Planning Application for the Installation of an Energy Storage System including Substation

Land North of Bronwylfa Road, Landscape and Visual Impact Assessment

PREPARED BY PEGASUS GROUP ON BEHALF OF INNOVA RENEWABLES DEVELOPMENTS | NOVEMBER 2023 | P22-3121-R002_REVA_LIV_KA_LH

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1. INTRODUCTION

1.1 This Landscape and Visual Impact Assessment (LVIA) has been prepared by Chartered Landscape Architects at Pegasus Group on behalf of Innova Renewables Developments. It relates to land north of Bronwylfa Road (the B5097) and east of Legacy Substation, Rhostyllen, Wrexham.

1.2 The main part (or main development area) of the site comprises one agricultural field, (currently grassland) bound by the A483 Wrexham Bypass Road to the west, the B5097 to the south, a rural lane (Cadwgan Lane) to the west and a wooded dismantled railway embankment to the north, see Figure 1. The site also includes part of the field west of the site and Cadwgan Lane (between the main part of the site and Bersham Cricket Club) and includes farmland to the west, and the rural lane network to the north of the dismantled railway embankment, along proposed cable route options towards Legacy Substation.

1.3 This LVIA considers the site and its surroundings in both landscape and visual terms, to assess the effect of the proposed energy storage system (ESS), (including energy storage units, substation, site access, cable connection, landscaping and ancillary infrastructure) upon: Landscape features; Landscape character; and Visual amenity.

1.4 This LVIA has been guided by the assessment criteria set out in Appendix 1. It assesses the effect of the proposed development on landscape and views, during constructon, and during operation at Year 1 and at Year 15 post completion.

2. SITE CONTEXT AND DESCRIPTION

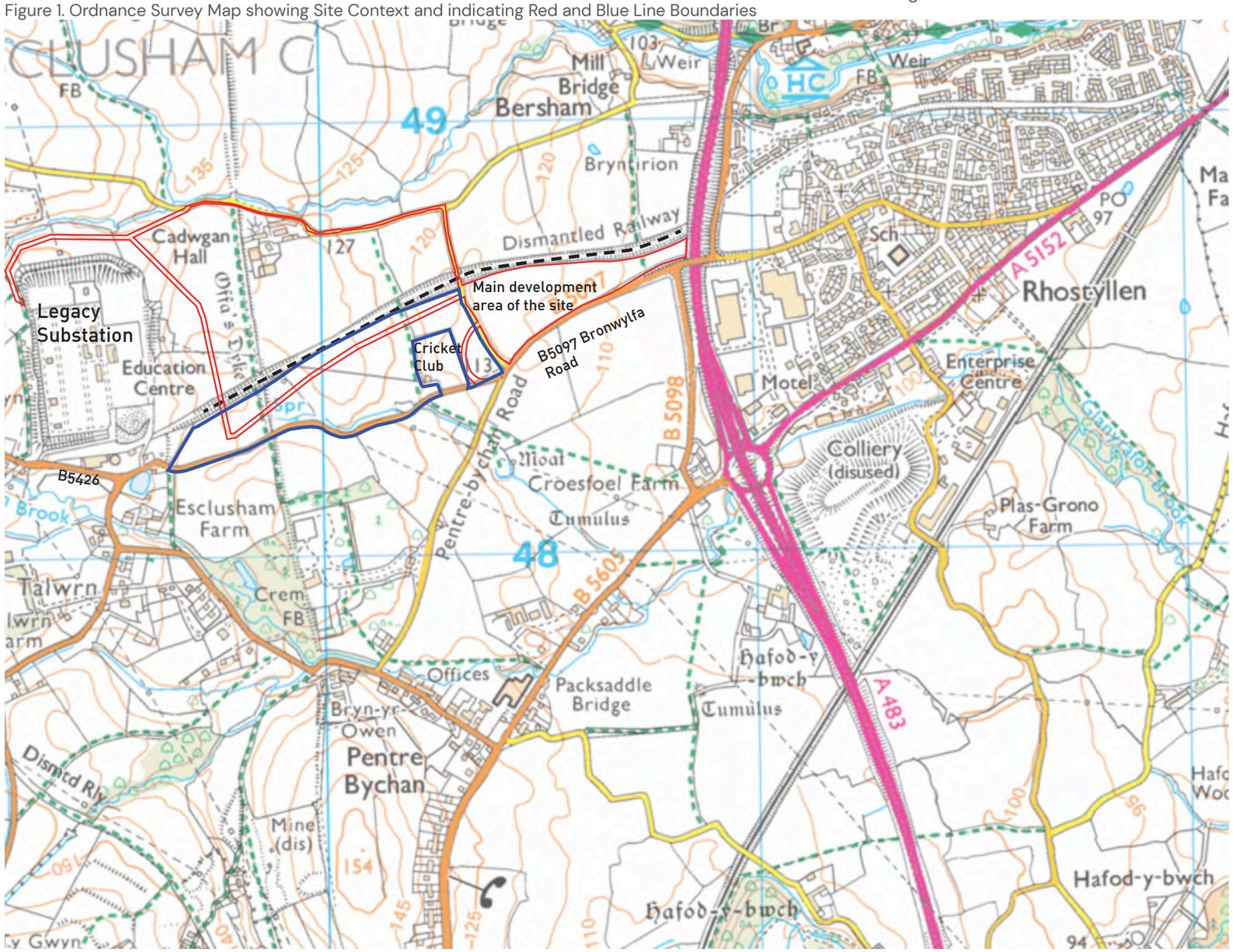
2.1 The site comprises an irregularly shaped pasture field west of the village of Rhostyllen (including industrial development within its western edge bound by the A483 to the north) and is northeast of the hamlet of Pentre Bychan, see Figure 1. The site extends to approximately 5.5 ha in area. The site's boundaries feature a broad tree belt to the north and east, with hedgerows to the south and west. A483 lies to the east which is also elevated and bounded by mature established vegetation. There is a single gated access in the site from Bronwylfa Road (the B5097), with an unnamed single-track road separating the western site boundary with the neighbouring field and Bersham Cricket Club. Overhead line also currently crosses development site.

2.2 A patchwork of irregular-shaped fields lie to the west of the site, most of them bound by mature hedgerow, interspersed by housing and farmsteads. There is a patchwork of irregular-shaped arable fields to the south of the site, with Pentre Bychan and ribbon development along the B5605 leading to Johnstown further to the south.

2.3 The site is in the context of several transport routes. The A483 dual carriageway (with its associated road bridges, slip roads and roundabout junctions) separate the site from large industrial units to the east, which are visible within the eastern context of the site. B roads in the sites context link Rhostyllen to the farms of the rolling lowland to the west and New Brighton to the northwest, and to Pentre Bychan and Rhosllannerchrugog to the southwest of the site.

2.4 A dismantled railway to the north of the site is part of a 1.5km long former railway running southwest from Rhostyllen. Legacy Substation is approximately 800m west of the main part of the site, beyond the wooded dismantled railway embankment and intervening farmland, accessed off the B5426 to the south. There also is a solar farm to the north and northwest of the substation. Overhead lines run across farmland to the south and southwest of the site towards the substation and a low voltage overhead line currently runs across the main development area. A photographic record of the site and its surroundings is provided in Appendix 2, and photograph viewpoint locations are indicated on Figure 14.

Figure 1. Ordnance Survey Map showing Site Context and indicating Red and Blue Line Boundaries



3. METHOD

Published LVIA Guidance

3.1 This LVIA has been undertaken in accordance with the principles of best practice, as outlined in published guidance documents listed in the reference section of this report, notably the third edition of the Guidelines for Landscape and Visual Impact Assessment (GLVIA3), (Landscape Institute and the Institute for Environmental Management and Assessment, 2013).

3.2 The methodology and assessment criteria for the assessment have been developed in accordance with the principles established in this best practice document. It should be acknowledged that GLVIA3 establishes guidelines, not a specific methodology. The preface to GLVIA3 states:

"This edition concentrates on principles and processes. It does not provide a detailed or formulaic 'recipe' that can be followed in every situation – it remains the responsibility of the professional to ensure that the approach and methodology adopted are appropriate to the task in hand."

3.3 The approach set out below and in detail in Appendix 1 has therefore been developed specifically for this assessment to ensure that the methodology is fit for purpose.

Distinction between Landscape and Visual Effects

3.4 In accordance with the published guidance, landscape and visual effects were assessed separately, although the procedure for assessing each of these is closely linked. A clear distinction has been drawn between landscape and visual effects as described below:

- Landscape effects relate to the effects of the proposed development on the physical and perceptual characteristics of the landscape and its resulting character and quality; and
- Visual effects relate to the effects on specific views experienced by visual receptors and on visual amenity more generally.

Types of Landscape and Visual Impacts Considered and Duration

3.5 The LVIA assesses both the permanent and non-permanent effects of the development and the temporary effects associated with its construction. Consideration has been given to seasonal variations in the visibility of the development and these are described where necessary.

3.6 Both beneficial and adverse effects are identified in the assessment and reported as appropriate. Where effects are described as 'neutral' this is where beneficial effects are deemed to balance the adverse effects. The adverse and beneficial effects are communicated in each case so that the judgement is clear.

3.7 As part of the proposed development, new mounding, woodland, tree and hedgerow planting would be introduced onto the site. New mounding would provide some screening and enclosure of the proposed development at Year 1 and would provide additional height to proposed planting along the edges of the main development area. Newly planted vegetation takes a number of years to mature and average growth rates have been taken into consideration in this assessment. The effectiveness of vegetation would improve over time (both in terms of integrating the development into the surrounding landscape and in providing visual screening) and this needs to be considered appropriately.

3.8 Therefore, landscape and visual impacts of the proposed development are assessed both in the winter of year 1 (the year in which the development is completed) and also in the summer of year 15 (15 years after completion of the development). In this second scenario it is assumed that vegetation planted as part of the development will have established and exhibit a degree of maturity.

Assumptions and Limitations of the Assessment

Scope

3.9 Screened Zone of Theoretical Visibility (SZTV) mapping and field assessment has informed the scope of this LVIA through identifying landscape and visual receptors and assessment viewpoints, which the LVA should focus on. See section 7 and Figure 14 of this LVIA showing and discussing SZTV mapping and assessment viewpoint locations.

Assessed Proposal

3.10 The project proposals have been developed iteratively in conjunction with the production of the LVIA with the intention of incorporating mitigation into the project from the outset. The effects identified and described as part of this LVIA are based on the landscape proposals shown on the Landscape Masterplan included as Figure 10 of this LVIA.

Baseline Information

3.11 The baseline landscape resource and visual receptors were identified through a desk based study of Ordnance Survey mapping, published landscape character studies, relevant planning policies, interrogation of aerial photography and a site assessment undertaken in January and October 2023.

3.12 Access during the site visit was restricted to publicly accessible locations within and surrounding the site. Assumptions have been made regarding the view from private properties. These assumptions have been based on an understanding of the properties and features present within the wider landscape gained during field assessment from publicly accessible locations. Assumptions are guided by professional experience and judgement.

4. DESIGNATIONS AND POLICY CONTEXT

4.1 This section provides an overview of the designations and policies of particular relevance to landscape and visual issues. Figures 2 to 6 illustrate relevant designations within the locality of the Site. The Site is located within the administrative boundaries of Wrexham County Borough Council.

Designations

4.2 The site is not within any national designations. The site is however included within Ruabon Mountain Special Landscape Area (SLA), see Figure 2. This local landscape designation is defined within Wrexham Council's adopted Unitary Development Plan (UDP). Further detail relating to this local designation is set out under the heading Local Planning Policy and Guidance below.

4.3 The following national designations are in the wider site context, see Figure 3.

4.4 The site is approximately 1.8km to the west of the Clwydian Range and Dee Valley Area Outstanding Natural Beauty (AONB) at its closest point. Natural Resources Wales (NRW) currently is evaluating the case for designating the Clwydian Range and Dee Valley AONB as a National Park.

4.5 Parts of the Clwydian Range and Dee Valley AONB also are designated for their ecological qualities, including Ruabon / Llantysilio Mountains and Minera Site of Special Scientific Interest (SSSI), approximately 3.3km to the west of the site, which also is overlapped by the Special Area of Conservation Wales (SAC). Parts of the AONB comprise registered common land (CRoW Access Land) including approximately 3km west of the site.

4.6 The Special Qualities of the Clwydian Range and Dee Valley AONB are set out in 'The Clwydian Range and Dee Valley AONB Management Plan, 2014-2019', and refer to:

- Landscape Character and Quality (Tranquillity, Remoteness and Wildness, Space and Freedom);
- Habitats and Wildlife (Heather Moorland and Rolling Ridges, Broadleaved woodlands and Veteran trees; River Valleys and the River Dee; Limestone grasslands, cliffs and screes);
- Historic Environment (Historic Settlement and Archaeology, Industrial Features and the World Heritage Site, Historic Defence Features, Small Historic features, Traditional Boundaries);
- Access Recreation and Tourism (Iconic Visitor and cultural Attractions, The Offa's Dyke National Trail and Promoted Routes); and
- Culture and People (The Built Environment and People and Communities).

4.7 Policy and Objectives within 'The Clwydian Range and Dee Valley AONB Management Plan, 2014-2019' of particular relevance to the site includes:

- *Policy: PolSQ2 "Safeguard the panoramic views, tranquillity and environmental quality of the AONB for the generations of today and the future."*
- *Objectives: LQCO5 "Where possible reduce visual intrusion by screening or removing eyesores."*

4.8 Relevant guidance and notes from Part Two (State of the AONB Report) of the AONB Management Plan 2014-2019 refers to:

"Utilities and Energy"

- *Issue: "The need to moving towards zero carbon development without harming the AONB"*
- *State: "Includes only wind turbines within AONB"*

4.9 Relevant guidance from Part Three (Action Plan) of the AONB Management Plan 2014-2019 refers to:

- *"Landscape Quality and character: LQCO2 - Ensure that the impacts of environmental change on the AONB are understood and a strategic response is developed and implemented."*

4.10 The AONB Joint Committee has prepared a draft Management Plan Review (dated October 2021) for the Clwydian Range and Dee Valley AONB for 2020-2025, which was subject to public consultation in Spring 2022. The status of this publication is not known.

4.11 Heritage assets within the sites context include Grade II listed buildings within Bersham Conservation Area, between 0.4-0.9km north of the site (see Figure 5 below); and Grade II listed farm buildings approximately 250m to the south. An extract of the Historic Wales definitive online map is shown at Figure 4 below.

Figure 2. Extract from: Wrexham Unitary Development Plan; Map 4; Inset 20 Bersham / Y Bers and Rhostyllen

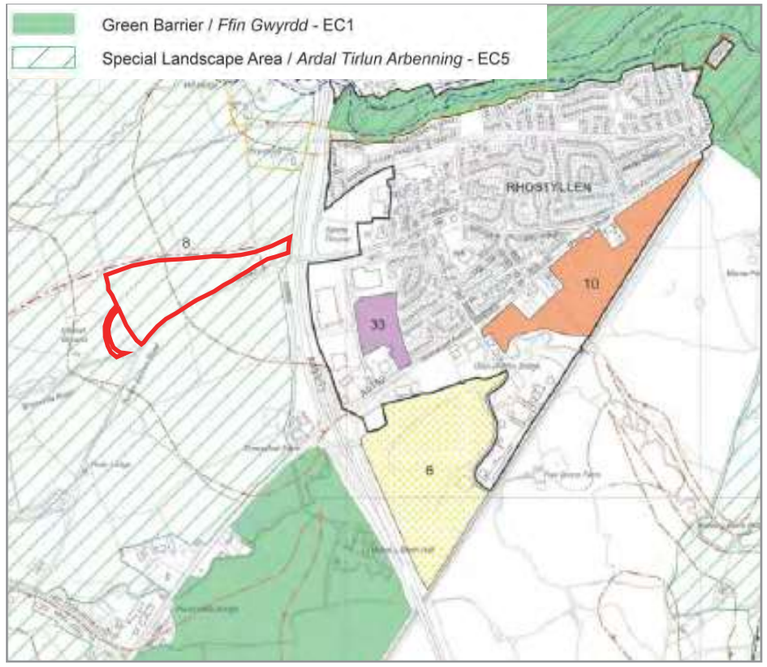
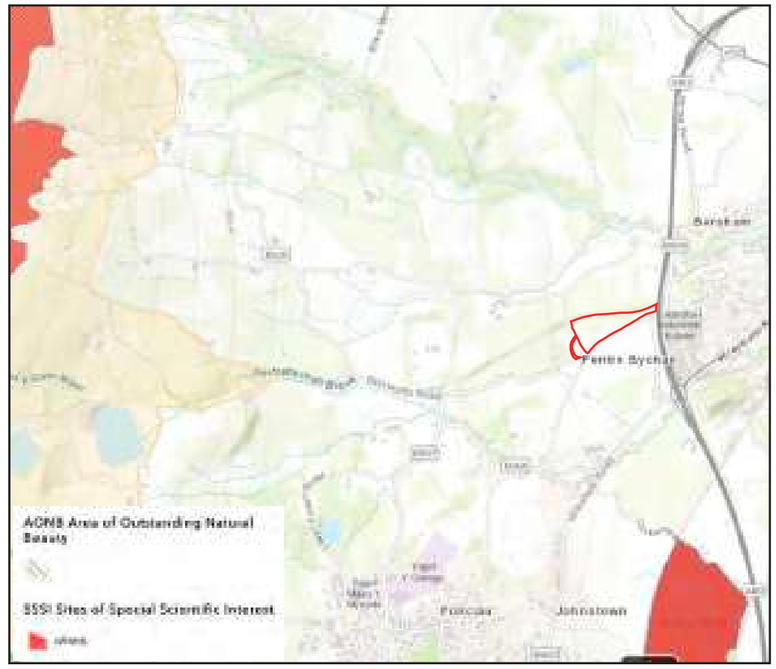


Figure 3. Extract from: Wales Environmental Information Portal



4.12 Listed buildings in Bersham Conservation Area north of the site include:

- Grade II listed The White House;
- Grade II listed 2-6 Mill Terrace;
- Grade II listed Mill House Farmhouse;
- Grade II* listed Octagonal Building at Bersham Ironworks Site;
- Grade II* listed Church of St. Mary;
- Grade II. listed Caeau Bridge;
- Grade II. listed Caeau Weir;
- Grade II. listed Bersham Lodge; and
- Grade II. listed Western Weir on the River Clywedog.

4.13 Listed buildings to the south of the site are shown on Figure 4 and include:

- Grade II. listed Croesfoel Farmhouse;
- Grade II listed Timber-framed building in yard at Croesfoel Farm; and
- Grade II listed Gate Piers at Hafod-y-Bwch Hall.

4.14 Scheduled Monuments in the sites context are shown on Figure 4 and include:

- Moated Site near Groesfoel Farm, Rhostyllen 250m southwest of the site;
- Cadwgan Hall Section of Offa's Dyke, extending from River Clywedog in the north to the Railway in the south, approximately 500m west of the site; and
- Round barrow approximately 450m south of the site.

4.15 The Bersham Conservation Area (CA) boundary is approximately 0.4km to the north of the site at its closest point, see Figure 5 showing an aerial view of Bersham CA, sourced from the 'Bersham Conservation Area Assessment and Management Plan', adopted 2009. This document provides a character assessment of this CA and provides a management plan for the area.

4.16 Intervening woodland, trees and landform restrict visibility of the site from Bersham Conservation Area, and the character of Bersham Conservation Area is not influenced by the site.

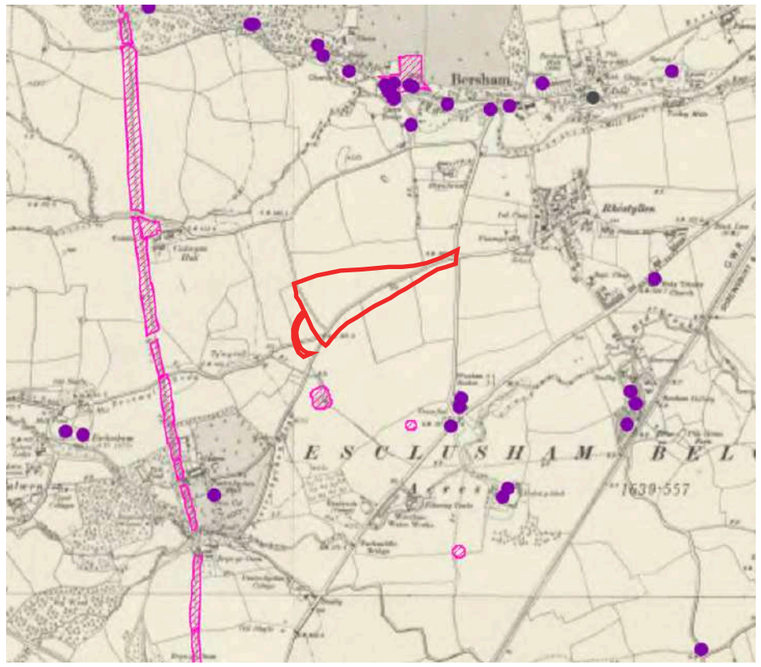


Figure 4. Extract from: Historic Wales's Definitive Online Map. Purple dots show listed buildings. Pink hatch show scheduled monuments

4.17 Trees to the north of the main part of the site are subject to a large group Tree Preservation Order, No.198.

4.18 Public Rights of Way (PRoW) in the site and its surroundings are shown on Figure 6. The southern end of PRoW footpath ESC/1 runs north south through the site and runs northwards towards Bersham. Several other PRoW footpaths run across the surrounding landscape, including PRoW footpaths ESC/3, ESC/32 and ESC/12 across farmland to the west and south of the site.

4.19 Figure 2 above shows a 'Walking/Cycling Route', (subject to UDP Policy T10), running along the route of PRoW ESC/1 through the site and running westwards along the top of the wooded dismantled railway embankment alongside the northern boundary of the site and beyond. UDP policy states that land along these identified

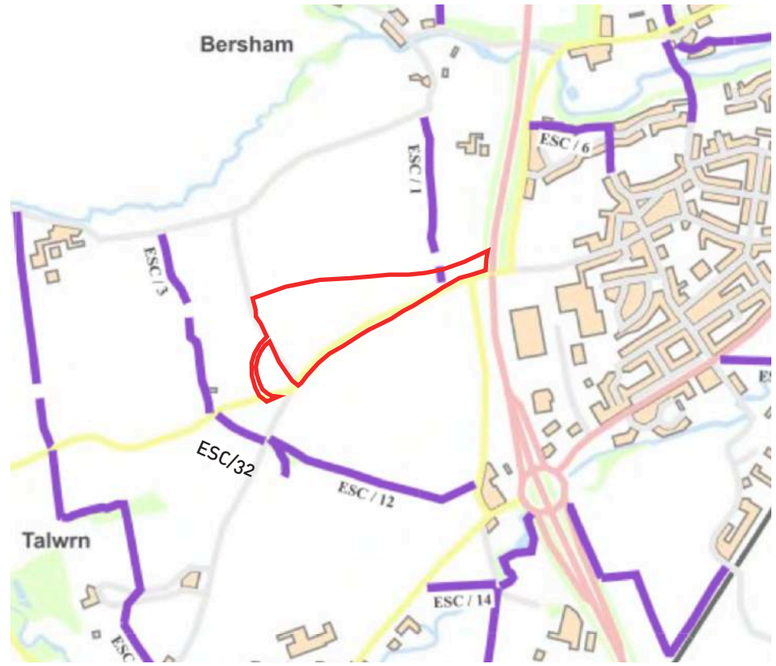


Figure 6. Extract from: Wrexham Council, Definitive Public Rights of Way Map. Purple line shows PRoW footpaths.

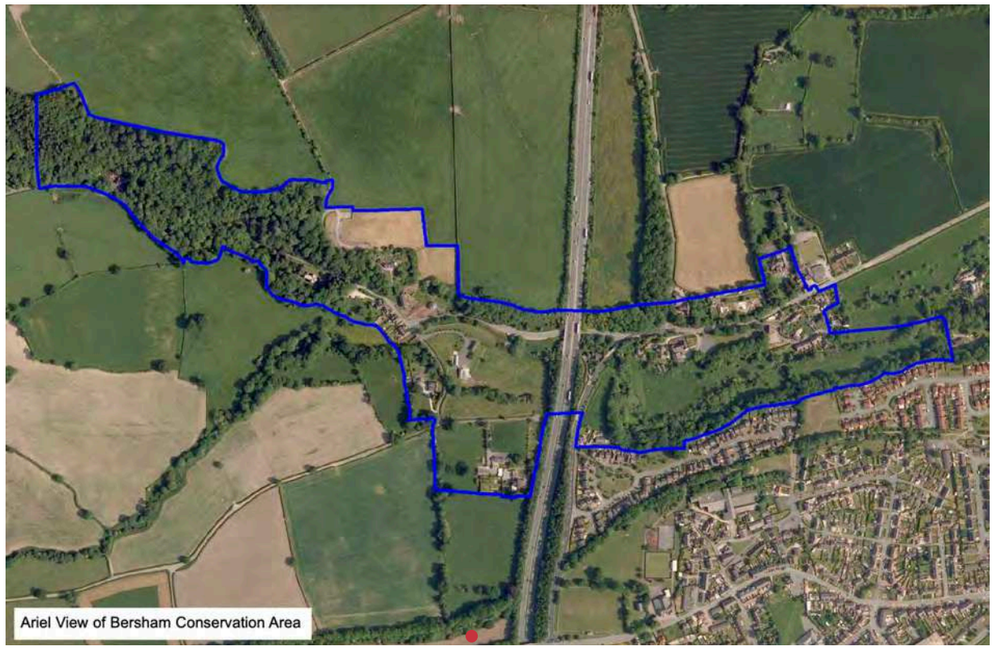


Figure 5. Extract of the 'Bersham Conservation Area Assessment and Management Plan'. The eastern part of the field within the main development area of the site is indicated with a red dot.

routes is safeguarded for the development of a walking and/or cycling route. Field assessment identified that the top of the wooded dismantled railway embankment is accessible off PRoW crossing this embankment, although overgrown with vegetation and nettles in parts. The status and current use of this route by the public is not known.

Relevant Planning Policy and Guidance

National Planning Policy Guidance

Planning Policy Wales, Edition 11 (February 2021)

4.20 National planning policy is set out in the Welsh Assembly Government's Planning Policy Wales, Edition 11 (PPW11), dated February 2021.

4.21 Paragraphs 3.9 and 3.10 discuss Character and identify that:

"The special characteristics of an area should be central to the design of a development. The layout, form, scale and visual appearance of a proposed development and its relationship to its surroundings are important planning considerations. A clear rationale behind the design decisions made, based on site and context analysis, a strong vision, performance requirements and design principles, should be sought throughout the development process and expressed, when appropriate, in a design and access statement.

In areas recognised for their particular landscape, townscape, cultural or historic character and value it can be appropriate to seek to promote or reinforce local distinctiveness. In those areas, the impact of development on the existing character, the scale and siting of new development, and the use of appropriate building materials (including where possible sustainably produced materials from local sources), will be particularly important."

4.22 Paragraph 3.60 refers to Development in the Countryside. It states that:

"Development in the countryside should be located within and adjoining those settlements where it can best be accommodated in terms of infrastructure, access, habitat and landscape conservation. Infilling or minor extensions to existing settlements may be acceptable, in particular where they meet a local need for affordable housing or it can be demonstrated that the proposal will increase local economic activity. However, new building in the open countryside away from existing settlements or areas allocated for development in development plans must continue to be strictly controlled. All new development should be of a scale and design that respects the character of the surrounding area."

4.23 Chapter 6, section 6.3 of PPW11 refers to Landscape and its contribution to the Distinctive and Natural Places theme of planning policy topics. Paragraph 6.3.3 of PPW11 states that:

"All the landscapes of Wales are valued for their intrinsic contribution to a sense of place, and local authorities should protect and enhance their special characteristics, whilst paying due regard to the social, economic, environmental and cultural benefits they provide, and to their role in creating valued places. Considering landscape at the outset of formulating strategies and polices in development plans and when proposing development is key to sustaining and enhancing their special qualities, and delivering the maximum well-being benefits for present and future generations as well as helping to deliver an effective and integrated approach to natural resource management over the long term. Collaboration and engagement with adjacent planning authorities, Natural Resources Wales (NRW), Cadw and the third sector will be necessary to draw on a wide range of expertise and evidence. This means:

- *Ensuring Wales contributes to meeting international responsibilities and obligations for landscapes;*
- *Ensuring statutorily designated sites are properly protected and managed;*
- *Ensuring that the value of all landscapes for their distinctive character and special qualities is protected; and*
- *Ensuring the opportunities landscapes provide for tourism, outdoor recreation, local employment, renewable energy and physical and mental health and well-being are taken into account and multiple well-being benefits for people and communities secured."*

4.24 Paragraph 6.3.4 states that *"Where adverse effects on landscape character cannot be avoided, it will be necessary to refuse planning permission."*

4.25 Paragraphs 6.3.5 to 6.3.11 discuss the statutory landscape designations that apply in Wales, referring to National Parks and Areas of Outstanding Natural Beauty (AONB). The site is not in a National Park or AONB. The site is approximately 1.8km to the west of the Clwydian Range and Dee Valley AONB at its closest point.

4.26 Paragraph 6.3.13 refers to Special Landscape Areas (SLAs), stating that SLAs are:

"non-statutory designations that define local areas of high landscape importance, which may be unique, exceptional or distinctive to the area. Planning authorities should apply these designations where there is good reason to believe that normal planning policies cannot provide the necessary protection."

Technical Advice Notes

4.27 Technical Advice Note (TAN) 12 provides advice on how 'Promoting sustainability through good design' and 'Planning for sustainable building' may be facilitated through the planning system.

4.28 Paragraph 4.8 states that:

"Appraising 'character' involves attention to topography; historic street patterns, archaeological features, waterways, hierarchy of development and spaces, prevalent materials in buildings or floorscape, architecture and historic quality, landscape character, field patterns and land use patterns, distinctive views (in and out of the site), skylines and vistas, prevailing uses and plan forms, boundary treatments, local biodiversity, natural and cultural resources and locally distinctive features and traditions (also known as vernacular elements)."

4.29 Paragraph 4.11 states that:

"Appraisal of the landscape should focus on its quality in terms of geology and geomorphology, vegetation and habitats, visual and sensory quality and historic and cultural quality. 'LANDMAP' is one method of assessment which has the potential to provide a framework and information base from which good design and management can be developed...Further detailed site appraisals may also provide information on local hydrology, microclimate, soils, plant communities and features, and all visual qualities including views and vistas."

4.30 Section 4 of TAN 12 also identifies the key objectives of good design and how to respond to these objectives following an appraisal of the context with reference to the five aspects of good design - Access; Character; Community Safety; Environmental Sustainability; and Movement. Design solutions relating to Character objectives, such as sustaining or enhancing local character, refer to landscape design, scale, amount, layout of development and appearance.

Local Planning Policy and Guidance

4.31 Current planning policy is currently set out in the Wrexham Unitary Development Plan (UDP) (1996-2011) which was adopted in 2005.

Wrexham Unitary Development Plan 1996-2011 (2005)

4.32 As identified above, the site is included within Ruabon Mountain Special Landscape Area (SLA), see Figure 2. SLAs are referred to in the Wrexham UDP as follows:

"Policy EC5 Within Special Landscape Areas, priority will be given to the conservation and enhancement of the landscape. Development, other than for agriculture, small-scale farm-based and other rural enterprises, and essential operational development by utility service providers, will be strictly controlled. Development will be required to conform to a high standard of design and landscaping, and special attention will be paid to minimising its visual impact both from nearby and distant viewpoints."

4.33 Further, the UDP states that: "Within the County Borough there are a *number of areas which are considered to be of particularly high landscape value. These include the upper slopes of Ruabon Mountain, the Ffrith Valley, parts of the Dee Valley, and the Ceiriog Valley. In addition, there are pockets of high value landscape which contribute to the setting, amenity, and character of local settlements, or views along main communication routes, and comprise attractive and sensitive environments in their own right. Examples include parkland and garden landscapes in the CADW register of Parks and Gardens of Special Historic Interest (all of which lie within Special Landscape Areas), Landscapes of Historic Interest, village greens, open areas within or adjacent to built up areas, river valleys, and farmland. Development is often inappropriate in such sensitive locations and the maintenance and enhancement of the landscape quality is particularly important."*

4.34 UDP Policy PS2: Location of Development states that development must not materially detrimentally affect countryside, landscape/townscape character, open space, or the quality of the natural environment.

4.35 UDP Policy GDP1 (Criterion A) adds to this, and confirms that all new development should ensure that built development in its scale, design and layout, and in its use of materials and landscaping, accords with the character of the site and makes a positive contribution to the appearance of the nearby locality.

4.36 With regard to the Clwydian Range and Dee Valley AONB, the UDP states that:

"During the plan period the existing Clwydian Range Area of Outstanding Natural Beauty may be extended to include sections of Ruabon Mountain, and the Berwyn Mountain Range, which includes much of the Ceiriog Valley, may be designated as an Area of Outstanding Natural Beauty. The Council supports such a proposal. Such designation would recognise the national importance of that landscape and the need to protect, manage, and enhance it. Landscape conservation would be the primary consideration and development which detracts from the character and appearance of the landscape would be resisted. Any development permitted must be of the highest standard of design, and use materials appropriate to the locality."

4.37 Other policy of relevance includes Policy EC4 Hedgerow, Trees & Woodland. Relevant Wrexham Local Planning Guidance Notes include:

- 07 Landscape and Development (2003);
- 17 Trees and Development (2000); and
- 26 Landscape and Industrial Developments (2003).

The Clwydian Range and Dee Valley Area of Outstanding Natural Beauty Supplementary Planning Guidance (SPG) Note, 2018

4.38 The three local planning authorities covering the AONB – Denbighshire, Flintshire and Wrexham – have prepared and adopted an AONB Supplementary Planning Guidance (SPG) Note in partnership with the AONB. This document provides detailed advice for prospective developers, planning officers and others about how to successfully accommodate development in and around the AONB without harming the special qualities of the area. The SPG is an important consideration in the determination of planning applications and planning appeals.

4.39 Seven main landscape types have been identified within the AONB using LANDMAP visual and sensory data, see extract of the AONB Landscape Types Map shown on Figure 7 below. The site is outside of the AONB but shown within the rolling lowland landscape type, which is identified and discussed within the northern part of the AONB. The SPG identifies that the Special Qualities of the Rolling Lowland landscape type include Landscape Character and Quality (tranquillity, space, remote areas); Historic Environment; Culture; and People.

4.40 The SPG states, *"In addition to LANDMAP, site evaluation will help identify key views, visual character, the presence of distinctive characteristics and special qualities. This local character assessment will also identify specific natural and built heritage conservation features that might need to be addressed for a new development project."*

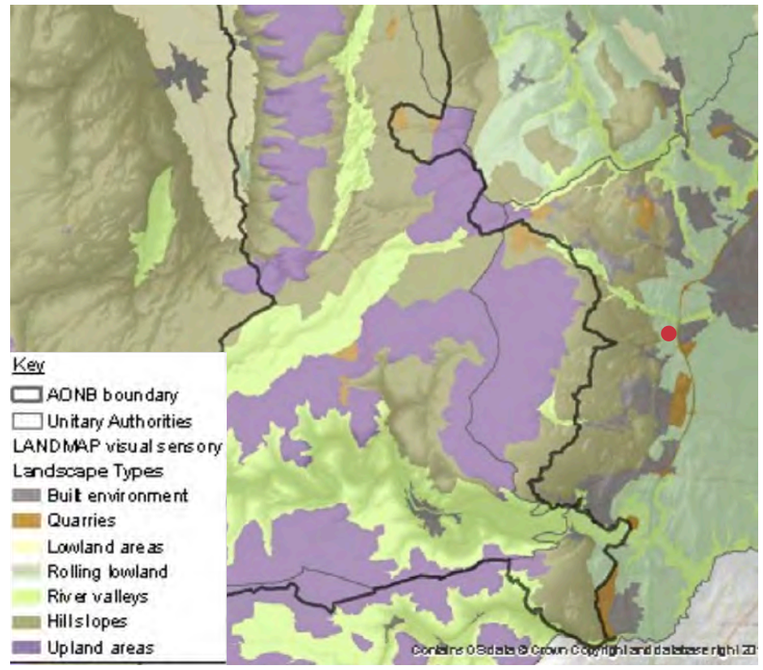
4.41 At paragraph 7.5, the SPG sets out some guidance in relation to renewable energy and climate change. The document states that *"... Larger renewable energy proposals outside the AONB can be highly visible and impact on its setting."* The SPG does not specifically refer to battery energy storage and substation development outside of the AONB.

Wrexham LANDMAP Supplementary Planning Guidance (SPG) Note, 2007

4.42 This SPG forms a material consideration in the determination of all planning applications which could affect the form, appearance and setting of the built and natural landscape and its features.

4.43 The site is within the central part of the rural/urban villages landscape type and is in the northern part of Landscape Character Area (LCA) 7c Rhosllannerchrugog Rhostyllen - Ruabon Pen y Cae Landscape

Figure 7. Extract of the AONB Landscape Types map from the AONB SPG Note, dated 2018. The site location is indicated with a red dot.



Character Area (LCA), see Figure 8.

4.44 The description for the rural/urban villages landscape type states that *"Wrexham urban villages are associated with past coal mining, and located on the edge of the uplands and to the north of Wrexham town. The villages are set among farmland, wooded valleys and regenerating or restored landscapes. This complex character area contains main roads, railways and canal, as well as Offa's Dyke and prehistoric hill forts, reflecting Wrexham's history on the border between Wales and England, upland and lowland."* Key Landscape Issues within this landscape consider:

- *"The future of 'urban fringe' landscapes;*
- *The potential for urban forestry;*
- *Impact of new housing on traditional community identity;*
- *Maintenance of local distinctiveness;*
- *The future of Bersham tip;*
- *The need for footpath and cycle links;*
- *The long-term impact of sand and clay quarries and landfill; and*
- *Preservation of local history and industrial archaeology."*

4.45 The summary description for LCA 7c refers to:

- *"Rural and urban areas affected by history of mining and quarrying;*
- *Villages (Rhos, Penycae, Rhostyllen, Ruabon) characterised by high density and use of Ruabon red brick;*
- *Prehistoric military border area - Gardden hill fort and Offa's Dyke;*
- *Much accessible natural greenspace forming ecological network, including woodland and grassland habitats of high value; and*
- *The A483 and railway follow the lower edge of area."*

4.46 The key characteristics of this LCA include reference to:

"<u>Visual character:</u>

- *Lower slopes of Ruabon Mountain consisting of undulating farmland, with residential and industrial development.*
- *Bersham colliery and tip, and the former Hafod tip, now restored, are landmarks*
- *Ecological character:*
- *Most farmland is improved grassland of low biodiversity value;*
- *Some former industrial sites are now of high wildlife value, including Stryt Las (great crested newts), the former Hafod tip (a young broadleaved woodland), and birch woodland north of Rhos; and*
- *Fragmented areas of semi-natural vegetation include broadleaved scrub, neutral grassland, upland oak woodland along the Afon Eitha valley, beech woodland on Gardden Hill, neutral grassland at Legacy substation, lowland pasture, and oak/ ash/sycamore woodlands around the Crematorium and Llwyneinion."*

4.47 The landscape sensitivity description for LCA 7c states that *"The distinctive Welsh identity of the area is vulnerable to development pressure, particularly infill housing of standardised design and materials. The A483 corridor is visually threatened by nearby landfill, masts, building development and power lines. Surrounding farmland is also very vulnerable to urban pressures."*

4.48 The overall management strategy for this LCA refers to *"enhancement, conservation and sustainable development."* Relevant management guidance within this SPG includes reference to *"Enhance visual character; Develop an accessible green network; Enhance and extend existing habitats for wildlife; and Strengthen cultural identities of settlements."*

4.49 An assessment of the landscape and visual effects of the proposed development on LCA 7c is provided in section 6 of this LVIA.

Figure 8. Extract from: Wrexham LANDMAP SPG (2007) Landscape Character Map. The site is shown by a red dot.

5. PROPOSED DEVELOPMENT AND MITIGATION

5.1 The proposed development comprises an energy storage system (ESS) with a substation and associated infrastructure. The layout of the proposed ESS has been influenced by a preliminary landscape and visual appraisal of the site which included a site visit in January 2023 and recommended mitigation. The proposed development would comprise:

- 400kV substation, including Gas Insulated Switchgear (GIS) Hall (the largest building within the substation, 56.8m x 28.8m x 14m high), 3 filters (12.5m high), firewall (10.5m high), transformer (9m high), and DNO substation (2.5m high);
- Energy storage containers, (7m x 2.5m x 2.9m high);
- 33kV transformer bays;
- Medium Voltage (MV) Skid - inverters and transformers, 6.5m x 3m x 3m high;
- Control buildings;
- Access off the B5097 to the south and a new access road (surfaced in macro-permeable paving) between the B5097 in the south and the proposed site access off Cadwgan Lane on the western edge of the main development area;
- Internal access road and crushed stone tracks;
- CCTV network within the perimeter security fence and 2.4m high, dark green, palisade security fencing surrounding the development area;
- Attenuation basin within the eastern part of the site; and
- Landscape proposals and ecological enhancement area, discussed below.

Mitigation Proposals

5.2 The Proposed Cut and Fill Plan, included as Figure 9, shows ground levels are proposed to be lowered across the north-western part of the site and the tallest components of the proposed development, (within the proposed 400kV aplha substation), would be sited on this lower ground, bound by the wooded (dismantled railway) embankment to the north and partially contained by mature trees to the west. Mounding would be created along the western, southern and eastern edges of the proposed development area, and planted with woodland and trees where possible to maximise filtering and screening of the proposed development.

5.3 Existing trees and hedgerows are proposed to be retained as far as possible, to maintain existing visual buffers and to retain site character and biodiversity.

5.4 Additional landscape mitigation, as shown on Figure 10, includes:

- Enhancement of site hedgerow with new hedgerow and hedgerow tree planting as necessary, and alllowing site hedgerow to grow taller (minimum 3m high) to increase screening of the proposed development;
- Dark grey colour for energy storage containers, green colour for the tallest GIS Hall building within the substation, and dark green palisade security fencing, to assist with integrating the proposed development into its wooded backdrop;
- Woodland planting across mounding along part of the southern edge of the proposed development adjacent to the B5097 and along the western and eastern edges of the development. Mounding would give additional height to woodland planting and greater screening of the proposed development from its surroundings;
- New hedgerow at site entrances and along the northern security fence line providing screening of the proposed development overtime and wildflower meadow;
- Retention of the PRoW through the eastern part of the site and woodland planting on mounding to the west of this footpath to provide screening and filtering of the proposed development;and
- Some tree planting along the eastern boundary of the site to reinforce the existing tree buffer alongside the A483.

5.5 An Environmental Enhancement Area (EEA) also is proposed within the field west of Bersham Cricket Club, see Figure 10. This EEA is discussed within the Ecology Report submitted with the planning application and includes new hedgerow along the eastern field boundary, (which would provide filtering and screening of the proposed development in views eastwards from the PRoW along this field boundary, see Photomontage Viewpoint 3); scattered Oak trees; scrapes; and bunds using soil from the scrapes. Existing grassland would be retained and grazed within this area.

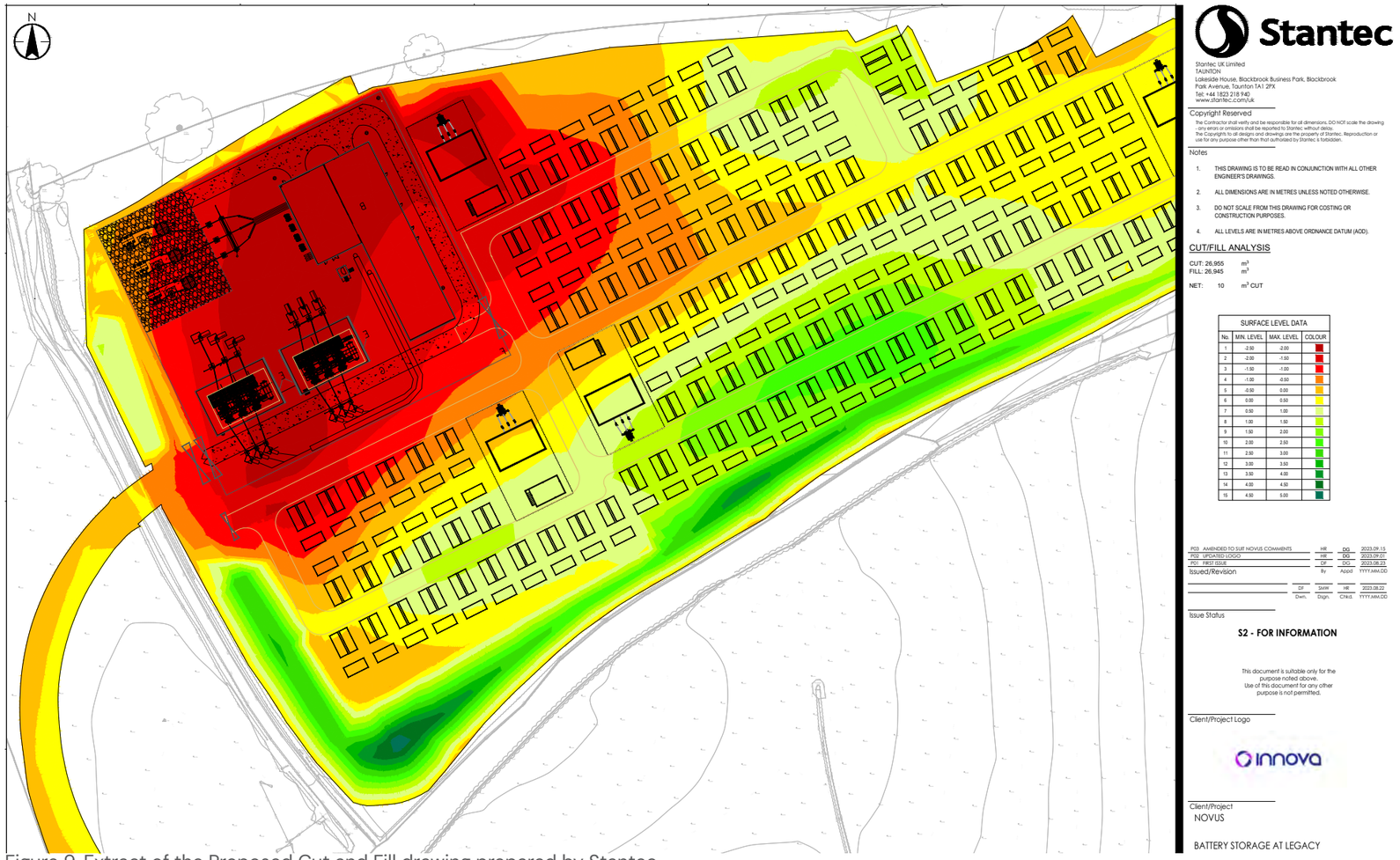
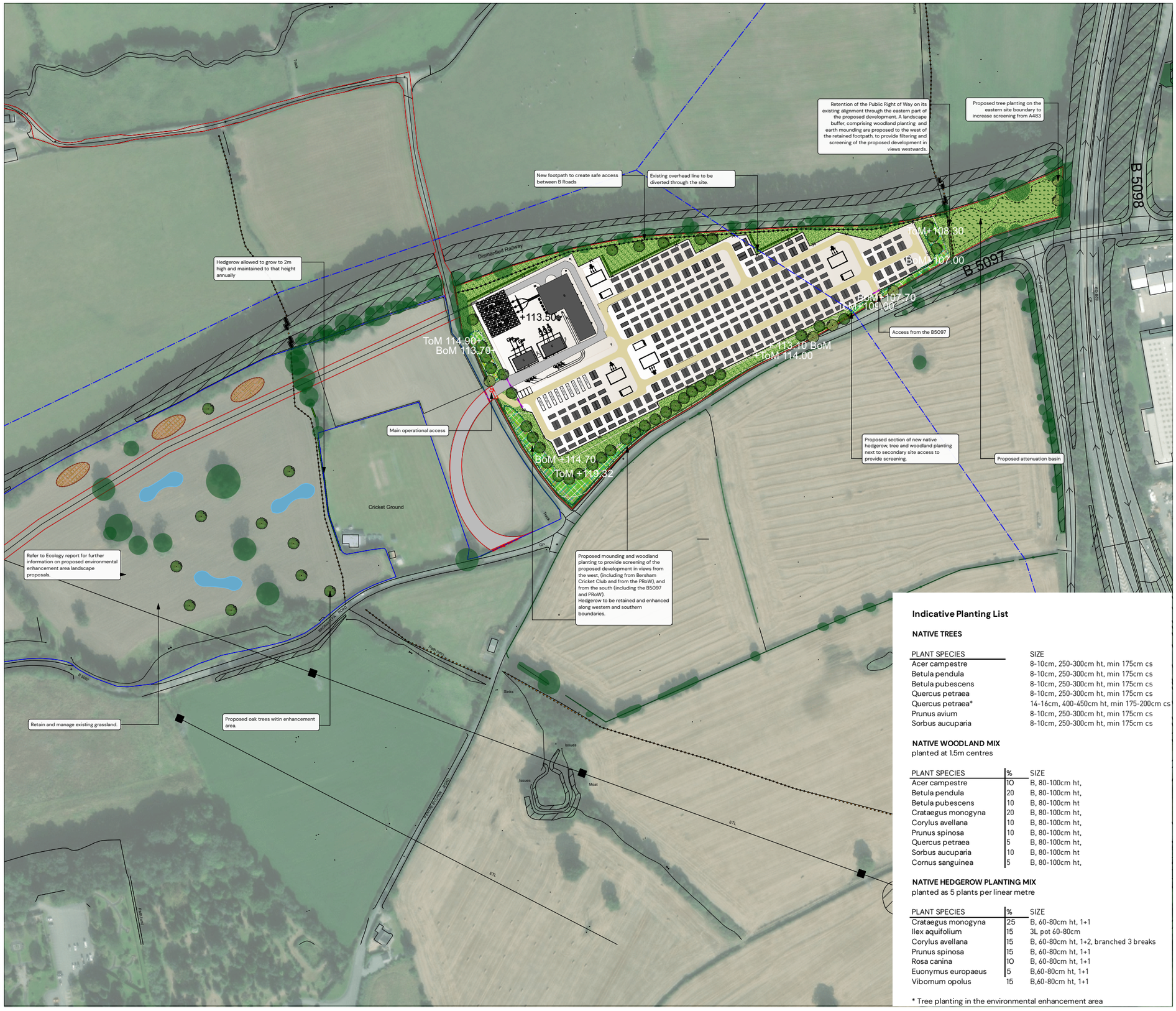


Figure 9. Extract of the Proposed Cut and Fill drawing prepared by Stantec.



KEY

- Red Line Boundary
- Blue Line Boundary

EXISTING

- Trees & vegetation
- Vegetation to be removed
- Public Right of Way
- Existing overhead line (section within the site)

PROPOSED within Main Development Area

- Wild flower meadow, EM1 basic general purpose grass mix by Emorsgate or similar approved
- Wet grassland within proposed basin, EM8 meadow mix for wetland by Emorsgate or similar approved.
- Native woodland planting
- Tree planting
- Hedgerow enhancement along site boundary [where appropriate]
- Native hedgerow planting
- Battery storage units, 33kv substations, and alpha substation compound
- Proposed access road to be surfaced with macro-permeable paving.
- Internal access track (compressed gravel) to be specified by engineer
- Footpath link through the site
- Palisade fence, 2.4m high, to be dark green. To be specified by engineers
- Security gate specified by engineer
- ToM +00.00 Top of mound level
- BoM +00.00 Bottom of mound level

PROPOSED within Environmental Enhancement Area

- Indicative Butterfly Bund (using soil from scape) to be seeded with N4F Summer Flowering Butterfly & Bee Mix Flowers by NatureScape or similar and approved
- Indicative scrape to be seeded with EM8 meadow mix for wetland by Emorsgate or similar and approved.
- Tree planting

Indicative Planting List

NATIVE TREES

PLANT SPECIES	SIZE
Acer campestre	8-10cm, 250-300cm ht, min 175cm cs
Betula pendula	8-10cm, 250-300cm ht, min 175cm cs
Betula pubescens	8-10cm, 250-300cm ht, min 175cm cs
Quercus petraea	8-10cm, 250-300cm ht, min 175cm cs
Quercus petraea*	14-16cm, 400-450cm ht, min 175-200cm cs
Prunus avium	8-10cm, 250-300cm ht, min 175cm cs
Sorbus aucuparia	8-10cm, 250-300cm ht, min 175cm cs

NATIVE WOODLAND MIX
planted at 1.5m centres

PLANT SPECIES	%	SIZE
Acer campestre	10	B, 80-100cm ht,
Betula pendula	20	B, 80-100cm ht,
Betula pubescens	10	B, 80-100cm ht
Crataegus monogyna	20	B, 80-100cm ht,
Corylus avellana	10	B, 80-100cm ht,
Prunus spinosa	10	B, 80-100cm ht,
Quercus petraea	5	B, 80-100cm ht,
Sorbus aucuparia	10	B, 80-100cm ht
Cornus sanguinea	5	B, 80-100cm ht,

NATIVE HEDGEROW PLANTING MIX
planted as 5 plants per linear metre

PLANT SPECIES	%	SIZE
Crataegus monogyna	25	B, 60-80cm ht, 1+1
Ilex aquifolium	15	3L pot 60-80cm
Corylus avellana	15	B, 60-80cm ht, 1+2, branched 3 breaks
Prunus spinosa	15	B, 60-80cm ht, 1+1
Rosa canina	10	B, 60-80cm ht, 1+1
Euonymus europaeus	5	B,60-80cm ht, 1+1
Viburnum opolus	15	B,60-80cm ht, 1+1

* Tree planting in the environmental enhancement area

Rev	Date	By	Note
C	101123	KA	Minor amends to annotations
B	191023	NW	Minor amends to annotations
A	181023	KA	Minor amends to attenuation pond

Landscape Masterplan

With Environmental Enhancement Area
Wrexham ESS

Client: Innova Renewables Developments
DRWG No: P22-3121_EN_0003 REV: C
Drawn by : KA Approved by: LH
Date: 04/10/2023
Scale: 1:1500 @ A1

PEGASUS GROUP

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Figure 10. Landscape Masterplan

6. LANDSCAPE BASELINE AND EFFECTS

6.1 This section discusses the effect of the proposed development on the landscape features of the site and on the landscape character of the site and its surroundings. Photography provided at Appendix 2 assists with understanding the landscape baseline. Photograph viewpoint locations are shown on Figure 14 of this LVIA.

6.2 Effects on landscape features and on landscape character are considered during construction of the proposed development, (which would take up to 2 years to complete), and during the operation of the proposed development, at Year 1 and at Year 15 post completion. The proposed development would be operational for 50 years. Landscape effects arising from the built elements of the proposed development would be temporary and reversible as the site would be restored to its former use, at the end of the operational phase. A summary of landscape effects are included in Table 1 of this LVIA.

Landscape Features

6.3 The sensitivity of landscape features is a function of both their susceptibility to change and their value, and is discussed further in the Assessment Criteria at Appendix 1.

Landform and Topography

6.4 The site generally falls south and east from the site's north-western corner, at approximately 120m AOD, falling to approximately 114m AOD at the sites southern most corner and to approximately 105m AOD within the eastern edge of the site.

6.5 The site is bound to the north by a man-made (former railway) embankment running along the site's northern boundary, and other modifications to ground levels in the site's context relate to the A483 running through a cutting east of the site and the disused colliery southeast of the site, which comprises localised high ground visibile from and a feature of the landscape local to the site.

6.6 North of the site is the River Clywedog valley, and approximately 1.5km west of the site, the land rises steeply to form a distinctive ridgeline within the Clwydian Range and Dee Valley AONB.

6.7 Site landform and topography is of **medium** value and is deemed to have **medium** susceptibility to change. Overall, the sensitivity of site landform and topography is judged to be **medium.**

6.8 Site landform and topography would be subject to some change to accommodate and minimise the impact of the proposed development on the surrounding landscape and views, see Figure

Figure 11. Aerial photography of the site and its surroundings, including red line boundary defining the main development area and access road.

9 which shows an extract of the Proposed Cut and Fill Plan. The taller built components within the proposed substation would be on lower ground created within the north-western part of the site, and earth mounding would be created along the western, southern, and eastern edges of the proposed development area, using soil available on site to provide screening of the proposed development as far as possible. The magnitude of change on site landform and topography is considered to be **medium**, and the level of effect **moderate adverse** during all stages of the proposed development.

Water Features and Drainage

6.9 There are no existing water or drainage features on the site. An attenuation basin is proposed within the eastern part of the main development area, (between the PRoW footpath and eastern site boundary), as part of the proposed drainage strategy for the proposed development.

6.10 During construction and operation, the proposed development would result in a **low** magnitude of change on site water and drainage feature.The level of effect would be **minor beneficial** overall.

Land Use, Buildings and Infrastructure

6.11 The site comprises one triangular shaped grass field. There is no built form on the site. A low voltage overhead line runs northwest southeast across a central part of the site and overhead lines cross fields to the immediate south and south-west of the site.

6.12 The site is west of the A483 dual carriageway (with its associated road bridges, slip roads and roundabout junctions), which separates the site from the adjacent industrial units, which dominate the area east of the site. The B5097 runs along the southern site boundary, and the B5098 runs south of the eastern part of the site. The site is in proximity of some residential properties which align local roads, including The Wrexham Road, Pentre Bychan Road, and Croesfoel Court.

6.13 The site has some recreational value offered by a short section of PRoW footpath ESC 1, which runs through the eastern part of the site in a north-south direction and runs up and over the former railway embankment. The site is considered to be of **medium** value. The site is partly influenced by industrial development, and the surrounding road network and is partly contained by landform and mature tree cover, and is considered to have a **medium** susceptibility to change. Overall, the sensitivity of site land use is deemed to be **medium**.

6.14 The proposed development would change the current land use of the site, from being agricultural land to being an operational energy storage development including a substation. The proposed development would occupy one field, partly contained by the wooded embankment to the north. The magnitude of change on site land use and infrastructure would be **high** and the level of effect **major adverse**.

Vegetation - Woodland and trees

6.15 There is a woodland in the east, a wooded dismantled railway embankment in the north. Woodland and trees along the periphery of the site is mature and provides some enclosure, as well as providing a setting for the B5097. Vegetation also visually separates the site from most surrounding residential properties. Site woodland and trees is considered to have **medium** value and is considered to have a **medium** susceptibility to change. Overall, the sensitivity of site woodland and trees is deemed to be **medium**.

6.16 During construction, trees within and adjacent to the site would be retained and protected. At Year 1, proposed planting would be in place, albeit it would have yet to mature. There would be a **low** magnitude of change on site woodland and tree cover at Year 1, and the level of effect would be **minor beneficial**. Overtime, proposed woodland and trees would mature and would assist in integrating the proposed development with its surroundings including adjacent woodland. At Year 15, a **medium** magnitude of change and a long-term **moderate beneficial** level of effect is predicted.

Vegetation - Hedgerow

6.17 The majority of the western and southern boundaries of the main development area of the site are defined by mature well maintained hedgerow. There are gaps in boundary hedgerow at field entrances and part of the southern site boundary, to both sides of the existing site entrance, is defined by wooden post and rail fencing overgrown with scrub.

6.18 Hedgerows are considered to have **medium** value and a **low** susceptibility to change. Overall, the sensitivity of site hedgerow is deemed to be **medium**.

6.19 There would be a minor loss of site hedgerow during construction, at proposed vehicular access points and this would result in a **low** magnitude of change and a **minor adverse** level of effect on site hedgerow.

6.20 At Year 1, new hedgerow between the proposed fenceline and the proposed footpath link in the north would be planted, albeit it would have yet to mature. The magnitude of change would be **low** and the level of effect **moderate/minor beneficial** at Year 1.

6.21 Within 5 years, proposed hedgerow would be maturing, and the magnitude of change on site hedgerow would be **medium.** The long-term level of effect on site hedgerow would be **moderate beneficial**.

Vegetation - Grassland

6.22 Site grassland is considered to have **medium** value, a **low** susceptibility to change, and **medium** sensitivity to the proposed development.

6.23 The propoosed development would result in the loss of grassland within the main development area and where a new access road is proposed. Grassland surrounding new built development would be seeded with a more species diverse wildflower mix. Overall, the magnitude of change on site grassland would be **moderate**, and the level of effect would be **moderate adverse**.

Landscape Character

6.24 This sub-section provides an overview of the landscape character of the site and its locality. It provides an indication of the sensitivity of the landscape character to the proposed development and the effects that would arise as a result of the proposed development.

National Level Landscape Character

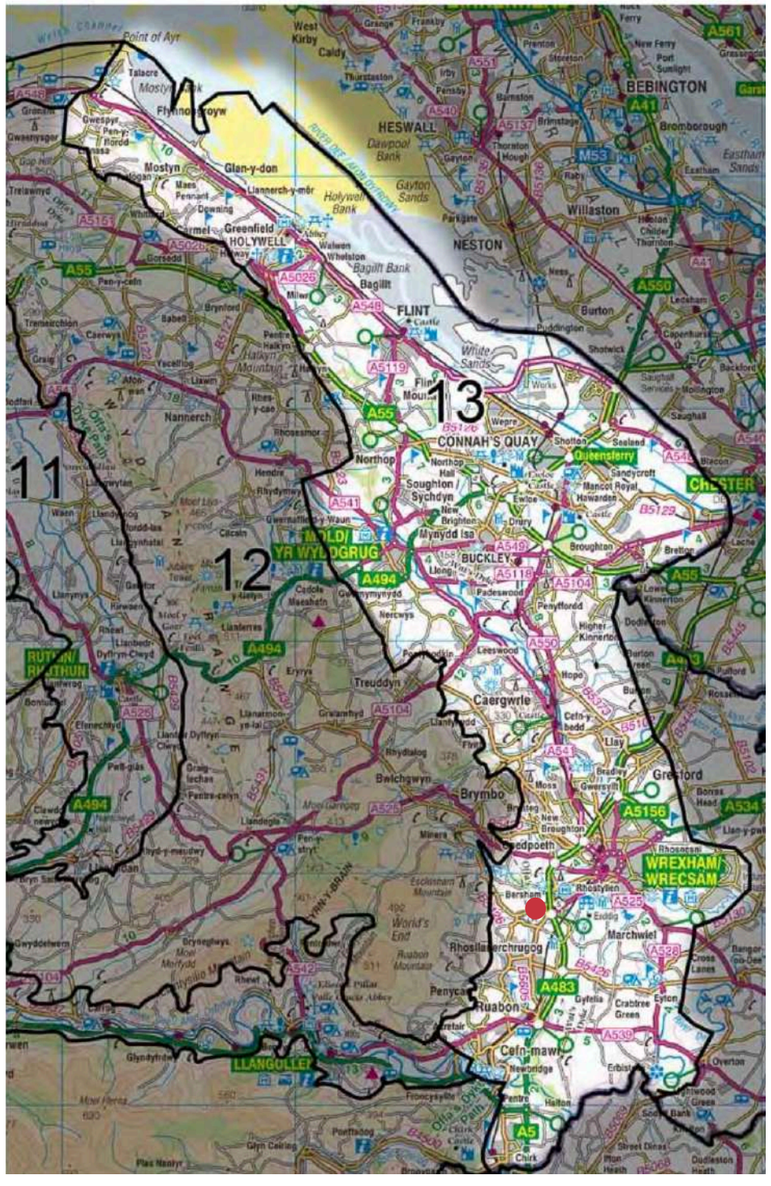
6.25 The site is located within National Landscape Character Area (NLCA) 13, Deeside and Wrexham. NLCAs prepared by Natural Resources Wales (NRW) 2014, form the broadest scale of landscape character assessment in Wales. The site is within the southern part of NLCA 13, Deeside and Wrexham, and the approximate location of the site is shown by a red dot on Figure 12.

6.26 The description of NLCA 13 Deeside and Wrexham, of most relevance to the site, refers to:

- *"Lowland, foothills and levels - sloping down to the lower Dee and Dee Estuary. Carboniferous Coal Measures interspersed with outcrops of Millstone Grit, Holywell shales and Cefn-y-Fedw sandstones. Glacial till, fluvio-glacial and river terrace drift overlay in parts of the valley floor, giving rise to localised gentle land form variation.*
- *Narrow, incised, wooded tributary valleys – many running down from the west.*
- *Mixed pasture and some arable - and farm woodland cover.*
- *Urban settlements - a strongly settled character is apparent in the central and southern parts of the area, with the relatively large, almost linked settlements of Holywell-Connah's Quay-Mold-Wrexham-Ruabon.*
- *Small settlements – outside urban areas, compact villages associated with landed estates and isolated farmsteads, or coalesced ribbon developments and encroachment upon commons, which are the legacy of the former coal and lead mining industries."*

6.27 The national-level character assessment gives a broad impression of a region and provides a useful contextual overview of the character of the wider landscape. The proposed development is not considered to have the potential to result in effects on landscape character at this national scale. A greater focus is therefore placed upon local landscape character assessment discussed below.

Figure 12. Extract from: Natural Resources Wales, National Character Area 13, Deeside and Wrexham, 2014 The site is shown by a red dot.



LANDMAP

6.28 LANDMAP is landscape guidance for Wales developed by the Counrtyside Council for Wales (CCW) now part of NRW. Landscape characteristics, qualities and influences on the landscape are recorded and evaluated into nationally consistent data and retained as a Geographical Information System (GIS) based landscape resource. LANDMAP comprises five spatially related datasets referring to:

- Visual and Sensory;
- Geological Landscape;
- Landscape Habitats;
- Historic Landscape; and
- Cultural Landscape.

6.29 Within each of the five layers, there are 'aspect areas'. Each 'aspect areas' is evaulated from a local to a national scale of landscape importance. The evaluation terms used include:

- Outstanding - nationally important;
- High-regional or county importance;
- Moderate - local importance; and
- Low - little or no importance.

6.30 The site is in the following LANDMAP aspect areas, identified below by Unique ID and Area name:

- WRXHMVS038 A483 and environs - Rhostyllen to Ruabon (visual and sensory aspect area, see Figure 11);
- WRXHMCLS077 A483 and environs - Rhostyllen to Ruabon (cultural landscape aspect area,);
- WRXHMGL086 Pen-y-lan - Bryn-newydd (geological landscape aspect area);
- WRXHMLH031 Talwrn Grassland (landscape habitat aspect area);
- WRXHMHL021 Talwrn (historic landscape aspect area).

6.31 The above LANDMAP aspect areas, and other areas in the 3km study areaa with potential intervisibility with the Site and Proposed Development as shown on SZTV mapping (Figure 13), are considered. Evaluation results are identified where relevant below.

Figure 13. Extract from: LANDMAP showing the visual and sensory boundaries. The site boundary is shown with a yellow outline.

A483 and environs - Rhostyllen to Ruabon (visual and sensory aspect area WRXHMVSO38)

6.32 The site is in the northern part of the 'A483 and environs - Rhostyllen to Ruabon' visual and sensory area (reference, WRXHMVSO38).

6.33 The summary description describes the area as a: *"A narrow relatively urbanised aspect area which comprises the open farmland on either side of the dualled length of the A483 Trunk road. The aspect area is predominantly in agricultural land use with areas of settlement and industry to the south of Wrexham but the road corridor tends to dominate and as such this area is strongly visually linked with it. The area acts as an interface/barrier between urbanised and rural areas. Sensory perceptions include noise, constant activity and nighttime light pollution from the adjacent settlements and road corridor. No distinctive sense of place, the aspect shares common characteristics with agricultural areas throughout the study area and beyond but has no unique characteristics making it especially distinctive other than the occasional views towards the upland mass of Ruabon Mountain. The presence of the road corridor has led to the lowland areas between settlements becoming and appearing fragmented. The aspect area is very important in maintaining a green interface between the adjacent settlements and road corridor. The aspect should be protected from unnecessary and large scale development."*

6.34 The site is in an aspect area evaluated as having:

- *"Low scenic quality;*
- *Low integrity;*
- *Moderate character; and*
- *Moderate rarity."*

A483 and environs - Rhostyllen to Ruabon (cultural landscape aspect area, WRXHMCLSO77)

6.35 The site is in the northern part of the A483 and environs - Rhostyllen to Ruabon cultural landscape aspect area. The site is classified as 'Rolling Lowland'. Moderate night-time light pollution is noted.

6.36 The site is in an aspect area evaluated as having:

- **"Weak sense of place/local distinctiveness;**
- **Moderate visual and sensory landscape value,** *'The area comprises the lands immediately adjacent to the A483 road corridor which are predominantly agricultural landuse and "sandwiched" between the road corridor and areas of settlement and industry to the south of Wrexham. The dominant focus is upon.'*
- **Low scenic quality; and**
- **Moderate character."**

Pen-y-lan - Bryn-newydd (geological landscape aspect area WRXHMGLO86)

6.37 The site is in the north-western part of the Pen-y-lan - Bryn-newydd geological landscape aspect area. The area is noted as being an *"Extensive, gently sloping platform of glacial deposits (…) To the West the area is marked by the base of glacial clay-covered slopes at the base of the Ruabon-Esclusham Mountain massif (…) Surface gently undulates and with streams which cut down into the eastern escarpment-like feature."*

6.38 The area is evaluated as having **moderate value:** *'Working quarry present although no regionally significant sites/ landforms noted during present survey and geology/ geomorphology considered to be typical of feature/ process and is either widespread,or not currently known to be exceptional.' And it is in a good condition, noted as being a ' Dominantly rural area with limited significant development'.*

6.39 The principal management recommendation for the area states: *'Ensure that no significant geological or geomorphological features are lost or damaged (e.g. due to development, forestry, etc).'*

Talwrn Grassland (landscape habitat aspect area WRXHMLHO31)

6.40 The site is within the eastern central edge of this landscape habitat aspect area referenced WRXHMLHO31. Brown soil is noted as being the dominant soil type in this area, and the five most dominant Phase 1 habitat types include semi-natural broadleaved woodland (4% of the area); improved grassland (67%); arable (5%), and buildings (3%); semi-improved netural grassland (4%).

6.41 The area is noted as including a good mixture of valuable habitats, much of the area is designated including a SAC, SSSI, or Local Wildlife Site. The overall evaluation for this area is **high.**

6.42 The principal management recommendation for the area refers to *"Maintain the ponds. Enhance gappy hedges and plant woodland to aid biological connectivity."*

Talwrn (historic landscape aspect area WRXHMHLO21)

6.43 The site is within the north-eastern part of the Talwrn historic landscape aspect area, which is described as *"Fieldscapes and dispersed farms of medieval and later origin on east-facing lower hillslopes of Esclusham Mountain, to the south-west of Wrexham… Predominantly irregular fields with ancient and more recent hedged boundaries… Former industries and associated workings including collieries, limekilns, brickworks, water-powered corn mills and stone quarries and associated infrastructure of which there are some remains, partly within wooded areas… Other significant sites of archaeological interest include a cluster of early prehistoric funerary monuments, a medieval moated site, medieval motte, the early medieval Offa""s Dyke which crosses the area, and area of former 18th-century landscape parkland at Llanerchrugog… Discrete, small-scale, modern, rural housing developments…"*

6.44 The overall evaluation for this site is **moderate.** The justification for this evaluation states that it is *'A small area with no particularly dominant themes or significant archaeological/historical content, other than Offa's Dyke.'*

Effects on Landscape Character

6.45 With consideration to the LANDMAP evaluations (highlighted in bold) and the LVIA Method in Appendix 1, the site and the landscape potentially affected by the proposed development is considered to be of **medium sensitivity** to the proposed development overall.

Effect on the Site and Its Immediate Surroundings

6.46 The proposed development would result in a temporary change in land cover across the site from grassland to energy storage and substation development. The proposed development would introduce new built-form and man-made features into the landscape. The substation, which is the tallest component of the proposed development would be sited on lowered ground, and the rest of the development, which would incorporate most of the site area, would be of a limited height. There would be adverse alteration to the physical and perceptual attributes of the site. No valuable landscape features however would be lost.

6.47 During construction, existing grassland would be replaced with a temporary construction site resulting in the battery storage and substation development. There would be an increased level of activity and movement of construction vehicles and plant within the site, which would have a temporary short-term effect on the landscape character at the site and its immediate surroundings This would occur alongside the provision of access and a temporary construction compound including parking, the storage of materials, and general construction works. These are uncharacteristic features of the landscape but would be temporary and short-term and construction works would be carried out following best practices to avoid, reduce or limit the extent of effects as far as possible.

6.48 Some direct adverse effects on landscape features would result from the removal of small sections of hedgerow and the loss of grassland. The majority of existing vegetation would be retained and protected during construction. The proposed substation would be built on lowered ground, bound by the wooded dismantled railway embankment to the north and planted earth mounds to the west and south.

6.49 The proposed development would result in a temporary change in land cover across the site from agricultural land to a battery energy storage development including energy storage containers, transformers, a substation, access tracks and palisade fencing. The proposed development would occupy the majority of the main part of the site and would result in a noticeable change to the physical and perceptual attributes of the site. Retained hedgerows and trees would, in part, provide a mature landscape setting for the proposed development.

6.50 During construction and at Year 1, there would be a **high** magnitude of change and a **major adverse** level of effect on landscape character within the site and in its immediate surroundings. At Year 15, when proposed woodland is maturing, the level of effect would reduce to **major/moderate adverse**.

6.51 Effects upon landscape character arising from the proposed development would be temporary and reversible, and the proposed development would result in some long-term beneficial effects on landscape features as a result of proposed wildflower grassland, woodland, and hedgerow planting, which over time, (and in combination with proposed mounding) would provide some enclosure of the proposed development and reduce its influence on the surrounding landscape.

Effect on Rhostyllen to Ruabon Visual and Sensory Aspect Area (WRXHMVS038)

6.52 The landscape character and the rarity of the area is defined by LANDMAP as **moderate** within the Rhostyllen to Ruabon Visual and Sensory aspect area shown on Figure 13. The assessment also defines the scenic quality and the integrity of the area as **low**. The overall sensitivity of the aspect area is **medium**.

6.53 The proposed development would introduce new development into a predominantly agricultural landscape with areas of settlement and industry to the south of Wrexham, where the A483 road corridor tends to dominate and as such this area is strongly visually linked with it. Although the proposed development would change the physical and perceptual attributes of the landscape due to the enclosure provided by existing landscape features, the extent of its influence would be confined to the immediate surroundings and in the context of WRXHMV020 North, West and South of Rhostyllen Visual and Sensory aspect area.

6.54 The proposed development would introduce enhancements in the form of woodland, tree and hedgerow planting wildflower meadows and an attenuation pond. However, the proposals would likely still form a man-made minor alteration to the physical and perceptual attributes of the visual and sensory aspect area.

6.55 The proposed development would give rise to a **medium localised** magnitude of change and a **very low overall** magnitude of change in all stages, resulting in **a localised moderate adverse** level of effect and **minor adverse** level of effect overall.

Effect on LCA 7c Rhosllannerchrugog - Rhostyllen Ruabon - Penycae

6.56 The proposed development would be introduced into the northern part of LCA 7c, shown on Figure 8, influenced by the A483 and industrial development to the east and in the context of the prominent Bersham colliery spoil tip to the southeast. This LCA is described as a mixed rural and urban landscape.

6.57 The proposed development would introduce notable new development into a small part of the northern extent of this LCA but would not alter its key characteristics. Its influence on the wider LCA would be limited due to intervening vegetation and landform screening and other built development in this LCA. The proposed development would give rise to a localised **medium** magnitude of change within the northern part of this LCA and a **very low** magnitude of change on this LCA overall. The level of effect would be **moderate adverse** in a localised part of this LCA and **minor adverse** overall.

Effect on the Special Landscape Area

6.58 The site is within the eastern part of the Ruabon Mountain Special Landscape Area (SLA), as shown on Figure 2 above which shows UDP Map 4 - Inset 20. This area comprises farmland west of the A483 and the industrial estate of Rhostyllen. This area encompasses WRXHMVS038 Rhostyllen to Ruabon; WRXHMVS020 North, West and South of Rhostyllen; and WRXHMVS019 Clywedog Valley - Bersham visual and sensory aspect areas.

6.59 The site comprises a sloping grass field within part of the eastern edge of this SLA. The proposed development would alter ground levels and introduce energy storage development and a substation onto the majority of a sloping agricultural field partially contained by landform, mature trees, and hedgerow on its boundaries.

6.60 The development would give rise to a **medium (localised) and low**

(overall) magnitude of change during all stages, resulting in a **moderate adverse** (localised) level of effect and a **minor adverse** level of effect on this SLA overall.

Landscape Effect on the Clwydian Range and Dee Valley AONB

6.61 The boundary of the Clwydian Range and Dee Valley AONB is approximately 1.8 km to the west of the site at its closest point.

6.62 There is limited inter-visibility between the Clwydian Range and Dee Valley AONB and the site due to distance and intervening screening, in particular screening by the wooded dismantled railway embankment along the northern boundary of the site. Panorama photography for viewpoints 8 and 9, provided at Appendix 2, shows the nature of footpath views from within the AONB towards the site. Woodland planting proposed along the edges of the proposed development would provide additional enclosure and screening of the proposed development overtime as woodland matures.

6.63 SZTV mapping and viewpoint photography from viewpoints 8 and 9, were provided to the AONB planning officer in September 2023 for consideration in advance of a planning submission. The AONB planning officer's response confirmed that *"Given the relative distances involved and the presence of intervening vegetation screening, in addition to the backdrop of the A483 and urban development within the settlement limit of Rhiostyllen the effects upon the AONB and its setting are negligible."*

6.64 The proposed development would result in no effect on the Clwydian Range and Dee Valley AONB landscape and its Special Qualities discussed in section 4.0 above.

Landscape Receptor	Value	Susceptibility to Change	Sensitivity	Development Phase	Magnitude of Change	Level of Effect
Landscape Features						
Landform and topography	Medium	Medium	Medium	Construction Year 1 Year 15	Medium Medium Medium	Moderate adverse Moderate adverse Moderate adverse
Water and drainage features	Medium	Low	Medium	Construction Year 1 Year 15	Low Low Low	Minor beneficial Minor beneficial Minor beneficial
Land use, buildings and infrastructure	Medium	Medium	Medium	Construction Year 1 Year 15	High High High	Major adverse Major adverse Major adverse
Vegetation - Woodland and trees	Medium	Medium	Medium	Construction Year 1 Year 15	No effect Low Medium	No effect Minor beneficial Moderate beneficial
Vegetation - Hedgerow	Medium	Low	Medium	Construction Year 1 Year 15	Low Low Medium	Minor adverse Moderate/minor beneficial Moderate beneficial
Vegetation - Grassland	Medium	Low	Medium	Construction Year 1 Year 15	High High High	Moderate adverse Moderate adverse Moderate adverse
Landscape Character						
The Site and immediate environs	Medium	Medium	Medium	Construction Year 1 Year 15	High High High	Major adverse Major adverse Major/Moderate adverse
A483 and environs - Rhostyllen to Ruabon visual and sensory LANDMAP aspect area (WRXHMVS038)	Medium	Medium	Medium	Construction Year 1 Year 15	Medium (localised) Very Low (overall) Medium (localised) Very Low (overall) Medium (localised) Very Low (overall)	Moderate (localised) Minor (overall) adverse Moderate (localised) Minor (overall) adverse Moderate (localised) Minor (overall) adverse
LCA 7c Rhosllannerchrugog - Rhostyllen Ruabon - Penycae	Medium	Medium	Medium	Construction Year 1 Year 15	Medium (localised) Very Low (overall) Medium (localised) Very Low (overall) Medium (localised) Very Low (overall)	Moderate (localised) Minor (overall) adverse Moderate (localised) Minor (overall) adverse Moderate (localised) Minor (overall) adverse
Landscape Designations						
Ruabon Mountain Special Landscape Area	Medium	Medium	Medium	Construction Year 1 Year 15	Medium (localised) Low (overall) Medium (localised) Low (overall) Medium (localised) Low (overall)	Moderate (localised) Minor (overall) adverse Moderate (localised) Minor (overall) adverse Moderate (localised) Minor (overall) adverse
Clwydian Range and Dee Valley AONB	High	Low	Medium	Construction Year 1 Year 15	No effect No effect No effect	No effect No effect No effect

Table 1: Summary of Landscape Effects

7. VISUAL BASELINE AND EFFECTS

Introduction

7.1 This section considers the area within which the proposed development may be visible and identifies the different groups of people who would experience views of the proposed development (the visual receptors). The following section provides an assessment of the effect of the proposed development on receptors views identified, with reference to assessment viewpoints shown on Figure 14.

7.2 The visual assessment assesses the sensitivity of the visual receptors whose views would be affected by the proposed development; the magnitude of the change in the receptor view; and the level of effect on each view assessed, in accordance with the Assessment Criteria included at Appendix 1 of this LVIA.

7.3 Effects are considered during construction, and during operation of the proposed development at Year 1 and at Year 15. New planting takes a number of years to mature and average growth rates have been taken into consideration. The effectiveness of proposed planting both in terms of integrating the development into the surrounding landscape and in providing visual screening would improve over time and needs to be considered appropriately.

7.4 A photographic record is included in Appendix 2 and viewpoint locations are shown on Figure 14 overleaf. A summary of visual effects is included in Table 2

Screened Zone of Theoretical Visibility

7.5 The Screened Zone of Theoretical Visibility (SZTV) shown on Figure 14 identifies the potential area and locations from which the proposed development (on proposed ground levels) may be visible.

7.6 The SZTV mapping has been produced using Digital Terrain Modelling (DTM) data. Existing built developments (8m tall) and larger blocks of woodland (15m tall) also have been modelled to take account of the screening effect that these would provide, in addition to existing landforms.

7.7 The screening effect provided by smaller blocks of woodland, individual trees and hedgerows has, however, not been taken into account. Consequently, the actual extent of the area from which the proposed development would be visible was determined on site (in January and October 2023) to be smaller than that shown on Figure 14, largely due to roadside and field boundary hedgerow and trees; garden trees, hedgerow and shrubs; and the wooded railway corridor to the south.

7.8 The locations of assessment viewpoints selected within the SZTV are shown on Figure 14. Viewpoint photography is included in Appendix 2 of this report and shows the range of views available towards the site. Viewpoints are referred to where relevant in the following assessment.

7.9 Photomontages also have been prepared to show the proposed development at Year 1 and at Year 15, in the view from Viewpoints 3, 4, and 6, see Figure 14. Photomontages are included in Appendix 3 of this LVIA.

Effect on Receptor Views during Construction

7.10 During construction visual effects would arise from construction activities on the site, from the establishment of site compounds and parking; the storage of materials; removal of small sections of existing hedgerow, trenching for cabling and the erection of the proposed battery storage and substation components. The effects resulting from construction work would be short-term and temporary. All construction works would be carried out following best practices to avoid, reduce or limit the extent of adverse visual effects as far as possible.

7.11 The greatest magnitude of change on views during construction would be experienced by those receptors close to the proposed development with open views towards construction work. This is due to the proximity to the site and the extent of construction works that would be visible.

7.12 The construction stage would be of relatively short duration (up to 2 years) and adverse effects largely would be the same as those identified during the operation of the proposed development. There would be temporary adverse effects on additional receptors during the installation of proposed cabling between the main development area and Legacy substation and the temporary construction compound would be introduced into close open views from the adjacent Bersham Cricket Ground; from the southern section of PRoW ESC/3 in the adjacent field; and in limited oblique road user views from the B5097 to the south and from Cadwgan Lane to the east. Temporary construction fencing with green tarpulin would assist in minimising visibility of the construction compound in close public views.

7.13 This assessment focuses on the longer-term operational stage of the proposed development.

Effect on Receptor Views during Operation

7.14 The following paragraphs identify visual receptors subject to this assessment and discuss the sensitivity of each receptor group, the magnitude of change and the level of effect of the proposed development on views experienced by identified receptors. Sensitivity judgements are presented in Table 2 and judgments on sensitivity, magnitude of change and the level of effect on each receptor are made with consideration to the Assessment Criteria identified in Appendix 1 of this LVA.

Recreational Receptors

7.15 Receptors using recreational routes such as public rights of way (PRoW) have high sensitivity to changes in their view. PRoW referred to below are annotated on Figure 6 above.

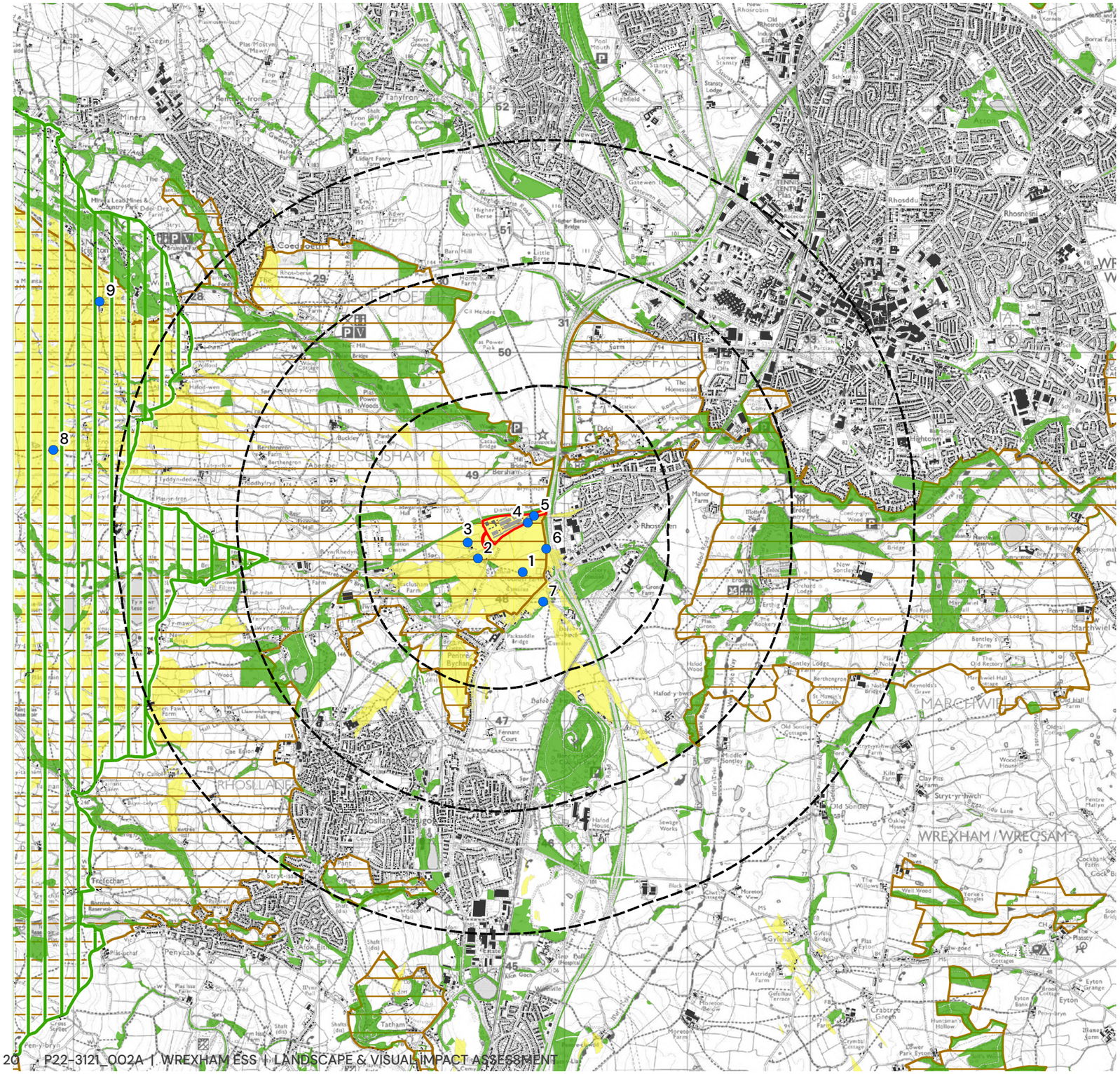
7.16 **Footpath ESC/12** lies near the site in the southern site context. It runs southeast northwest across an arable field to the south. There would be some visibility towards the west of the site, see Viewpoint 1.

7.17 However, due to the landform and the existing hedgerow along the B5097 Road, the views would be limited in all stages. The substation would be visible in the first few years. However, most compounds and components would be hidden by existing landscape features. There would be a medium change in the views, and the magnitude of change would be **low** during construction and Year 1. The level of effect would be **minor adverse**. Due to the proposed earth mounding and woodland along the southern site boundary, the footpath views would be greatly obscured at Year 15, even towards the substation and the magnitude of change would be **low** and the level of effect **minor adverse.**

7.18 **Footpath ESC/32** lies near the site in the southwestern site context. It is a short section of footpath, running southeast northwest next to a small wooded area. There would be some visibility towards the west of the site, see viewpoint 2. The magnitude of change would be **medium**, resulting in a **moderate adverse** level of effect during the construction stage. Due to proposed mounding, the impact would be less at Year 1, resulting in a **low** magnitude of change and a **moderate/ minor adverse** level of effect. At Year 15, due to maturing woodland, the level of effect would reduce to **minor adverse.**

7.19 **Footpath ESC/3** is in the western site context. PRoW footpath ESC/3 runs north south, to the west of Bersham Cricket Club, and links to PRoW ESC 12 in the south. There are views from this footpath, as well as from the cricket club towards the site, see Photomontage Viewpoint 3.

Figure 14. Screened Zone of Theoretical Visibility and Viewpoint Location Map



KEY

- Site Boundary
- 1km Radii Rings
- Viewpoint Location
- Compound Elements - 6m to 7.3m Development Height
- Alpha Substation Elements - 2.5m to 14m Development Height
- Battery Elements - 2.9m to 3m Development Height
- OS Local Woodland
- OS Local Buildings
- Zone of Theoretical Visibility - Multiple Development Heights
- Area of Outstanding Natural Beauty
- Special Landscape Area

Screened ZTV Production Information -
- DTM data used in calculations is OS Terrain 5 and a proposed site raster derived from contours that has been combined with OS Open Map Local data for woodland and buildings to create a Digital Surface Model (DSM).

- Indicative woodland and building heights are modelled at 15m and 8m respectively.
- Viewer height set at 1.7m (in accordance with para 6.11 of GLVIA Third Edition)
- Calculations include earth curvature and light refraction

N.B. This Zone of Theoretical Visibility (ZTV) image illustrates the theoretical extent of where the development may be visible from, assuming 100% atmospheric visibility, and includes the screening effect from vegetation and buildings, based on the assumptions stated above.

7.20 This footpath runs along the eastern edge of the prpoosed environmental enhancement area. There would be views east towards the proposed development, in particular its western extent including the substation.

7.21 The magnitude of change on views from the southern extent of PRoW ESC/1 would be **high** during construction and the level of effect would be **major adverse**. Due to screening by proposed earth mounding reducing visibility of the built components of the proposed development, there would be a **medium** magnitude of change and a

moderate adverse level of effect at Year 1. Due to proposed woodland along the western site boundary, and the proposed hedgerow along the cricket club, footpath views would be partly screened and filtered in medium term, and greatly screened in lthe ong term. Although, the upper part of the GIS Hall within the substation compound would be partly visible over foreground hedgerow (and through hedgerow within winter months) at Year 15, the magnitude of change would be **low** and the level of effect would be **minor adverse.**

7.22 The **Bersham Cricket Club** lies west of the site, almost adjacent to the proposed site access road. Users of the cricket ground would experience similar views to the ESC/3 footpath user. Therefore, the magnitude of change would be **high adverse**, and the level of effect would be **major adverse** during construction and in Year 1. The proposed landscape features would decrease this effect over the years, and however, the magnitude of change would be **medium**, the level of effect would be **major/moderate adverse** at Year 15.

7.23 **Footpath ESC/1** runs from the B5097 in the south and a rural lane in the north within Bersham Conservation Area. A short section of this footpath would run through the eastern part of the proposed development, see Viewpoint 5 showing open footpath views across the eastern part of the site.

7.24 There would be inevitable visibility of the proposed development from the southern part of PRoW ESC 1 within the site. North of the wooded dismantled railway embankment, this landscape feature would screen footpath user views towards the site.

7.25 There would be a major change in these views and the magnitude of change would be **high** during construction and the **level of effect** would be **major adverse**. New earth mounding and woodland proposed along the proposed fencing to the west towards the development and parallel to this footpath would in the medium-term (within 5 years) provide increased filtering and screening of the proposed development in footpath views towards the proposed development within the site. New woodland planting would assist in minimising the visibility of the proposed development to the west. Although, the upper part of the substation would be still visible at Year 15. The magnitude of change would be **medium** and the **level of effect** would be **Moderate adverse** in Year 1 and Year 15.

7.26 **Footpath ESC/14** runs southwards from Wrexham Road in the southeast context of the settlement of Pentre Bychan. For reference, see Viewpoint 7. There is a far-distance very limited glimpsed view towards the site. The **magnitude of change** would be **very low**, and the **level of effect** would be **Minor adverse** in all stages.

7.27 Views from Viewpoints 8 and 9 on PRoW footpaths within the Clywdian Range Dee Valley AONB, and within the SZTV, show the nature of views southeast towards the site. These are all on higher ground, further than 3 km. The Site is barely perceptible from these footpaths, due to the dismantled railway and the dense vegetation on the slope. It hides the Site from any direct views. It is in context with the industrial background. Therefore, the magnitude of change would be **very low** resulting in **no effect** during all stages.

7.28 The SZTV shows some visibility from a PRoW to the east of Bonc Yr Hafod Country Park, looking north towards the site. However, visibility of the site is restricted by intervening mature tree cover.

7.29 Views towards the site from within the Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB) are distant, and, the site is screened in the view by intervening vegetation, see viewpoints 8 and 9.

7.30 The proposed development would occupy no greater than a very small part of the elevated, panoramic, far reaching view, in the context of Legacy substation, overhead power lines, and industrial development at Rhostyllen beyond the site. Woodland planting proposed along the western edge of the proposed development would provide additional tree screening of the proposed developmentin in some AONB views as it matures overtime. The proposed development would result in a **negligible** or **no effect** on public views from the AONB landscape.

Road Receptors

7.31 People using nearby roads are considered to have a medium sensitivity reflecting the medium susceptibility and value associated with the views from these routes.

7.32 The **B5097 Bronwylfa Road** runs northeast-southwest along the southern site boundary. There would be some open views into the site through gaps in a roadside hedgerow and trees, see Viewpoint 4. Elsewhere along this road, mature roadside hedgerow restricts views of the site.

7.33 There would be some open close views of the proposed development during construction and Year 1. The magnitude of change would be **high from this road** next to the site entrance and the level of effect would be **major adverse localised and moderate adverse overall**, reducing at Year 15 to **medium localised and low overall** magnitude of change and **moderate adverse localised** and **minor adverse** level of change overall. It is due to the proposed earth mound and tree woodland planting, which would limit road users' views and would screen a greater proportion of the proposed development in the view.

7.34 Landform and mature trees restrict views westwards towards the site from the **A483** and the proposed development would be barely perceptible in fleeting glimpsed views or screened by landform and trees. There would be a **very low magnitude of change** on road user views and **no effect** overall.

7.35 The **B5098 Road** runs parallel to A483 in the south-eastern site context. This road links Pentre Bychan to Rhostyllen. Users of this road, coming from Pentre Bychan to Rhostyllen have some limited far-distance views towards the site. There is some screening due to landforms and intervening vegetation (hedgerows). For reference, see Photomontage and Viewpoint 6.

7.36 The substation and the eastern half of the development would be visible during construction and in Year 1. The **magnitude of change** would be **medium**, and the **level of effect** would be **Moderate adverse**. Proposed woodland and earth mounding would reduce this effect mid-long term, and would greatly screen the proposed development, resulting in a **low magnitude of change** and a **Moderate/Minor adverse level of effect.**

7.37 The **Pentre Bychan Rd** runs in the southwestern site context. Users of this road would have a restricted channelled view towards the proposed substation on a small section of the road. The **magnitude of change** would be **low** and the **level of effect** would be **Minor adverse** during all stages.

7.38 **Cadwgan Lane** runs north south along the western boundary of the main development area. The proposed development would be visible where roadside hedgerow has been removed to accommodate the proposed site access off this lane. The magnitude of change would be **high**, and the level of effect **major adverse**. Proposed earth mounding and woodland would minimise views of the proposed development and by Year 15, maturing woodland would further reduce visibility of the proposed development The **magnitude of change** would reduce to **medium** and the level of effect would be **moderate adverse** at Year 15.

7.39 There is a **lane (Ffordd Cadwgan)** in the northern site context. Users of the road would have very limited, heavily filtered views towards the proposed development. The upper part of the proposed GIS Hall within the substation compound would be glimpsed and the magnitude of change would be no greater than **low** and the level of effect no greater than a **minor adverse** level of effect during all stages of the proposed development.

7.40 **Wrexham Road (B5605)** runs through Pentre Bychan southwest of the B5098 road junction. There is a very limited glimpsed view towards the site and the proposed development would be barely perceptible. The magnitude of change would be **very low**, and there would be **no effect** during all stages.

Residential receptors

7.41 For the purpose of this assessment, it is assumed as a worst-case, that all nearby dwellings are permanent residences.

7.42 Residential receptors are considered to have high visual sensitivity to the change proposed. In all cases they were considered to have a high susceptibility to changes in their views, which were considered to be of high value.

7.43 There are properties in the southeast, at Croesfoel Court off the B5098. There are limited property views northeast, limited to those available from upper-storey windows. The proposed development would restul in some change in the view and the magnitude of change would be **low**, and the level of effect would be **minor adverse.** At Year 15, maturing woodland would provide increased filtering and screening of the proposed development.

7.44 Some residents at the modern residential development on the northern edge of Pentre Bychan (at Packsaddle Bank) and a limited number of properties along Wrexham Road have filtered distant views towards the site.

7.45 The upper part of the tallest substation components would be perceptible backgrounded by woodland trees along the dismantled railway embankment. The magnitude of change would be **low** during construction and Year 1 reducing to **very low** at Year 15 when proposed woodland planting would be maturing. The level of effect would be **minor adverse**.

Business Receptors

7.46 The office complex occupied by Dee Valley Waters is on Wrexham Road in Pentre Bychan. Persons at these offices have similar, albeit open, views towards the site to the residential development on the northern edge of Pentre Bychan. The magnitude of change would be low, and the level of effect would be **minor adverse** during construction and Year 1. As proposed woodland matures the magnitude of change would reduce to **very low** at Year 15. The level of effect would remain **minor adverse** for the long-term.

Visual Receptor	Value	Susceptibility to Change	Sensitivity	Development Phase	Magnitude of Change	Level of Effect
Recreational Receptors						
Receptor 1. - Persons on Footpath ESC/12 in the southern site context (Viewpoint 1)	Medium	High	High	Construction Year 1 Year 15	Low Low Low	Minor adverse Minor adverse Minor adverse
Receptor 2. - Persons on Footpath ESC/32 to the southwest (Viewpoint 2)	Medium	High	High	Construction Year 1 Year 15	Medium Low Low	Moderate adverse Moderate/Minor adverse Minor adverse
Receptor 3. - Persons on Footpath ESC/3 in the western site context (Photomontage Viewpoint 3)	Medium	High	High	Construction Year 1 Year 15	High Medium Low	Major adverse Moderate adverse Minor adverse
Receptor 4.- Person on Bersham Cricket Club	Medium	High	High	Construction Year 1 Year 15	High High Medium	Major adverse Major adverse Major/Moderate adverse
Receptor 5. - Persons on Footpath ESC/1 through the eastern part of the site (Viewpoints 5A and B)	Medium	High	High	Construction Year 1 Year 15	High Medium Medium	Major adverse Moderate adverse Moderate adverse
Receptor 6. - Persons on Footpath ESC/14 to the south of Wrexham Road (Viewpoints 7)	Medium	High	High	Construction Year 1 Year 15	Very Low Very Low Very Low	Minor adverse Minor adverse Minor adverse
Receptor 7. - Person on PRoW footpaths within the Clywdian Range and Dee Valley AONB (Viewpoints 8 and 9)	High	High	High	Construction Year 1 Year 15	Very Low Very Low Very Low	Negligible / No effect Negligible / No effect Negligible / No effect
Road Receptors						
Receptor 8. - Persons on the B5097 (Bronwylfa Road), adjacent to southern site boundary (Viewpoint 4A and B)	Medium	Medium	Medium	Construction Year 1 Year 15	High (localised) Medium (overall) High (localised) Medium(overall) Medium (localised) Low (overall)	Major adverse(localised) Moderate adverse(overall) Major adverse(localised) Moderate adverse(overall) Moderate adverse (localised)Minor adverse(overall)
Receptor 9. - Persons on A483 to the east	Low	Low	Low	Construction Year 1 Year 15	Very Low Very Low Very Low	No effect No effect No effect
Receptor 10. - Persons on the B5098 to the southeast (Photomontage Viewpoint 6)	Medium	Medium	Medium	Construction Year 1 Year 15	Medium Medium Low	Moderate adverse Moderate adverse Moderate adverse/Minor adverse
Receptor 11. - Persons on Pentre Bychan Road to the southwest	Medium	Medium	Medium	Construction Year 1 Year 15	Low Low Low	Minor adverse Minor adverse Minor adverse
Receptor 12. - Persons on the rural lane (Cadwgan Lane) running north south alongside the western edge of the main development area in the site	Medium	Medium	Medium	Construction Year 1 Year 15	High High Medium	Major adverse Major adverse Moderate adverse
Receptor 13. - Persons on Ffordd Cadwgan lane to the north	Medium	Medium	Medium	Construction Year 1 Year 15	Low Low Low	Minor adverse Minor adverse Minor adverse
Receptor 14. - Persons on Wrexham Rd to the south	Medium	Medium	Medium	Construction Year 1 Year 15	Very Low Very Low Very Low	No effect No effect No effect
Residential Receptors						
Receptor 15. - Residents at Croesfoel Court to the southeast	Medium	High	High	Construction Year 1 Year 15	Low Low Low	Minor adverse Minor adverse Minor adverse
Receptor 16. - Residents at modern residential development on the northern edge of Pentre Bychan to the south (at Packsaddle Bank) and Wrexham Road properties	Medium	High	High	Construction Year 1 Year 15	Low Low Very Low	Minor adverse Minor adverse Minor adverse
Business Receptor						
Receptor 17. - Persons at Dee Valley Waters on the northern edge of Pentre Bychan to the south	Medium	Low	Low	Construction Year 1 Year 15	Low Low Very Low	Minor adverse Minor adverse Minor adverse

Table 2: Summary of Visual Effects - Recreational/Road/Residential/Business Receptors

8. SUMMARY AND CONCLUSION

8.1 The proposed development would replace sloping grassland within a single field with energy storage development and a substation and would result in modifications to existing site topography to accommodate and minimise the impact of the proposed development, in particular the tallest built components in the substation in the north-western part of the development, including a 14m high GIS Hall.

8.2 The proposed development would be operational for 50 years. Built development would be removed and the site restored to agricultural land as part of the decommissioning of the proposed development.

Landscape Features

8.3 The proposed development would change the current land use from being grassland within a sloping field to an operational energy storage development including a substation, bound by a wooded dismantled railway embankment to the north and adjacent to the A483 to the east. The level of effect on site land use would be **major adverse**.

8.4 Grassland would be lost within the footprint of the proposed development, and grassland surrounding new built development would be seeded with a more species diverse wildflower mix. The level of effect on site grassland would be **moderate adverse**.

8.5 Landform and topography would change, as the terrain proposal includes lowering the ground across the footprint of the proposed substation compound and the creation of earth mounds to the west, south and east of the main development area . Man-made landform is evident in the sites context referring to the dismantled railway line embankment to the north, and the Bersham Colliery spoil tip to the southeast. The level of effect overall would be **moderate adverse** on site landform and topography.

8.6 The proposed attenuation pond would result in a **minor beneficial** level of effect on site water/drainage features.

8.7 Proposed woodland and hedgerow planting would result in a **moderate beneficial** level of effect on site hedgerow by Year 15.

8.8 The proposed development also includes a new footpath link along the northern edge of the proposed development providing a safe footpath link (avoiding part of the road network to the south and west) between the existing PRoW retained on its north south alignment through the eastern part of the proposed development, and Cadwgan Lane to the west. This footpath link also would enhance pedestrian access between Rhostyllen and Bersham Cricket Club.

Landsape Character

8.9 The proposed development would result in a noticeable change to the physical and perceptual attributes of the site. The wooded dismantled railway embankment would enclose the proposed development to the north and retained hedgerows and trees would, in part, provide a mature landscape framework for the proposed development, supplemented with additional woodland and tree planting proposed which would mature overtime.

8.10 During construction and at Year 1, there would be a high magnitude of change and a **major adverse** level of effect on landscape character within the site and in its immediate surroundings, where there is inter-visibility with the site. At Year 15, when proposed woodland is maturing, the level of effect would reduce to **major/moderate adverse**.

8.11 Effects upon landscape character arising from the proposed development would be temporary and reversible, and the proposed development would result in some long-term beneficial effects on landscape features as a result of proposed wildflower grassland, woodland, and hedgerow, which over time, (and in combination with proposed mounding) would provide some enclosure of the proposed development and reduce its influence on the surrounding landscape

8.12 The site is in the central part of the A483 and environs - Rhostyllen to Ruabon LANDMAP visual and sensory area (WRXHMVS038). The proposed development would result in a localised **moderate adverse** level of effect on a small part of the WRXHMVS038 visual and sensory area. The level of effect on this area overall would be **minor adverse**, as it a 'relatively urbanised' visual and sensory aspect area, where the A483 trunk road is dominant and the sensory perceptions include noise, constant activity and light pollution. Proposed planting would be both landscape mitigation and landscape enhancement, which would be beneficial in the long term for the landscape character of the site and its immediate surroundings.

8.13 The proposed development would be introduced into the northern part of LCA 7c, shown on Figure 8, influenced by the A483 and industrial development to the east and in the context of the prominent Bersham colliery spoil tip to the southeast. This LCA is described as a mixed rural and urban landscape.

8.14 The proposed development would introduce notable new development into a small part of the northern extent of this LCA but would not alter its key characteristics. Its influence on the wider LCA would be limited due to intervening vegetation and landform screening and other built development in this LCA. The proposed development would give rise to a **moderate adverse** level of effect within a localised part of this LCA and a **minor adverse** level of effect on this LCA overall.

Special Landscape Area

8.15 The proposed development would be introduced into a field within the eastern edge of the Ruabon Mountain Special Landscape Area (SLA), subject to Policy EC5 in the adopted Wrexham Council UDP. It is noted that the draft Wrexham LDP does not include this designation.

8.16 The Ruabon Mountain SLA encompasses farmland to the north, west and south of the site and beyond, and is defined to the east by the A483 Wrexham Road. This SLA encompasses three LANDMAP visual and sensory aspect areas.

8.17 The limited and muted colour palette of materials proposed would ensure that the proposed energy storage containers and substation components would not appear incongruous, and existing and proposed planting would assist in integrating the proposed development into the landscape.

8.18 The proposed development would result in a localised **moderate adverse** level of effect within a small part of this SLA and a **minor adverse** level of effect on this SLA overall.

8.19 Landscape proposals would be of a high standard, and proposed mitigation, including earth mounding and planting together with existing vegetation and the wooded dismantled railway embankment, would minimise the visual impact of the proposed development, on views from both nearby and distant viewpoints.

Clywdian Range and Dee Valley AONB and its Setting

8.20 The boundary of the Clwydian Range and Dee Valley AONB is approximately 1.8 km to the west of the site at its closest point.

8.21 There is limited inter-visibility between the Clwydian Range and Dee Valley AONB and the site due to distance and intervening screening, in particular screening by the wooded dismantled railway embankment along the northern boundary of the site. Panorama photography for viewpoints 8 and 9, provided at Appendix 2, shows the nature of footpath views from within the AONB towards the site.

8.22 The proposed development would occupy no greater than a very small part of the elevated, panoramic, far reaching view, in the context of Legacy substation, overhead power lines, and industrial development at Rhostyllen beyond the site. Woodland planting is proposed along

the western edge of the proposed development, which would provide additional tree screening of the proposed development in some AONB views as it matures over time. The proposed development would result in a **negligible** or **no effect** on public views from this designated landscape.

8.23 The proposed development would result in **no effec**t on the Clwydian Range and Dee Valley AONB landscape and its Special Qualities discussed in section 4.0 above.

8.24 SZTV mapping and viewpoint photography from viewpoints 8 and 9 on PRoW within the AONB, (shown on Figure 14 above), were provided to the AONB planning officer in September 2023 for consideration in advance of a planning submission. The AONB planning officer's response confirmed that *"Given the relative distances involved and the presence of intervening vegetation screening, in addition to the backdrop of the A483 and urban development within the settlement limit of Rhiostyllen the effects upon the AONB and its setting are negligible."*

Views

8.25 The site benefits from some physical and visual enclosure due to the wooded dismantled railway embankment to the north and existing roadside woodland along its boundaries to the east, southeast and northwest. Landform and/or roadside mature tree cover also restrict west towards the site from the A483 (in a cutting) and Rhostyllen.

8.26 Further to site visits in January and October 2023, it is considered that the SZTV over exaggerates theoretical visibility of the proposed development from the surrounding landscape. Roadside and field boundary hedgerow and trees; garden trees, hedgerow and shrubs; and the wooded railway corridor to the south, (not taken account of within the SZTV), further reduces visibility of the site, and the proposed development, in views from the surrounding landscape.

8.27 Persons most affected by the proposed development are those within the site and those adjacent or close to the site with open views towards and across the site.

8.28 During construction, there would be temporary adverse effects on additional receptors and/or impact (compared to those reported on during the operation of the proposed development) due to the installation of proposed cabling between the main development area and Legacy substation, and due to the temporary construction compound being introduced into close open views from the adjacent Bersham Cricket Ground; from the southern section of PRoW ESC/3 in the adjacent field; and in limited oblique road user views from the B5097 to the south and from Cadwgan Lane to the east.

8.29 The following receptors would experience the greatest magnitude of change (high) and a **major adverse** level of effect during temporary construction works:

- Persons on PRoW footpath ESC/3 to the west and on footpath ESC/1 running through the eastern part of the proposed development;
- Persons at Bersham Cricket Club;
- Persons on a short section of Cadwgan Lane along the western edge of the proposed development; and
- Persons on short sections of the B5097 along the southern edge of the proposed development.

8.30 At Year 1, the proposed development would result in a high magnitude of change and a **major adverse** level of effect on views experienced by persons at Bersham Cricket Club and by persons on short sections of Cadwgan Lane in the west and the B5097 along the southern edge of the proposed development.

8.31 At Year 15, when proposed woodland planting along the western and southern edges of the proposed development (predominantly on mounding) would be maturing, the level of effect on views experienced by persons at Bersham Cricket Club and on Cadwgan Lane would reduce to being **major/moderate adverse** and the localised effect on views from short sections of the B5097 along the southern edge of the proposed development would reduce to being **moderate adverse**, see Photomontage Viewpoints 3 and 4.

Conclusion

8.32 From a landscape and visual perspective, any notable effects on landscape character and visual amenity as a result of the proposed development would be localised and would be reduced by proposed mounding and woodland planting, which would provide increased filtering and screening of the proposed development overtime as planting matures.

9. REFERENCES

- Guidelines for Landscape and Visual Impact Assessment (GLVIA3), (2013) (Landscape Institute and the Institute for Environmental Management and Assessment).
- Clwydian Range and Dee Valley AONB Management Plan 2014-2019 (Joint AONB Committee).
- Part Two State of the AONB Report, AONB Management Plan 2014-2019 (Joint AONB Committee).
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- Bersham Conservation Area Assessment and Management Plan (December 2009) (Wrexham County Borough Council).
- Planning Policy Wales, Edition 11 (February 2021).
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- Wrexham Unitary Development Plan 1996-2011 (2005) (Wrexham County Borough Council).
- Local Planning Guidance (2003) (Wrexham County Borough Council).
- The Clwydian Range and Dee Valley Outstanding Natural Beauty Supplementary Planning Guidance Note (2018) (Denbighshire, Flintshire and Wrexham County Borough Council).
- Wrexham LANDMAP Supplementary Planning Guidance, (2007) (Wrexham County Borough Council).
- NLCA 13 Deeside and Wrexham (2014) (Natural Resources Wales).
- LANDMAP (Natural Resources Wales).

APPENDIX 1: ASSESSMENT CRITERIA

INTRODUCTION

This appendix presents the assessment criteria adopted for the appraisal of landscape and visual effects arising from the proposed development.

The primary source of best practice for LVA in the UK is The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3) (Landscape Institute and the Institute for Environmental Management and Assessment, 2013). The assessment criteria adopted to inform the appraisal of effects has been developed in accordance with the principles established in this best practice document. It should however be acknowledged that GLVIA3 establishes guidelines not a specific methodology. The preface to GLVIA3 states:

"This edition concentrates on principles and processes. It does not provide a detailed or formulaic 'recipe' that can be followed in every situation – it remains the responsibility of the professional to ensure that the approach and methodology adopted are appropriate to the task in hand."

The criteria set out below have therefore been specifically tailored for this appraisal to ensure that the methodology is appropriate and fit for purpose.

The purpose of an LVA when undertaken outside the context of an EIA is to identify and describe the relative level of any landscape and visual effects arising as a result of the proposals. As confirmed in GLVIA3 Statement of Clarification 1/13 (Landscape institute, 10th June 2013) an LVA for development which has been screened as not requiring EIA should avoid concluding whether the effects are significant or not and this is the approach adopted in this LVA.

An LVA must consider both:

- effects on the landscape as a resource in its own right (the landscape effects); and
- effects on specific views and visual amenity more generally (the visual effects).

Therefore, separate criteria are set out below for the assessment of landscape and visual effects.

NATURE (SENSITIVITY) OF LANDSCAPE FEATURES

The nature or sensitivity of an individual landscape feature or element reflects its susceptibility to change and its value. It is therefore a function of factors such as its quality, rarity, contribution to landscape character, degree to which the particular element can be replaced and cultural associations or designations that apply. A particular feature may be more 'sensitive' in one location than in another often as a result of local values associated with the feature or in relation to its function as a key or distinctive characteristic of that local landscape. Therefore it is not possible to simply place different types of landscape features into sensitivity bands. Where individual landscape features are affected, professional judgement is used as far as possible to give an objective evaluation of its sensitivity. Justification is given for this evaluation where necessary.

Both the susceptibility and value of individual landscape features has been described as very high, high, medium, low or very low. These are then combined in order to establish an overall nature or sensitivity of individual landscape features which has also been described as very high, high, medium, low or very low.

NATURE (SENSITIVITY) OF LANDSCAPE CHARACTER

Sensitivity of landscape character is also assessed through a consideration of both the susceptibility to a development of the type proposed and the value attached to the landscape. In the case of the potential for effects on landscape character, susceptibility means the ability to accommodate the proposed development without undue consequences for the existing characteristics of the site. What is meant by the value of the landscape in a Landscape and Visual Impact Assessment is the relative value that is attached to the landscape by society as a whole, bearing in mind that different stakeholders may have differing values regarding any given landscape. Paragraphs 5.20 and Box 5.1 of GVLIA set out a range of factors that can contribute to an understanding landscape value. Consideration of whether there are any formal landscape designations covering a landscape is one element of considering the value, but also relevant is the condition of the landscape, its rarity in the local area, the recreational value it provides, and any ecological or heritage importance the landscape may hold. These are considered alongside its perceptual qualities (such as tranquillity) and any associations which may be held with the landscape, such as if it has been highlighted in art, music or poetry. Further clarification on how to consider the matter of landscape value is set out in the Landscape Institute Technical Guidance Note (02/21) 'Assessing the Value of Landscapes Outside National Designations' .

In this appraisal, the nature or sensitivity of landscape character is considered with reference to published landscape character areas/types and where relevant local landscape units as defined in this LVA for the purposes of this study. Information regarding the key characteristics of these local character areas/units has been extrapolated from relevant published studies where possible and combined with observations from on-site appraisal. With judgments undertaken employing professional judgement.

Both the susceptibility and value of landscape character has been described as very high, high, medium, low or very low. These are then combined in order to establish an overall nature or sensitivity of landscape character which has also been described as very high, high, medium, low or very low.

NATURE (SENSITIVITY) OF VISUAL RECEPTORS

The nature or sensitivity of a visual receptor group also reflects their susceptibility to change and the value associated with the specific view in question. It varies depending on a number of factors such as the occupation of the viewer, their viewing expectations, duration of view and the angle or direction in which they would see the site. Whilst most views are valued by someone, certain viewpoints are particularly highly valued for either their cultural or historical associations and this can increase the sensitivity of the view. The following criteria are provided for guidance only and are not exclusive:

- Very Low Sensitivity – People engaged in industrial and commercial activities or military activities.
- Low Sensitivity - People at their place of work (e.g. offices); short - medium stay patients at hospital, shoppers; users of trunk/ major roads and passengers on commercial railway lines (except where these form part of a recognised and promoted scenic route).
- Medium Sensitivity - Users of public rights of way and minor roads which do not appear to be used primarily for recreational activities or the specific enjoyment of the landscape; recreational activities not specifically focused on the landscape (e.g. football); motel users.
- High Sensitivity – Residents at home; users of long distance or recreational trails and other sign posted walks; users of public rights of way and minor roads which appear to be used for recreational activities or the specific enjoyment of the landscape; users of caravan parks, campsites and 'destination' hotels; tourist attractions with opportunities for views of the landscape (but not specifically focused on a particular vista); slow paced recreational activities which derive part of their pleasure from an appreciation of setting (e.g. bowling, golf); allotments.
- Very High Sensitivity - People at recognised vantage points (often with interpretation boards), people at tourist attractions with a focus on a specific view, visitors to historic features/ estates where the setting is important to an appreciation and understanding of cultural value.

It is important to appreciate that it is the visual receptor (i.e. the person) that has a sensitivity and not a property, public right of way or road. Therefore, a large number of people may use a motorway for example but this does not increase the sensitivity of the receptors using it. Conversely, a residential property may only have one person living in it but this does not reduce the sensitivity of that one receptor. The number of receptors affected at any given location may be a planning consideration, but it does not alter the sensitivity of the receptor group.

Where judgements are made about the sensitivity of assessment viewpoints, the sensitivity rating provided is an evaluation of the sensitivity of the receptor group represented by the viewpoint and not a reflection of the number of people who may experience the view.

NATURE (MAGNITUDE) OF EFFECTS – GENERAL NOTE

The following discussion sets out the approach adopted in this LVA in relation to a specific issue arising in GLVIA3 which requires a brief explanation.

Prior to the publication of GLVIA3, LVA practice had evolved over time in tandem with most other environmental disciplines to consider significance principally as a function of two factors, namely: sensitivity of the receptor and magnitude of the effect (the term 'magnitude' being a word most commonly used in LVA and most other environmental disciplines to describe the size or scale of an effect).

Box 3.1 on page 37 of GLVIA3 references a 2011 publication by IEMA entitled 'The State of EIA Practice in the UK' which reiterates the importance of considering not just the scale or size of effect but other factors which combine to define the 'nature of the effect' including factors such as the probability of an effect occurring and the duration, reversibility and spatial extent of the effect.

The flow diagram on page 39 of GLVIA3 now suggests that the magnitude of effect is a function of three factors (the size/scale of the effect, the duration of the effect and the reversibility of the effect).

For clarification, the approach taken in this LVA has been to consider magnitude of effect solely as the scale or size of the effect in the traditional sense of the term 'magnitude'. Having identified the magnitude of effect as defined above the LVA also describes the duration and reversibility of the identified effect before drawing a conclusion on the overall level of effect taking all of these factors into account.

In the context of the above discussion the following criteria have been adopted to describe the magnitude of effects.

NATURE (MAGNITUDE) OF EFFECTS ON LANDSCAPE FEATURES

Professional judgement has been used as appropriate to determine the magnitude of direct physical effects on individual existing landscape features using the following criteria as guidance only:

- Very Low Magnitude of Change - No loss or alteration to existing landscape features;
- Low Magnitude of Change - Minor loss or alteration to part of an existing landscape feature;
- Medium Magnitude of Change - Some loss or alteration to part of an existing landscape feature;
- High Magnitude of Change - Major loss or major alteration to an existing landscape feature;
- Very High Magnitude of Change - Total loss or alteration to an existing landscape feature.

NATURE (MAGNITUDE) OF EFFECTS ON LANDSCAPE CHARACTER

The magnitude of effect on landscape character is influenced by a number of factors including: the extent to which existing landscape features are lost or altered, the introduction of new features and the resulting alteration to the physical and perceptual characteristics of the landscape. Professional judgement has been used as appropriate to determine the magnitude using the following criteria as guidance only. In doing so, it is recognised that usually the landscape components in the immediate surroundings have a much stronger influence on the sense of landscape character than distant features whilst acknowledging the fact that more distant features can have an influence on landscape character as well.

- Very Low Magnitude of Change - No notable loss or alteration to existing landscape features; no notable introduction of new features into the landscape; and negligible change to the key physical and/or perceptual attributes of the landscape.
- Low Magnitude of Change - Minor loss or alteration to existing landscape features; introduction of minor new features into the landscape; or minor alteration to the key physical and/or

- perceptual attributes of the landscape.
- Medium Magnitude of Change - Some notable loss or alteration to existing landscape features; introduction of some notable new features into the landscape; or some notable change to the key physical and/or perceptual attributes of the landscape.
- High Magnitude of Change - A major loss or alteration to existing landscape features; introduction of major new features into the landscape; or a major change to the key physical and/or perceptual attributes of the landscape.
- Very High Magnitude of Change – Total loss or alteration to existing landscape features; introduction of dominant new features into the landscape; a very major change to the key physical and/or perceptual attributes of the landscape.

NATURE (MAGNITUDE) OF EFFECTS ON VIEWS AND VISUAL AMENITY

Visual effects are caused by the introduction of new elements into the views of a landscape or the removal of elements from the existing view.

Professional judgement has been used to determine the magnitude of impacts using the following criteria as guidance only:

- Very Low Magnitude of Change - No change or negligible change in views;
- Low Magnitude of Change - Some change in the view that is not prominent but visible to some visual receptors;
- Medium Magnitude of Change - Some change in the view that is clearly notable in the view and forms an easily identifiable component in the view;
- High Magnitude of Change - A major change in the view that is highly prominent and has a strong influence on the overall view.
- Very High Magnitude of Change – A change in the view that has a dominating or overbearing influence on the overall view.

Using this set of criteria, determining levels of magnitude is primarily dependant on how prominent the development would be in the landscape, and what may be judged to flow from that prominence or otherwise.

For clarification, the use of the term 'prominent' relates to how noticeable the features of the development would be. This is affected by how close the viewpoint is to the development but not entirely dependent on this factor. Other modifying factors include: the focus of the view, visual screening and the nature and scale of other landscape features within the view. Rather than specifying crude bands of distance at which the proposed development would be dominant, prominent or incidental to the view etc, the prominence of the proposed development in each view is described in detail for each viewpoint taking all the relevant variables into consideration.

TYPE OF EFFECT

The assessment identifies effects which may be 'beneficial', 'adverse' or 'neutral'. Where effects are described as 'neutral' this is where the beneficial effects are deemed to balance the adverse effects.

DURATION OF EFFECT

For the purposes of this appraisal, the temporal nature of each effect is described as follows:

- Long Term – over 5 years
- Medium Term – between 1 and 5 years
- Short Term – under 1 year

REVERSIBILITY OF EFFECT

The LVA also describes the reversibility of each identified effect using the following terms:

- Permanent – effect is non reversible
- Non-permanent – effect is reversible

LEVEL OF EFFECT

The purpose of an LVA when produced outside the context of an EIA is to identify the relative level of effects on landscape and visual amenity arising from the proposed development. The judgements provided within the LVA may then inform the planning balance to be carried out by the determining authority.

In this LVA, the relative level of the identified landscape and visual effects has been determined by combining judgements regarding the sensitivity of the landscape or view, magnitude of change, duration of effect and the reversibility of the effect. The level of effect is described as Major, Major/Moderate, Moderate, Moderate/Minor or Minor. No Effect may also be recorded as appropriate where the effect is so negligible it is not even noteworthy. In determining the level of residual effects, all mitigation measures are taken into account

APPENDIX 2: PHOTOGRAPHIC RECORD

PEGASUS GROUP

Camera make & model	~ Canon EOS 6D Mark II
Lens make & focal length	~ Canon EF 50mm, f/1.4 USM
Date & time of photograph	~ 30/03/2023 @ 11:56
OS grid reference	~ 330657, 348212
Viewpoint height (AOD)	~ 106m
Distance from main development boundary	~ 320m
Projection	~ Cylindrical
Sheet Size	~ A1
Visualisation Type	~ Type 1
Horizontal Field of View	~ 90°
Height of camera AGL	~ 1.5m
Page size / Image size (mm)	~ 841 x 297 / 820 x 260

VIEWPOINT 1

From the middle section of PRoW footpath ESC/12 looking northwest to northeast towards the site.

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Camera make & model	- Canon EOS 5D Mark II	**Viewpoint height (AOD)**	- 112m	**Visualisation Type**	- Type 1
Lens make & focal length	- Canon EF 50mm, f/1.4 USM	**Distance from main development boundary**	- 150m	**Horizontal Field of View**	- 90˚
Date & time of photograph	- 26/01/2023 @ 12:30	**Projection**	- Cylindrical	**Height of camera AGL**	- 1.5m
OS grid reference	- 330418, 348289	**Sheet Size**	- A1	**Page size / Image size (mm)**	- 841 x 297 / 820 x 260

VIEWPOINT 2

From the middle section of PRoW footpath ESC/32 looking northeast towards the site.

PEGASUS GROUP

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:10
OS grid reference	- 330209, 348451

Viewpoint height (AOD)	- 120m
Distance from main development boundary	- 175m
Projection	- Cylindrical
Sheet Size	- A1

Visualisation Type	- Type 1
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 3

From the southern part of PRoW footpath ESC/3 looking northeast to southeast towards the site.

Camera make & model	~ Canon EOS 6D Mark II
Lens make & focal length	~ Canon EF 50mm, f/1.4 USM
Date & time of photograph	~ 30/03/2023 @ 12:21
OS grid reference	~ 330699, 348614

Viewpoint height (AOD)	~ 107m
Distance from main development boundary	~ 5m
Projection	~ Cylindrical
Sheet Size	~ A1

Visualisation Type	~ Type 1
Horizontal Field of View	~ 90°
Height of camera AGL	~ 1.5m
Page size / Image size (mm)	~ 841 x 297 / 820 x 260

VIEWPOINT 4A

From the B5097, at the existing site entrance, looking southwest to north towards the site.

PEGASUS GROUP

Camera make & model	~ Canon EOS 6D Mark II
Lens make & focal length	~ Canon EF 50mm, f/1.4 USM
Date & time of photograph	~ 30/03/2023 @ 12:21
OS grid reference	~ 330699, 348614

Viewpoint height (AOD)	~ 107m
Distance from main development boundary	~ 5m
Projection	~ Cylindrical
Sheet Size	~ A1

Visualisation Type	~ Type 1
Horizontal Field of View	~ 90°
Height of camera AGL	~ 1.5m
Page size / Image size (mm)	~ 841 x 297 / 820 x 260

VIEWPOINT 4B

From the B5097, at the existing site entrance, looking northwest to northeast across the site.

PEGASUS GROUP

Camera make & model	~ Canon EOS 6D Mark II
Lens make & focal length	~ Canon EF 50mm, f/1.4 USM
Date & time of photograph	~ 30/03/2023 @ 12:25
OS grid reference	~ 330750, 348671
Viewpoint height (AOD)	~ 107m
Distance from main development boundary	~ 0m
Projection	~ Cylindrical
Sheet Size	~ A1
Visualisation Type	~ Type 1
Horizontal Field of View	~ 90°
Height of camera AGL	~ 1.5m
Page size / Image size (mm)	~ 841 x 297 / 820 x 260

VIEWPOINT 5A

From the southern end of PRoW footpath ESC/1 looking westwards across the site.

PEGASUS GROUP

Camera make & model	~ Canon EOS 6D Mark II
Lens make & focal length	~ Canon EF 50mm, f/1.4 USM
Date & time of photograph	~ 30/03/2023 @ 12:25
OS grid reference	~ 330750, 348671
Viewpoint height (AOD)	~ 107m
Distance from main development boundary	~ 0m
Projection	~ Cylindrical
Sheet Size	~ A1
Visualisation Type	~ Type 1
Horizontal Field of View	~ 90°
Height of camera AGL	~ 1.5m
Page size / Image size (mm)	~ 841 x 297 / 820 x 260

VIEWPOINT 5B

From the southern end of PRoW footpath ESC/1 looking eastwards across the site.

PEGASUS GROUP

Camera make & model	~ Canon EOS 6D Mark II
Lens make & focal length	~ Canon EF 50mm, f/1.4 USM
Date & time of photograph	~ 30/03/2023 @ 12:31
OS grid reference	~ 330849, 348400
Viewpoint height (AOD)	~ 104m
Distance from main development boundary	~ 265m
Projection	~ Cylindrical
Sheet Size	~ A1
Visualisation Type	~ Type 1
Horizontal Field of View	~ 90°
Height of camera AGL	~ 1.5m
Page size / Image size (mm)	~ 841 x 297 / 820 x 260

VIEWPOINT 6

From the B5098, looking northwest to north towards the site.

PEGASUS GROUP

Camera make & model	~ Canon EOS 5D Mark II
Lens make & focal length	~ Canon EF 50mm, f/1.4 USM
Date & time of photograph	~ 26/01/2023 @ 13:58
OS grid reference	~ 330602, 347856

Viewpoint height (AOD)	~ 111m
Distance from main development boundary	~ 605m
Projection	~ Cylindrical
Sheet Size	~ A1

Visualisation Type	~ Type 1
Horizontal Field of View	~ 90°
Height of camera AGL	~ 1.5m
Page size / Image size (mm)	~ 841 x 297 / 820 x 260

VIEWPOINT 7

From PRoW footpath ESC/14, looking west to north towards the site

Site located beyond embankment trees, with industrial units beyond

Camera make & model	- Canon EOS 6D Mark II	Viewpoint height (AOD)	- 352m	Visualisation Type	- Type 1
Lens make & focal length	- Canon EF 50mm, f/1.4 USM	Distance from main development boundary	- 3540m	Horizontal Field of View	- 90°
Date & time of photograph	- 30/03/2023 @ 13:26	Projection	- Cylindrical	Height of camera AGL	- 1.5m
OS grid reference	- 326836, 349206	Sheet Size	- A1	Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 8

From PRoW footpath ESC/17A within the Clwydian Range and Dee Valley AONB, west of Fron-Dêg, looking southeast towards the site

PEGASUS GROUP

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:54
OS grid reference	- 327212, 350415

Viewpoint height (AOD)	- 330m
Distance from main development boundary	- 3595m
Projection	- Cylindrical
Sheet Size	- A1

Visualisation Type	- Type 1
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 9

From a PRoW footpath within the Clwydian Range and Dee Valley AONB, north of Brookfield Farm and south of New Brighton, looking southeast towards the site.

APPENDIX 3: PHOTOMONTAGE VIEWS FOR VIEWPOINTS 3, 4 AND 6.

PEGASUS GROUP

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:10
OS grid reference	- 330209, 348451

Viewpoint height (AOD)	- 120m
Distance from site	- 175m
Projection	- Cylindrical
Sheet Size	- A1

Visualisation Type	- Type 1
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 3 – EXISTING

From the southern part of PRoW footpath ESC/3 looking northeast to southeast towards the site

PEGASUS GROUP

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:10
OS grid reference	- 330209, 348451
Viewpoint height (AOD)	- 120m
Distance from site	- 175m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 3
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 3 - PHOTOMONTAGE (YEAR 1)

From the southern part of PRoW footpath ESC/3 looking northeast to southeast towards the site

PEGASUS GROUP

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:10
OS grid reference	- 330209, 348451
Viewpoint height (AOD)	- 120m
Distance from site	- 175m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 3
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 3 – PHOTOMONTAGE (YEAR 15)

From the southern part of PRoW footpath ESC/3 looking northeast to southeast towards the site

PEGASUS GROUP

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:21
OS grid reference	- 330699, 348614
Viewpoint height (AOD)	- 107m
Distance from site	- 5m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 1
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 4A – EXISTING

From the B5097, at the existing site entrance, looking southwest to north towards the site

PEGASUS GROUP

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:21
OS grid reference	- 330699, 348614

Viewpoint height (AOD)	- 107m
Distance from site	- 5m
Projection	- Cylindrical
Sheet Size	- A1

Visualisation Type	- Type 3
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 4A – PHOTOMONTAGE (YEAR 1)

From the B5097, at the existing site entrance, looking southwest to north towards the site

PEGASUS GROUP

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:21
OS grid reference	- 330699, 348614
Viewpoint height (AOD)	- 107m
Distance from site	- 5m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 3
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 4A – PHOTOMONTAGE (YEAR 15)

From the B5097, at the existing site entrance, looking southwest to north towards the site

PEGASUS GROUP

Camera make & model	~ Canon EOS 6D Mark II
Lens make & focal length	~ Canon EF 50mm, f/1.4 USM
Date & time of photograph	~ 30/03/2023 @ 12:21
OS grid reference	~ 330699, 348614
Viewpoint height (AOD)	~ 107m
Distance from site	~ 5m
Projection	~ Cylindrical
Sheet Size	~ A1
Visualisation Type	~ Type 1
Horizontal Field of View	~ 90°
Height of camera AGL	~ 1.5m
Page size / Image size (mm)	~ 841 x 297 / 820 x 260

VIEWPOINT 4B – EXISTING

From the B5097, at the existing site entrance, looking northwest to northeast across the site

PEGASUS GROUP

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:21
OS grid reference	- 330699, 348614
Viewpoint height (AOD)	- 107m
Distance from site	- 5m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 3
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 4B – PHOTOMONTAGE (YEAR 1)

From the B5097, at the existing site entrance, looking northwest to northeast across the site

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:21
OS grid reference	- 330699, 348614
Viewpoint height (AOD)	- 107m
Distance from site	- 5m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 3
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 4B – PHOTOMONTAGE (YEAR 15)

From the B5097, at the existing site entrance, looking northwest to northeast across the site

PEGASUS GROUP

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:231
OS grid reference	- 330849, 348400

Viewpoint height (AOD)	- 104m
Distance from site	- 265m
Projection	- Cylindrical
Sheet Size	- A1

Visualisation Type	- Type 1
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 6 – EXISTING

From the B5098, looking northwest to north towards the site

PEGASUS GROUP

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:231
OS grid reference	- 330849, 348400

Viewpoint height (AOD)	- 104m
Distance from site	- 265m
Projection	- Cylindrical
Sheet Size	- A1

Visualisation Type	- Type 3
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 6 – PHOTOMONTAGE (YEAR 1)

From the B5098, looking northwest to north towards the site

PEGASUS GROUP

Camera make & model	- Canon EOS 6D Mark II
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 30/03/2023 @ 12:231
OS grid reference	- 330849, 348400
Viewpoint height (AOD)	- 104m
Distance from site	- 265m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 3
Horizontal Field of View	- 90°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 6 – PHOTOMONTAGE (YEAR 15)

From the B5098, looking northwest to north towards the site

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