. Llangollen Canal was one such solution and became one of the most visible elements within the otherwise largely rural landscape.

5.1.31. In order to understand the historic setting of the canal within the stretch covered by the present assessment, it is necessary to move away from the canal itself. As noted during the exploration of historic maps, the transformations of the landscape in the outset of the 19th century were vast and included not only the enclosure of fields but also the development of the canal, the construction of the turnpike road (A5), and the development of the railway. All these developments created a landscape which intermixed the more traditional Welsh rural areas with the then 'state of the art' infrastructure. This, in turn, changed the way the landscape was experienced as their introduction would have also permeated the landscape with new smells and noises, as well as providing new ways of moving through it.

Modern Setting

5.1.32. The industrial workings which led to the development of infrastructure, such as the canal, fell out of use in the 19th and 20th centuries. However, many of these structures have become components of the landscape, and integral to the character of the landscape they are in.

5.1.33. The canal was originally used for the movement of coal, iron, slate, limestone, and other goods. However, it now functions to carry pleasure boats as well as conveying drinking water. It is significant to note that the canal has never stopped functioning. The landscape character within which the canal was first constructed has changed very little and it is still characterised by its rural setting. However, due to the presence of the canal and other designated monuments the landscape attracts more than 300,000 visitors a year. The canal itself is one of the busiest canals in the United Kingdom with more than 15,000 boat movement per year (management plan).

5.1.34. The canal and its associated infrastructure (e.g. cuttings, embankments) are designated as Scheduled Monument DE 175. Within the stretch crossing Chirk and its surroundings, the scheduling area includes the aqueduct and viaduct,

tunnels and deep cutting.

- 5.1.35. An extra layer of protection was offered to it in 2009, when the UNESCO declared the monument a World Heritage Site. Its designation as a World Heritage Site has led to the development of a Buffer Zone to protect the historic, cultural and landscape elements which contribute to the authenticity and integrity of the site. Whilst this buffer does not impose a 'blanket conservation approach', it works to encourage sustainable development. Elements such as views of the surrounding landscape from the canal, smells, noise, and pollution should all be considered when defining its setting.
- 5.1.36. At present, the canal is experienced during boat crossings as well as through its associated path. Moving from the tunnel toward the north, the canal is well-protected from any views by ancient woodlands. These elements protect the experience of the canal from adjacent development, providing an experience of tranquillity. Further north, the woodland concealing views to the surrounding landscape recedes and the
- 5.1.37. experience changes, providing views of the Registered Park and Garden of Chirk Castle to the west and of existing industrial features and some green areas to the east. A small fraction of the proposed development can be seen from Chirk Marina.

Offa's Dyke DE 133 and DE135

- 5.1.38. Offa's Dyke is a linear earthwork running north to south demarcating a former boundary between England and Wales. The majority of the earthwork is defined by an earthen bank with a ditch to the west. It runs for approximately 129km, making it the longest ancient monument in the United Kingdom. The earthwork has been traditionally associated with Offa, King of Mercia; however, its precise date and function are still a matter of debate (see Belford 2019).
- 5.1.39. The monument is of national importance and retains significant archaeological potential in some of its stretches. As a Scheduled Monument, Offa's Dyke is subdivided into smaller sections.

Historic Setting

- 5.1.40. Research on the monument has over time raised numerous debates, including its function, the date of construction and the time span within which it was used. These debates have clear implications for the definition of the

historic setting of the monument.

5.1.41. In her article Offa's Dyke: 'the Stuff that Dreams are Made of', Williams (2019) highlights that early references to the monument are sparse. The interest in the Dyke however was triggered during the 12th and 13th centuries through the wars that concluded with the English conquest of Wales. As such, the author highlights the possibility that our understanding of the dyke may have been deeply influenced by the written sources dating to this period, which were highly charged by political undertones.

5.1.42. Debates concerning the function of the monument have existed throughout the history of archaeology. For instance, Fox (1955) brought forward the possibility that the monument was not military or defensive but was a mutually agreed frontier. In the 1970s, Noble suggested that the existing gaps of evidence within the course of the monument may have corresponded to areas of access and communication between the two sides; a suggestion largely questioned by Hill and Worthington (2003) following on from numerous excavations along its stretch.

5.1.43. Whatever the case may be, it is worth noting that the monument acted as a physical barrier between the former English and Welsh territories; a clear demarcation between the two factions, thus creating a dichotomy which served as a symbol of power and political identity. However, while the monument may have been constructed to act as a symbolic element within the landscape, it was not always placed in dominant areas of the landscape.

5.1.44. The presence of Offa's Dyke within Chirk Castle Registered Park and Garden (PGW (C)63; NPRN 70048) does not seem to be acknowledged in Chirk Estate maps dating to 1775 and 1820. However, the Tithe map of Chirk 1839 documents the stretch designated as DE134, indicating that at this point in time, it was recognised that the monument crossed Chirk Estate parkland.

Modern setting

5.1.45. While it is no longer delimiting the frontier between England and Wales, the monument still acts as a symbolic element in the definition of national identities. It has also been the inspiration for the creation of literary composition (e.g., *The Worthiness of Wales*, by Thomas Churchyard, which dates to 1537).

5.1.46. In many places, the surrounding landscape – its setting – has changed

dramatically. However, this is not necessarily the case for DE133 and DE135. Whilst DE133 has remained within an area largely rural and remote, DE135 (and other stretches within the Registered Park) have become an important part of the park itself and are viewed as an attraction. In recent years, the National Trust has implemented a number of panels and signs which direct the visitors to the monument, which predates any of the key assets present within the park. It is therefore significant to protect the experience of the monument when walking along it, one which, within these stretches is characterised by long distance views to the east, toward Chirk and its surroundings.

STAGE 3

6. Evaluation of potential impact

- 6.1.1. Both this report and the associated DBA have emphasised that both Chirk Castle and its Registered Park and Garden, as well as Offa's Dyke stretches within the Registered Park and Garden form part of the WHS Buffer Zone- here Llangollen canal- and therefore, they should be understood as assets of High/Very High value. It has therefore been deemed necessary to adopt the ICOMOS scoring system to fully assess the severity and significance of the impact on the three assets/settings selected for this report.
- 6.1.2. This section of the report provides an evaluation of potential impact prior to the establishment of suitable mitigation measures. The mitigation will be outlined in Stage 4 and the severity and significance of the impacts will be reassessed.

Chirk Castle (LB 598; PRN 101107; NPRN 145757)

- 6.1.3. In Section 5, it was noted that the setting of the castle is primarily the hilltop where it sits commanding views of the surrounding landscape. The position of the castle has been significant for its original defensive function and when functioning as a residence and a tourist attraction. It is therefore acknowledged that the setting of the monument encompasses the hilltop where it is located, as well as its surrounding landscape.
- 6.1.4. Cadw's register of the Castle ⁶and park highlights a number of important

⁶ <https://cadw.gov.wales/advice-support/cof-cymru/search-cadw-records>

views, including views from the northwest toward the castle, from the castle looking north- north-east and from the castle looking east. These views will not be compromised by the proposed development.

- 6.1.5. A Zones of Theoretical Visibility (ZTV) model was produced to further understand the visual impacts of the proposed development over the castle (Figure 2) and contrasted with the results obtained during a site visit. The ZTV⁷ assessed the views that can be reached from the upper floors and towers of the castle (six points were added, one for each tower and a further point to the south). The results indicate that areas of the development site can be seen from two viewpoints located in the upper floors of the castle. These results were contradicted during the site visit, when it was noted that in fact, only a small fraction of the proposed development site can be seen from the castle towers (Plate 1), which corresponds with the proposed lorry park (see Figure 3).
- 6.1.6. The proposed development site will therefore impact the setting of the castle, directly and indirectly.
- 6.1.7. Approximately 15 hectares of landscape considered to be part of the setting of the castle will be physically altered by the proposed development. Both the direct and indirect impacts are considered irreversible, physical and permanent. The severity and the magnitude of the impacts are therefore deemed to be **Moderate/Slight** before mitigation.
- 6.1.8. Some measures to help mitigate the physical impact have already been carried out by means of a geophysical survey (see Muller 2022). As noted in the DBA associated with this report, further mitigation is recommended in the form of a trenching evaluation. The evaluation would target the geophysical results as well as taking the opportunity to examine the presence/absence of the Roman road (PRN 47505) thought to run close to the proposed site.
- 6.1.9. Mitigation measures aimed at reducing indirect (visual) impacts are offered in Stage 4 of this report. The overall impact is considered **Slight** after mitigation as while affecting the visual experience gained at the upper floors of the castle, it does not cause significant changes the panoramic views of the surrounding landscape (see mitigation).

⁷ 1m DSM data was used for the production of the ZTV.

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

- 6.1.10. As with the castle, the setting of the Registered Park and Garden is characterised by its high position on the landscape, as well as the landscape that surrounds it. In general, it can be said that the wooded areas located to the east of the castle help to conceal views towards the main factory and adjacent land to the north. Despite this, views to the east and north include the proposed development area from certain regions of the park.
- 6.1.11. The ZTV model produced for this report (Figure 3) indicates that the eastern regions of the proposed development site can be seen from as many as five out of the six points selected. However, the degree of visibility modelled by the ZTV does not necessarily correspond to the degree of visibility observed during the site visit.
- 6.1.12. Plate 2 shows that only the southernmost region of the proposed development can be seen from the location of the castle. Plate 3 documents views from the eastern region of the park toward the site. It is noted that at this point the tree coverage acts as soft screening. A further location was checked to the northeast where it was found that the southern region of the proposed development is also visible (Plate 4).
- 6.1.13. The views reached when moving through the four main walks marked within the estate grounds were also examined.
- 6.1.14. The Chirk Castle Woodland Walk runs from the carpark toward Mynattyn Wood. From this point it turns south toward Deershed Park and continues toward the castle passing through the deer park. No significant views toward the proposed development are noted through this journey.
- 6.1.15. The Llwyn y Cil Walk circles Home Farm and turns east-south-east toward Chirk. The upper regions of Kronospan and a very small fraction of the proposed development can be sighted during the walk.
- 6.1.16. The Old Golf Walk is a circular walk located between Mars Wood and Pool Wood. No views to the proposed development can be obtained during the walk.
- 6.1.17. The Battle of Crogen circular walk runs around Gwynhingar and Mars Wood, to the west of the castle. The proposed development will not have any visual impact on this walk.
- 6.1.18. The landscape surrounding the Registered Park and Garden is considered a key attribute of its setting as it affects the way it is experienced. In general, views

to the proposed development from the park are more impactful than those reached from the castle. Key views, such as that of the castle entrance are affected (Plate 1). The severity of impact in this case is considered **Minor Change**, but with **Slight/Moderate** significance prior mitigation.

Llangollen Canal (DE175; PRN 124694, NPRN 405725)

6.1.19. It has already been noted that the WHS is encompassed by an extra area of protection which ensures that the landscapes surrounding the asset are not affected by adverse development changing the experience of the monument and its approach to it. The planning guidance note 33 states that:

[...] the Buffer Zone for the WHS which was "drawn around the World Heritage Site to allow historic, cultural and landscape elements which contribute to the authenticity and integrity of the Site and therefore to its Outstanding Universal Value to be conserved.

6.1.20. The WHS spans more than 11 miles across the landscape, and it surrounded by a Buffer Zone which integrates more than 4,145 hectares of land (see DBA Figure 5). The route of the Llangollen canal flows from Chirk in the north, over the river Ceridiog via a 21m aqueduct and reaches the hillside via a tunnel, which runs for 421m. All these structures, as well as Chirk Registered Park and Garden, and the castle itself are considered key attributes of the Buffer Zone in this area.

6.1.21. The immediate setting of the canal and towpath has been walked to assess the possible impact of the proposed development on the immediate setting of the WHS.

6.1.22. From the aqueduct and viaduct, the experience of the WHS site and its surroundings is rural, tranquil, and peaceful. The views gained from this point are of open green fields surrounded by areas of tree cover. This situation does not change until the tunnel is reached. In moving north of the tunnel, the canal and towpath are experienced in isolation from the surrounding landscape, due to the cuttings and dense tree cover situated at each side of the canal. Both the cuttings and the wooded area recede at approximately NGR SJ 2849 3888. This allows views to the Registered Park and Garden of Chirk Castle to the west. To the east, the proposed development is only glimpsed at the vicinity of Chirk Marina. From this location, it can be said that the immediate setting of the canal

may be impacted with Moderate to its setting, and therefore the impact will have a Moderate significance.

6.1.23. The wider setting - namely the aqueduct, tunnel and Registered Park and Castle - also needs to be considered. As noted, the aqueduct and tunnel will not be directly or indirectly impacted by the proposed development. However, a degree of impact to Chirk Castle and estate grounds exists, and therefore the setting of the WHS.

Offa's Dyke DE133 and DE135

6.1.24. As a whole, Offa's Dyke is one of the most important monuments in Britain. Its importance has been crystalised recently with the creation of Offa's Dyke Association which has overseen the development of a management plan for the monument.

6.1.25. DE133 and DE135 are important stretches of the dyke contained within different levels of protection. These stretches fall within Chirk Castle Registered Park and Garden (P(C) 63; NPRN 70048), and the WHS Buffer Zone. Its importance is therefore **High**.

6.1.26. In taking into consideration the modern setting of the monument, the significance of the position the dyke - as well as Offa's Dyke path - within the surrounding landscape is important, as within these stretches the dyke offers long distance views over the surrounding landscape.

6.1.27. The LVIA submitted as part of the present planning application documents the views that one can gain from Offa's Dyke path in two areas directly associated with DE133 and DE135. In both cases, the existing Kronospan complex is visible, but the Proposed Development is largely concealed by intervening vegetation and landform.

6.1.28. The changes triggered by the Proposed Development are considered **Minor** and the magnitude of the impact is deemed **Slight**.

STAGE 4

7. Proposed mitigation - assessment

7.1.1. This report aimed to examine the level of impact that the proposed development may have on the setting of the following assets:

- Llangollen Canal (DE175; PRN 124694, NPRN 405725)
- Chirk Castle (LB 598; PRN 101107; NPRN 145757)
- Chirk Castle Registered Park and Garden (PGW (C) 63; NPRN 70048)
- Offa's Dyke DE133 and 135

7.1.2. It has been established that the value of these assets and their setting is High, or Very High when acknowledging that Llangollen Canal is a WHS and Chirk Castle and estate grounds are key attributes of the setting of the canal through Chirk.

7.1.3. Following the ICOMOS scoring system, it has been established that, with mitigation measures in place, the effect of the development on the setting of these assets is **Slight/Moderate** for Llangollen Canal. This is because the landscape surrounding these assets is key to visitor experience in aiding their understanding of the sites.

7.1.4. The current design of the proposed development takes into account the visual impacts of the development and offers a number of solutions which are detailed below.

7.1.5. Figure 4 documents the current landscape masterplan. Views from Llangollen Canal to the proposed development are available through breaks in vegetation during winter in the vicinity of Chirk Marina. Some planting in this area has already been implemented as part of the Kronospan Landscape Strategy, and further planting will be implemented to accord with consents for other developments at Kronospan. Further planting is proposed as part of the proposed development, which would wholly screen views towards the proposed development for the canal corridor on a year-round basis.

7.1.6. This solution is favourable as it will conceal views toward the proposed development. However, mitigation measures will slightly alter the experience of the canal and towpath crossing within this stretch.

7.1.7. The topography of the area, with Chirk Castle and the estate grounds positioned high, is challenging as it limits the number of mitigation measures

which effectively constrain views of the proposed development.

7.1.8. A number of mitigation measures have been selected for the proposed development which help reducing the impact of the proposed development on the surrounding landscape:

7.1.9. All elements besides the lorry park area – namely roundwood storage areas, substation and reception building – are located at the southernmost end of the Site close to the existing Kronospan Facility. This would reduce the extent to which they would intrude into undeveloped areas. Proposed planting around these new elements would help to break up views from the west and would reduce the visibility of the Proposed Development over time. The latest landscape design proposes the plantation of woodland areas and specimen tree planting around the western regions of the site to conceal views from and towards the WHS and its Essential Setting (Chirk Castle and Registered Park and Garden). These mitigation measures appear to be satisfactory at limiting the visual impact, since views to this region of the site from the assets are already residual.

7.1.10. The lorry park and access road would be the most extensive elements of the Proposed Development. Only the southern part of these would be visible from Chirk Castle itself. Visibility is likely to be more extensive from locations in the eastern part of the Registered Park and Garden. However, in views from the Castle and its grounds, the Proposed Development would be a limited presence in the background of an expansive view. Proposed woodland planting would break up views of the Proposed Development helping to integrate it visually with its surroundings and reducing the prominence of the new elements. The impact could be reduced to **Slight**.

8. Conclusions

8.1.1. The mitigation measures presented in section 7 of this report offer solutions to reduce the visual impact of the proposed development on the examined assets. However, a final assessment should be established with the aid of the Landscape Visual Impact Assessment associated with the proposed development. This will offer a number of visual aids which will help to gain an understanding of the effectiveness of the discussed mitigation measures. This final assessment needs to consider other important factors such as the

timespan that will exist between the initial planting and the final coverage of the mature trees, tree foliage and the effects of different seasons.

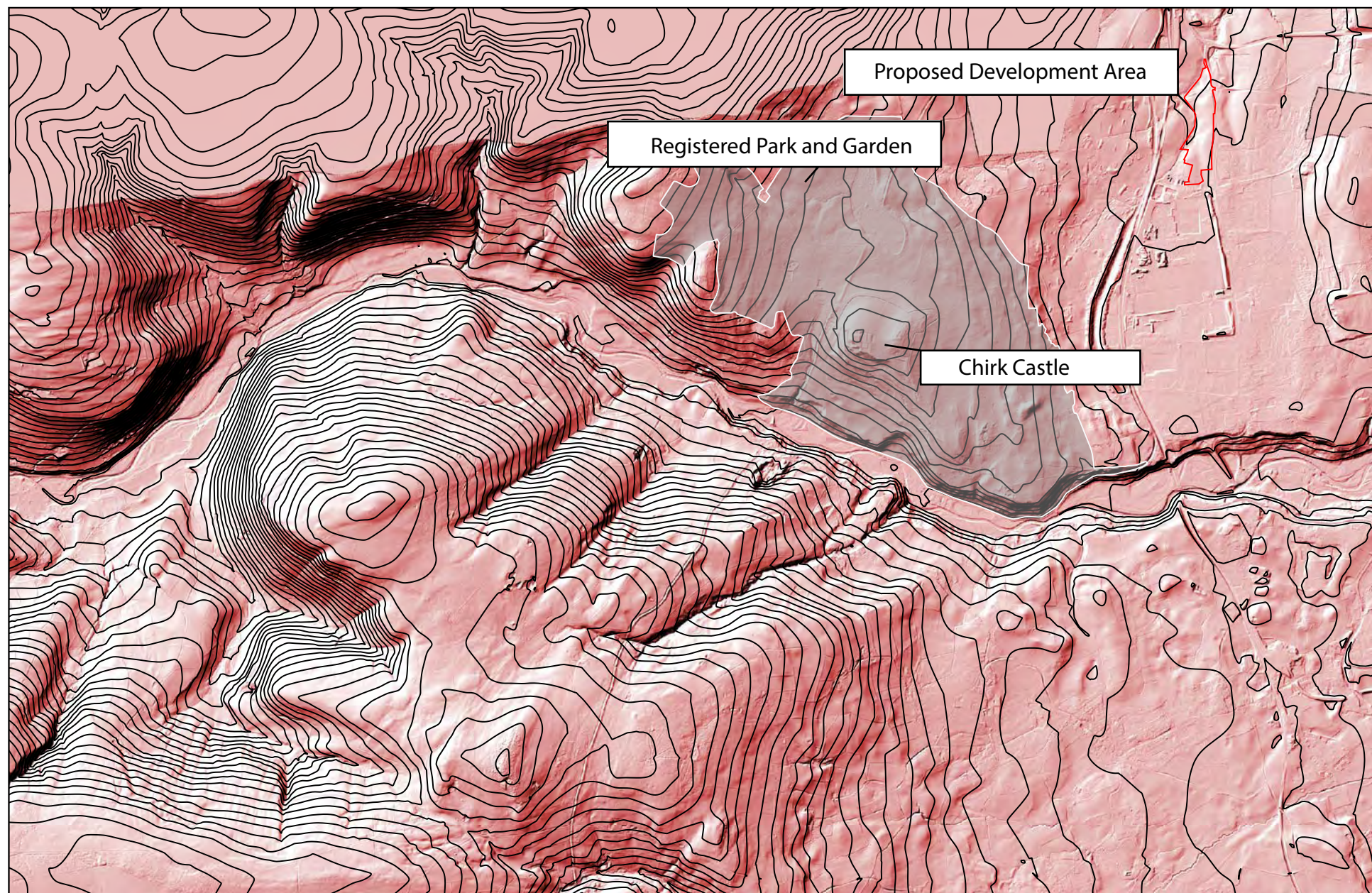
8.1.2. Equally important is the production of a Heritage Impact Assessment which will examine the impact that the development will have on the WHS itself.

9. Sources

- Cadw .1995. Register of Parks and Gardens of Special Historic Interest in Wales, Clwyd, 38-42 (ref: PGW(C)63(WRE).
- Belford, P. 2017. Offa's Dyke: a line in the landscape, in T. Jenkins and R. Abbiss (eds) Fortress Salopia. Solihull: Helion: 60-81.
- Fox, C. 1955. Offa's Dyke. London: British Academy.
- Garcia Rovira, I. 2022. Kronospan, Holyhead Road, Chirk Access road, lorry park, 132kV substation and other ancillary works Desk Based Assessment. Archaeology Wales Report 2080.
- Hill, D. and Worthington, M. 2003. Offa's Dyke: History and Guide. Stroud: TempusNoble,
- F, 1977. 'Offa's Dyke reviewed' (unpublished Open University MPhil thesis,
- Plunkett Dillon, E & Latham, J. 1988. Chirk Castle. National Trust.

Web sources

- Cadw Listing - Pontcysyllte Aqueduct and Canal (2022)
<https://cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=&id=3128>
- British Geological Survey Viewer (2022)
<https://mapapps.bgs.ac.uk/geologyofbritain/home.html>
- Planning Policy Wales Edition 11 Chapter 6 (Welsh Government 2021)
<https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales- edition-11 0.pdf>
- Setting of Historic Assets in Wales (Cadw 2017)
<https://cadw.gov.wales/sites/default/files/2019-05/Setting%20of%20Historic%20Assets%20in%20Wales%20EN.pdf>
- Pontcysyllte Aqueduct & Canal WHS - Supplementary note (2012)
<https://www.shropshire.gov.uk/media/8583/pontcysyllte-aqueduct-and-canal-spd.pdf>
- Pontcysyllte Aqueduct & Canal - local planning guidance note (2012)
<https://www.wrexham.gov.uk/sites/default/files/2020-05/lpg-33e.pdf>
- Pontcysyllte Aqueduct and Canal World Heritage Site Management Plan 2019-2029 (ARCADIS 2012)



0 1000 2000 m

A horizontal scale bar with a black segment on the left and a white segment on the right, representing a distance of 1000 meters.

Figure 1. LiDAR 1m DSM showing location of Chirk Castle and Registered Park and Garden.

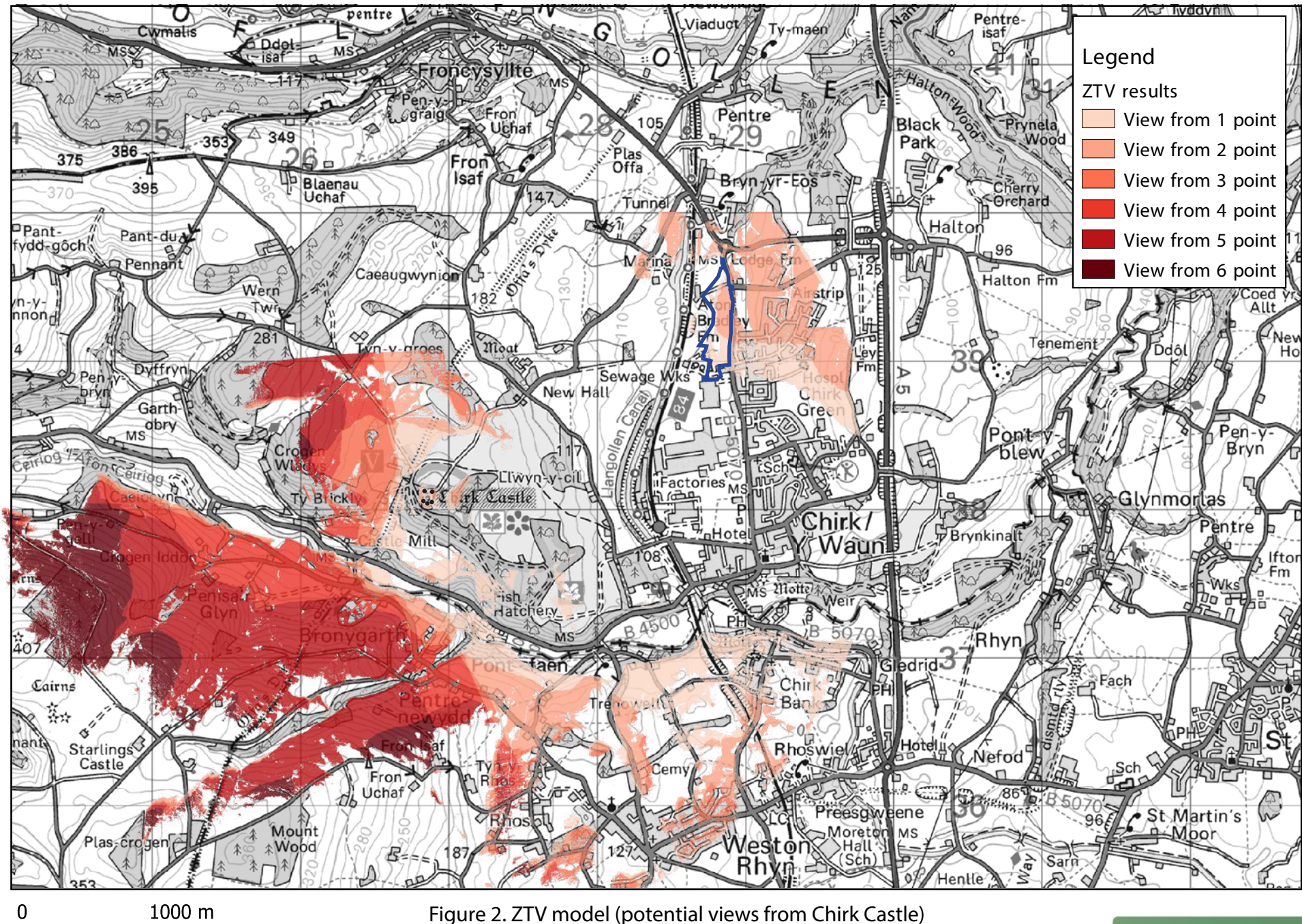


Figure 2. ZTV model (potential views from Chirk Castle)