

Next Generation Data (NGD) - Data Centre 3

Landscape & Visual Appraisal

23rd October 2020



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Document history

Revision	Purpose description	Origin-ated	Checked	Reviewed	Authorised	Date
Rev P01	Draft for Planning	AB	WR	EW	WR	23.10.20

Client signoff

Client	NGD
Project	NGD Data Centre 3
Job number	5197938
Client signature / date	

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1. Landscape and Visual Appraisal

1.1. Introduction

The purpose of this assessment is to assess the likely effects on landscape and on visual amenity that may arise from the proposals of a new data centre building (the Scheme), for Next Generation Data (NGD) at Imperial Park, south west of Newport.

1.2. Methodology

The methodology used for this assessment is based on guidance contained in the 'Guidelines for Landscape and Visual Impact Assessment (Third Edition)' (GLVIA) published by the Landscape Institute and Institute of Environmental Management and Assessment April 2013 and Landscape Institute Technical Guidance Note: 'Visual Representation of Development Proposals'. As this development does not fall within Schedule 1 or 2 of the 2017 EIA Regulations, it does not require a formal Landscape and Visual Impact Assessment as part of a wider Environmental Statement. The Scheme mass and scale may have impacts on the local landscape and visual amenity and therefore a Landscape and Visual Appraisal has been undertaken to assess these.

In accordance with the above guidance this landscape and visual appraisal has been carried out as follows:

- **Gathering baseline information** – Comprising a description of existing 'baseline' conditions against which the proposed Scheme is assessed by way of a desk-based study and site survey work.
- **Identification of Potential landscape and visual effects** – Identification of possible effects deemed likely to occur, including whether they are adverse or beneficial.
- **Design mitigation measures** – Proposed design mitigation and/or enhancement measures appropriate to reduce, control or manage the identified effects.
- **Conclusions** – Including any recommendations that have been identified within the assessment process.

2. Scope of Assessment

2.1. Scheme Description

The Scheme is located in the south eastern corner of Imperial Park, on the western edge of Newport, east of Junction 28 of the M4 motorway and west of the River Usk. The site is a brownfield site located immediately to the southeast of the existing NGD data centre. The immediate landscape adjacent to the Scheme comprises a road network interlinking office and commercial buildings interspersed with urban fabric such as lighting columns, signage, fencing and overhead powerlines. A cluster of trees lines a proportion of the eastern boundary with a dense area of vegetation to the immediate south incorporating trees and shrubs, providing a substantial buffer between the Scheme and the wider landscape to the south.

The proposed development comprises a two-storey data centre building containing 10 data halls for the storage of data servers, support rooms and ancillary office space. The building will have a gross floor space of 25,500m². The building will be 19.6m in height, 142m in length and 100m wide. The proposals include 60 standby generators for use during a national grid failure, with 30 located along the north elevation of the

building and 30 along the south. 10 flues will extend 1m above the top of the building to 20.6m. Provision is made for 40 parking spaces, sustainable drainage and onsite landscape proposals. A 4m security fence with CCTV cameras will be installed to the site's perimeters. The highways access at the south-west corner will include a security kiosk and security gates.). Refer to Architects drawing **DC3-ATK-01-ZZ-DR-AR-012000** General Arrangement Elevations South and East for building height details.

The elements that have the potential to affect landscape and visual amenity to any measurable degree are the new data buildings due to their height and scale. For the purposes of this chapter, these elements comprise 'the Scheme' which is the subject of this appraisal.

2.2. Study Area

Through desk-based study and field work and the use of Zone of Theoretical Visibility (ZTV) mapping, it is considered that a 2.5km study area offset from the red line boundary, is appropriate in order to identify likely significant effects on landscape and visual amenity as a result of the proposals within this land parcel. It is considered that this is an appropriate distance to capture any significant effects. The factors that have influenced the extents of the study area are that all receptors beyond this 2.5km limit are scoped out of the assessment. This has been concluded after consideration of the following (as set out in GLVIA guidance):

- The topography of much of the surrounding areas;
- The presence of numerous intervening elements such as buildings and tree belts, which limit longer range views from areas around the proposed Scheme, especially those to the south;
- The nature of the proposals, (which share the inherent characteristics of the elements that comprise the immediately surrounding areas); and
- the scale and massing of the proposals, which are of a similar scale than many of the surrounding existing built elements.

At distances beyond 2.5km it is considered that, although the proposed Scheme and associated elements may be visible, they would be barely perceptible. Effects would therefore be of limited significance.

For this assessment a ZTV was obtained using GIS software using terrain height data for the area surrounding the proposed site. This is required for full coverage of the 2.5km study area with the use of a digital surface model for the ZTV mapping that takes into account landform and landcover, including built development and vegetation. Refer to **Figure 6** for ZTV plan.

2.3. Scope of Landscape Character Assessment

The landscape character of the study area has initially been assessed with reference to existing published landscape character assessments. The consideration of existing landscape character studies provides an independent view of the defining characteristics of the area. This was then followed by on site survey work to further refine the existing character area descriptions at the local, study area level. The following published assessments were studied:

- National Character Area NLCA34, Gwent Levels (Natural Resources Wales)
- National Character Area NLCA35. Cardiff, Barry and Newport (Natural Resources Wales)
- LANDMAP aspect areas (Natural Resources Wales)

2.4. Scope of Visual Assessment

Through desk based study, generation of ZTV mapping (refer to **Figure 6**) and summer site survey work, this has determined that the visibility of the site is limited in extent due to intervening mature vegetation, buildings and topography. The majority of locations where views of the site are available are restricted to short range views, thereby limiting the overall number of potential receptors. Medium range views are very limited in number due to the number of intervening elements. They generally occur only where the viewpoint is slightly elevated and there are breaks in vegetation. Long range views of the site are only available from lowland areas to the south east where there are breaks in vegetation and to the north east and north west, where viewpoints are elevated above existing nearby intervening vegetation.

There are residential, commercial, recreational and educational visual receptors in this area as well as users of Public Rights of Way (PRoW) and National Cycle Route 88 (refer to Figure 3 Landscape Constraints Plan). The largely flat topography, vegetation cover and numerous intervening elements, including large industrial buildings and residential properties to the south west of Imperial Park and south west edge of Newport means that there would be limited impacts on the visual amenity of receptors in the wider study area beyond these locations, therefore these areas have been scoped out from further consideration.

The closest visual receptors to the Scheme are workers, visitors and motorists on the road network within Imperial Park. Medium to longer distance visual receptors include isolated properties, cyclists and walkers to the north east, north west and south east. In line with GLVIA guidance these receptors are considered to have a high to low sensitivity to change of the type proposed, high sensitivity accounting for residential properties and recreational users, low sensitivity include workers and visitors at Imperial Park. This is due to the baseline visual amenity context and the nature of the receptors and the fact their focus would rarely be on the setting or surroundings due to the proximity to the Scheme whereas those in the residential and recreational areas experience a high focus on the proposals in a residential setting. Only limited parts of the study area would afford receptors views of the Scheme due to the built-up nature of the surroundings, flat topography and intervening vegetation cover which would further limit the possible magnitude of impact.

2.5. Desk Study

A desk study was carried out involving a review of published texts and maps and other available background information including GIS ZTV data. Analysis of this information contributes to an understanding of the site in terms of general landscape character and wider landscape context, special values and interests, local value, landform, location of public rights of way and the extent and type of vegetation and land use. This analysis also enables the identification of potentially important and sensitive receptors such as designated landscapes, users of public rights of way and residential properties.

2.5.1. Documentation used in the desk study comprised:

- Multi-Agency Geographic Information for the Countryside (MAGIC) web site
- 1:25 000 Scale Digital Ordnance Survey Maps
- Aerial Photography
- National Character Area Profiles, Natural Resources Wales
- Natural Resources Wales, LANDMAP interactive maps
- Historic Wales interactive maps – data supplied by CADW
- Newport City Council interactive maps
- Newport Local Development Plan 2011-2026 Proposals Map – West Jan 2015
- British Listed Buildings
- Zone of Theoretical Visibility mapping

3. Baseline

3.1. Landscape baseline

The following tables (**Table 1** and **Table 2**) provide baseline descriptions for Landscape Quality and Landscape Sensitivity used to inform the landscape baseline assessment in **section 3.1.6**.

Table 1 – Landscape Quality	
Quality	Description
Excellent	Includes areas that exhibit a strong positive character with valued and distinct features that combine to give the experience of unity, richness and harmony. These are landscapes that are considered to be of particular importance to conserve and which may be sensitive or very sensitive to change. Includes nationally recognised areas such as Areas of Outstanding Natural Beauty (AONB's).
Very Good	Includes areas with a strong landscape structure and a balanced combination of built development, landform and land cover including woodlands, trees, hedgerows and shrubs. Several landscape designations may apply including areas designated for their heritage or landscape value.
Good	Includes areas that exhibit positive character, but which may have evidence of the degradation or erosion of some features, resulting in areas of more mixed character including a balance of developments. There is a reasonable distribution of trees and shrub cover and the overall view of the area is pleasant. It is potentially sensitive to change. In general change may be detrimental if inappropriately dealt with but may require special or particular attention to detail. Landscape designations of cultural and historical value may be present.
Ordinary	Includes areas with a distinguishable structure often dominated by land use, such as primarily functional development. There are some detracting features although there is scope to improve through management of vegetation. Land may have a local landscape designation.
Poor	Includes areas generally negative in character with few if any valued features. Mixed land use dominates, and the lack of management or intervention has resulted in degradation. There are extensive or detracting features, although there is scope for positive enhancement. No landscape designations apply.

Table 2 - Landscape Sensitivity and Typical Examples	
Sensitivity	Description
High	<p>Landscapes which by nature of their character are unlikely to be able to accommodate change of the type proposed without a significant effect on this character and the landscape resource. Typically, these would be:</p> <ul style="list-style-type: none"> Of high quality with distinctive elements and features making a positive contribution to character and sense of place.

	<ul style="list-style-type: none"> • Likely to be designated, but the aspects that underpin such value may also be present outside designated areas, especially at the local scale. • Areas of special recognised value through use, perception or historic and cultural associations • Likely to contain features and elements that are rare and could not be replaced. • Unlikely to contain, or already be influenced by, existing features and elements similar to those associated with the proposed development.
Moderate	<p>Landscapes which by nature of their character may be able to partly accommodate change of the type proposed without a significant effect on this character and the landscape resource. Typically, these would be:</p> <ul style="list-style-type: none"> • Comprised of commonplace elements and features creating generally unremarkable character but with some sense of place. • Locally designated, or their value may be expressed through non-statutory local publications. • Containing some features of value through use, perception or historic and cultural associations. • Likely to contain some features and elements that could not be replaced. • Likely to contain, or already be influenced by, some existing features and elements similar to those associated with the proposed development.
Low	<p>Landscapes which by nature of their character are likely to be able to accommodate change of the type proposed without a significant effect on this character and the landscape resource. Typically, these would be:</p> <ul style="list-style-type: none"> • Comprised of some features and elements that are discordant, derelict or in decline, resulting in indistinct character with little sense of place. • Not designated. • Likely to contain few, if any, features of value through use, perception or historic and cultural associations. • Likely to contain few, if any, features and elements that could not be replaced. • Likely to contain, or already be influenced by, many existing features and elements similar to those associated with the proposed development.

The Historic Wales and British Listed Buildings interactive portal mapping identifies national historical designations in Wales. Within the study area it has been identified through the contributing organisation of Cadw that there are two Scheduled Ancient Monuments north of the M4 and a group of Listed Buildings associated with Tredegar House as well as a few scattered properties north and west of the M4. It has been assessed through desktop searches and conducting a summer site survey (winter survey to be undertaken during winter 2020) that the visual amenity and setting of these features will not experience impacts or effects due to the distance from the Scheme, topography and the relatively enclosed nature of these features with intervening vegetation and buildings screening the proposals from view.

Reviewing other published texts, online maps and interactive maps such as MAGIC (the MAGIC partnership organisations are Natural England, Defra, Environment Agency, Historic England, Forestry Commission and Marine Management Organisation), Natural Resources Wales and Newport City Council online mapping, including the Local Plan identifies national and regional designated sites of importance, including Gwent Levels St Brides Site of Special Scientific Interest (SSSI), approximately 350m south east, Wentloog Levels Special Landscape Area (SLA), approximately 450m south and Gwent Levels Landscape of Outstanding Historic

Interest (LOHI) approximately 450m south of the of the Scheme. For locations, refer to Figure 3 Landscape Constraints Plan.

The study area for the proposed data centre lies within regional landscape character areas (as surveyed and mapped by LANDMAP, Natural Resources Wales during 2018 & 2019) and National Character Areas NLCA34 Gwent Levels which covers the Scheme itself and spans north of the Scheme, also NLCA35 Cardiff, Barry and Newport, approximately 300m south of the Scheme (refer to Figure 4 for locations). The regional LANDMAP aspect areas that fall within the 2.5km study area are shown on Figure 5.

The study area contains part or all the following LANDMAP aspect areas:

- Visual-sensory: NWPRTVS 001, 002, 004, 019, 020, 021, 023, 038, 039, 040, 045, 046, 055 & 056.
- Cultural landscape: NWPRTCLS 001, 002, 005, 019, 026, 027, 028, 029, 031, 032, 052, 053, 054.062, 064, 073 & 074
- Landscape habitat: NWPRTLH 008, 040, 042, 043, 045, 046, 047, 049, 055 & 056.
- Historic landscape: NWPRTLH 001, 002, 003, 020 021, 024, 027, 028, 032, 036 & 038.
- Geological landscape: NWPRTGL 001, 002, 003, 034, 038, 039, 040, 041, 045, 046 & 052

The below identifies the key attributes for the landscape character aspects areas set out above. These relate to the landscape areas affected by the proposals.

3.1.1. Landcover, pattern and texture:

- Coastal Lowlands south of the M4 and lowland hills and valleys north of the M4.
- Primarily urban with commercial and business park development, retail and residential as well as an extensive network of busy roads, including part of the M4 corridor. These developments have been largely built on former parkland.
- Green wedges and corridors penetrate urban areas, woodland, pastures and hedgerows in open countryside. Medium scale irregular field pattern with some arable land north of the M4. Woodland tends to be small blocks and deciduous or mixed in character.
- The Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) of the tidal River Usk is an historically important transport waterway, and an ecological feature whose course meanders through an extensive flood plain as far as Caerleon.
- The Gwent Levels is a distinctive, flat, lowland landscape with a geometric patchwork of watercourses that run between fertile fields with little woodland cover.
- There are pockets of brownfield land that have a greener, more vegetated character as a result of self-colonisation, as well as some remnant tree belts along drainage ditches and some planted shelterbelts along access roads.
- Many fields north of M4 have thick hedges and several valleys containing species rich ancient woodland and species rich semi-improved neutral grasslands.

3.1.2. Scale and appearance:

- The large-scale nature of the development adjacent to the site gives this area a sense of place but these buildings are major detractors and disjointed.
- Nearby factory complex and white structures intended to house high-tech electronic manufacturing units. These are highly visible from across the Gwent Levels to the south.
- Residential, suburban areas and major retail, business and recreational facilities.

- Many views from the M4 to the north are framed by the steeply rising upland plateaux of the South Wales Valleys landscape. This evokes a strong sense of the proximity to upland landscapes, which stand dramatically above the gently rolling and often heavily settled landscapes that lie below.
- Away from the urban fringes, the levels have comparatively little settlement, with small nucleated and ribbon settlements linked by narrow roads.
- An exposed landscape in places within the Gwent Levels with long views to surrounding areas and to the Severn Estuary and Bristol Channel.
- Pylons stand out in the flat landscape, while disproportionately large modern factory units outside Newport are also visible for long distances, and main motorways and rail lines are heard.
- Suburban development has enlarged, and urban development has spread from the Newport area.
- Reens and drainage ditches within the Gwent Levels provide both interesting habitats in themselves, as well as important visual features in the landscape.

3.1.3. Tranquillity:

- The tranquillity of the landscape is limited by its use as a busy and active industrial, commercial and retail area and by the visual clutter of buildings and pylons.
- The M4 carries high volumes of traffic linking Cardiff and Newport with London and influences large tracts of land in terms of noise and visual intrusion with results in a lack of tranquillity.
- Rural pastures and woodlands north of the M4 and Gwent Levels wetlands south of the M4 provide contrasting peaceful green/wetland setting and is tranquil in parts away from the transport corridors.

3.1.4. Cultural:

- Newport expanded rapidly and changed from a small sea-port town to one of the most important places in the country for coal export and steel production during the 19th century Industrial Revolution. The town became known for its accessible modern docks.
- Substantial areas of rural landscape and traditional historic features remain within the Gwent Levels, including in many places the pattern reens, being ditches that manage the water between the fields. A very strong local distinctiveness and sense of place is characteristic of the Gwent Levels which has been evaluated as exhibiting an outstanding value.
- Medieval churches and farmsteads stand on the low horizons within the Gwent Levels; the characteristic pollarded willows stand in lines beside the reens, though they are ever decreasing.
- The Gwent Levels is on the register of landscapes of outstanding natural beauty. The overall value is evaluated as outstanding; however, it is severely compromised by encroaching development.
- Tredegar House (Grade I) and associated parkland is on the Register of Landscapes, Parks and Gardens of Special Historic Interest, and graded II*. This is evaluated as outstanding both as high-grade registered landscape and as a well-managed visitor attraction in an exceptional historic house.
- Tredegar Park historical setting consists of irregular fieldscape of large fields forming the essential setting to Tredegar House, the character area includes an area known as Cleppa Park, once a medieval manorial estate and deer park.

3.1.5. Human interaction:

- Interaction within the landscape is primarily by those working in the landscape at local industries and those undertaking recreational activities such as walking and cycling the public routes, shopping or visiting sites such as Tredegar House and Country Park. There are a few derelict and empty sites within the area.

3.1.6. Assessment of landscape baseline

Based on the above descriptions as set out in LANDMAP and using the criteria set out in **Table 1** at the start of this section, the landscape within the study area is judged overall to be of **good/ordinary** quality and condition. Some areas, for example within the immediate site extents, exhibit **poor** quality. These areas have few valued features and include detracting elements such as the industrial/commercial areas. LANDMAP survey and analysis confirms the landscape at time of survey to be of **moderate/high** landscape value based on the presence of the Gwent Levels and Tredegar House and the adjacent landscape setting, as well as the surrounding rural areas.

The landscape in which the site itself sits is judged to have a lower value and condition, based on the significant built environment within which it sits, with limited natural features. This is also taken into consideration when assessing the landscape sensitivity of the area (in accordance with landscape sensitivity criteria **Table 2**), with the site itself and immediate vicinity constituting a **low** landscape sensitivity due to the presence of frequent detracting features and few distinctive features.

The wider study area is judged to have a **moderate/high** landscape sensitivity with distinctive elements and areas of special recognised value such as the designated, SSSI, LOHI, SLA, Conservation Area and Tredegar Historic Park and Garden. Surrounding rural areas allow for a high quality landscape with distinctive elements and features making a positive contribution to character and sense of place.

When considering both the immediate site, of which the impacts will be most significant, and the high-quality wider landscape, the overall landscape sensitivity, based on the above baseline descriptions, is judged to be **moderate**.

3.2. Visual baseline

The following, **Table 3**, provides baseline descriptions for Visual Receptor Sensitivity, used to inform the visual baseline assessment of the representative viewpoints captured during the site survey.

Refer to **Figure 1** for location and extent of study area, **Figure 2** for photographic viewpoint sheets and **Figure 6** for Zone of Theoretical Visibility.

Table 3 - Visual Receptor Sensitivity	
Sensitivity	Typical Criteria
High	<ul style="list-style-type: none"> Residential properties Users of Public Rights of Way or other recreational trails (e.g. National Trails, footpaths, bridleways) and users of the network of minor lanes for recreational purposes Users of recreational facilities where the purpose of that recreation is enjoyment of the countryside (e.g. country parks, National Trust or other access land)
Moderate	<ul style="list-style-type: none"> Outdoor workers Users of scenic roads, railways or waterways or users of designated tourist routes. Schools and other institutional buildings and their outdoor areas

Table 3 - Visual Receptor Sensitivity	
Sensitivity	Typical Criteria
Low	<ul style="list-style-type: none"> Indoor workers Users of main roads (e.g. trunk roads) or passengers in public transport on main arterial routes Users of recreational facilities where the purpose of that recreation is not related to the view (e.g. sports facilities).

Viewpoint 1 – Short distance view from North Lake Drive on south west approach to the Scheme

This viewpoint represents motorists on Imperial Park with a **low** sensitivity to change, as defined in Visual Receptor Sensitivity criteria **Table 3**. The views outwards are dominated by commercial premises, including the existing Data Centre (DC1) with no vegetation cover and direct short distance views into the proposed site. The nearby M4 corridor, large industrial/retail units, buildings and urban fabric become dominant and detracting features of this part of the landscape, which strongly influence the visual amenity of these receptors. Due to the lack of intervening features, the proposals would be equally evident in the winter months.

Viewpoint 2 – Short distance view from approach to offices off Celtic Way approximately 250m south west of the Scheme

This viewpoint represents motorists, visitors and workers on Imperial Park with a **low** sensitivity to change, as defined in Visual Receptor Sensitivity criteria **Table 3**. The views outwards are dominated by commercial premises, including the existing Data Centre (DC1) with limited vegetation cover within view. The nearby M4 corridor, large industrial/retail units, buildings and urban fabric become dominant and detracting features of this part of the landscape, which strongly influence the visual amenity of these receptors. Due to the lack of vegetation cover, the proposals would be equally evident in the winter months.

Viewpoint 3 – Short distance view from footway to boundary of offices off Imperial Way approximately 50m north of the Scheme

This viewpoint represents motorists, visitors and workers with a **low** sensitivity to change, as defined in Visual Receptor Sensitivity criteria **Table 3**. The views outwards are dominated by commercial premises, including the existing Data Centre (DC1) with limited vegetation cover within view. The nearby M4 corridor, large industrial/retail units, buildings and urban fabric become dominant and detracting features of this part of the landscape, which strongly influence the visual amenity of these receptors. Due to the lack of vegetation cover, the proposals would be equally evident in the winter months.

Viewpoint 4 – Short distance view from footway to boundary of offices off South Lake Drive approximately 40m east of the Scheme

This viewpoint represents motorists, visitors and workers with a **low** sensitivity to change, as defined in Visual Receptor Sensitivity criteria **Table 3**. The views outwards are dominated by commercial premises, including the existing Data Centre (DC1) with an avenue of amenity tree planting within the foreground of the view lining the eastern boundary edge. The nearby M4 corridor, large industrial/retail units, buildings and urban fabric become dominant and detracting features of this part of the landscape, which strongly influence the visual amenity of

these receptors. There is potential for the proposals to be seen more clearly between intervening vegetation during winter months.

Viewpoint 5 – Long distance view from Fair Orchard Farm approximately 1.6km south east of the Scheme on Lighthouse Road within the Gwent Levels St Brides SSSI, Wentloog Levels SLA and Gwent Levels LOHI

This viewpoint represents residents with a **high** sensitivity to change, as defined in Visual Receptor Sensitivity criteria **Table 3**. Visual receptors in this area largely overlook flat, low lying farmland defined by reed filled reens and large overgrown hedgerows with trees which frequently provide local screening in the fore and mid ground. The visual amenity for receptors in this area is also strongly influenced by the tranquil rural landscape which is considered unique and distinctive to the area; however, the presence of urban and industrial areas is evident. Glimpses of the NGD Site are visible intermittently between intervening vegetation, with potential views from first and second floor windows of residential properties. The visual amenity of residents is dominated by the adjacent open and expansive wetlands to the south, although nearby urban elements such as large industrial/retail units, buildings and pylons become dominant and detracting features of this part of the Levels landscape. There is potential for the proposals to be seen more clearly between intervening vegetation during winter months

Viewpoint 6 – Long distance view from property approximately 1.7km south east of the Scheme on Lighthouse Road within the Gwent Levels St Brides SSSI, Wentloog Levels SLA and Gwent Levels LOHI

This viewpoint represents residents with a **high** sensitivity to change, as defined in Visual Receptor Sensitivity criteria **Table 3**. Visual receptors in this area largely overlook flat, low lying farmland defined by reed filled reens and large overgrown hedgerows with trees which frequently provide local screening in the fore and mid ground. The visual amenity for receptors in this area is also strongly influenced by the tranquil rural landscape which is considered unique and distinctive to the area; however, the presence of urban and industrial areas is evident. Glimpses of the NGD Site are visible intermittently between intervening vegetation, with potential views from first and second floor windows of residential properties. The visual amenity of residents is dominated by the adjacent open and expansive wetlands to the south, although nearby urban elements such as large industrial/retail units, buildings and pylons become dominant and detracting features of this part of the Levels landscape. There is potential for the proposals to be seen more clearly between intervening vegetation during winter months

Viewpoint 7 – View from National Cycle Route 88 and public access route approximately 0.8km south east of the Scheme within the Gwent Levels St Brides SSSI, Wentloog Levels SLA and Gwent Levels LOHI

Visual receptors in this area comprise users of National Cycle Route 88 and footpath users extending along the southern edge of new housing development and across open landscape. These receptors are judged to have a **high** sensitivity to change, as defined in Visual Receptor Sensitivity criteria **Table 3**. Visual receptors in this area largely overlook flat, low lying farmland defined by reed filled reens and large overgrown hedgerows with trees which frequently provide local screening in the fore and mid ground. The visual amenity for receptors in this area is also strongly influenced by the tranquil rural landscape which is considered unique and distinctive to the area; however, the presence of urban and industrial areas is evident. Glimpses of the NGD Site are visible intermittently between and above intervening vegetation. The visual amenity of recreational users is dominated by the adjacent open and expansive wetlands to the south, although as the route approaches Newport to the north west, nearby urban elements such as large industrial/retail units, buildings and pylons become dominant and detracting features of this part of the Levels landscape. There is potential for the proposals to be seen more clearly between intervening vegetation during winter months

Viewpoint 8 – Long distance view from property off Penylan Road approximately 2.3km north west of the Scheme

This viewpoint represents residential users with a **high** sensitivity to change, as defined in Visual Receptor Sensitivity criteria **Table 3**. The visual amenity is strongly influenced by rolling rural pastures and woodland providing a contrasting tranquil green setting compared to the busy industrial setting south of the M4 and A48. Long distance views are glimpsed of the large industrial/commercial buildings but barely detract from the rural setting. There is potential for the proposals to be increasingly evident in the winter months, but it is judged that due to the distance that this would not significantly alter from the summer view.

Viewpoint 9 – View from public access linking with Sirhowy Valley Walk Long Distance Path approximately 1.9km north east of the Scheme

This viewpoint represents walkers to the south western edge of Newport, as defined in Visual Receptor Sensitivity criteria **Table 3** these have a **high** sensitivity to change. The visual amenity is influenced by rolling rural pastures and woodland within a green wedge between the M4 to the west and Newport to the east providing a pocket of tranquillity when compared to the busy urban areas within Newport and south east of the M4 and A48. Long distance views are evident of the large industrial/commercial buildings south of the A48 and the A48 and M4 corridors which are detracting elements in the skyline in an area severely compromised by encroaching development. There is potential for the proposals to be seen more clearly between intervening vegetation during winter months.

4. Landscape and Visual Effects

As the scheme is being assessed with landscape enhancement proposals there is growth/maturing of planting to consider. At year 15 in comparison to the construction phase and year 1 the proposed planting would have matured and therefore lessen the effects of the proposals. Refer to drawing **DC3-ATK-XX-XX-DR-L-9100** for Landscape Proposals.

The criteria used in this study to assess the magnitude of potential landscape and visual effects is outlined below in **Table 4**. Effects have been rated as one of four levels of severity; major, moderate, minor and no change. Additionally, the nature of these effects has been defined as adverse (negative) or beneficial (positive).

Table 4 - Magnitude Criteria of Potential Landscape and Visual Effects	
Significance	Description
Major adverse	<p>The proposed development is likely to:</p> <ul style="list-style-type: none"> • Result in the total loss or large-scale damage to existing character or distinctive features and elements, • Cause the addition of new and uncharacteristic conspicuous features and elements. • Be at complete variance with the character of the existing landscape; • Damage a sense of place or cause a sense of place to be lost; • Cause a substantial and noticeable deterioration in the existing view; and/or • Obstruct an existing view of the local landscape and potentially dominate future views of the landscape

Table 4 - Magnitude Criteria of Potential Landscape and Visual Effects

Significance	Description
Moderate adverse	<p>The proposed development is likely to:</p> <ul style="list-style-type: none"> • Result in the partial loss or noticeable damage to existing character or distinctive elements, • The addition of new and uncharacteristic noticeable features and elements. • Diminish a sense of place; and/or • Cause a noticeable deterioration in the existing view.
Minor adverse	<p>The proposed development is likely to:</p> <ul style="list-style-type: none"> • Lead to the slight loss or damage to existing character or features and elements, • The addition of partially noticeable new and uncharacteristic features and elements. • Barely noticeable loss or damage to existing character or features and elements, • Detract from a sense of place; and • Cause a barely perceptible deterioration in the existing view. <i>(This may occur when the receptor is at distance and development partially appears in the view or at the extremity of the overall view. It may also occur where the viewpoint is close to the development but is seen at an acute angle).</i>
No change	<p>The proposed development is likely to:</p> <ul style="list-style-type: none"> • Have no noticeable loss, damage or alteration to existing character, features or elements. • Maintain the existing character of the landscape, • Blend in with existing characteristic features and elements, • Retain a sense of place; and/or • Not result in either a discernible improvement or deterioration in the existing view.
Minor beneficial	<p>The proposed development is likely to:</p> <ul style="list-style-type: none"> • Cause slight/ barely noticeable improvement of character by the restoration of existing elements, • Remove uncharacteristic features/elements, or the addition of new characteristic features, • Maintain or enhance characteristic features and elements, • Restore some sense of place, and/or • Cause a barely perceptible improvement in the existing view, <i>(This may occur when the receptor is at distance and development partially appears in the view or at the extremity of the overall view. It may also occur where the viewpoint is close to the development but is seen at an acute angle).</i>

Table 4 - Magnitude Criteria of Potential Landscape and Visual Effects

Significance	Description
Moderate beneficial	<p>The proposed development is likely to:</p> <ul style="list-style-type: none"> • Bring about the partial or noticeable improvement of character by the restoration of elements, • The removal of uncharacteristic and noticeable features and elements, or by the addition of new. • Enable the restoration of characteristic features and elements partially lost or diminished, • Restore a sense of place; and/or • Cause a noticeable improvement in the existing view.
Major beneficial	<p>The proposed development is likely to:</p> <ul style="list-style-type: none"> • Bring about large-scale improvement/ enhancement of character by the restoration of elements, • The removal of uncharacteristic elements, or the addition of new distinctive features, • Create a sense of place or greatly enhance existing, • Bring about a very noticeable improvement in the existing view; and/or • Create new beneficial views of the landscape.

4.1. Landscape Effects

The landscape effects have been assessed against the existing landscape features within the site as well as the regional (LANDMAP) and National Character Areas (NCAs) within the study area.

4.1.1. Construction Effects on landscape

Construction activity that has the potential to give rise to landscape effects during the construction phase would involve:

- Clearance of existing spoil heaps and redundant built elements;
- Clearance of vegetation across brownfield areas;
- Alteration of the ground levels to allow suitable access and accommodate a sustainable urban drainage scheme whilst mitigating against flood risk;
- Construction of new steel framed, steel clad buildings; and
- Installation of new areas of hardstanding and access roads.

All the above would involve the use of large plant and machinery, including large cranes.

Potential effects on land cover/land use patterns/urban structure: The construction activity would create new features of a similar scale, massing and layout to the baseline landscape. There would be some loss of vegetation, mainly of brownfield, self-colonised habitats and species, on previously developed land, which has resulted in areas of scattered and dense scrub. Refer to the **Ecological Report 'Data Centre Three, Newport, Ecological Impact Assessment, October 2020'** for effects on habitats and biodiversity.

Potential effects on cultural and historic associations: Construction activity would not detract from the historic/cultural associations of Tredegar House (approximately 400m north east of the Scheme) and features associated within the SSSI (approximately 350m south east) & LOHI (approximately 450m south of the Scheme) due to flat topography, intervening buildings and vegetation cover. Refer to **Figure 3** for locations.

Potential effects on human perception – tranquillity and human interaction: Construction activity would add to the existing visual clutter of the area with cranes, plant and other features combining with existing pylons and industrial buildings to intensify the perception of industrial activity. However, due to the scale of the works, the elements and activities would coalesce with the existing surroundings with no appreciable effect on how the area is perceived.

It is considered that the construction phase of the proposals would result in “slight loss or damage to existing character or features and elements,” (as set out in magnitude criteria **Table 4**) to areas in close/medium proximity to the Scheme. As a result, there would be a minor change to the essential characteristics of the landscape character areas identified. Overall, this landscape would experience a **minor adverse** magnitude of effect.

4.1.2. Operational Effects on landscape

Operational elements that have the potential to give rise to landscape and visual effects comprise:

- Two-storey data centre building containing 10 data halls for the storage of data servers, support rooms and ancillary office space with external generators and associated smaller buildings with a footprint of approximately 16000m²;
- Areas of hardstanding and boundary fencing associated with these buildings along with infrastructure such as vehicle airlock systems, lighting, CCTV and signage;
- Mixture of building mounted luminaires and some lighting columns near car parking spaces. Final details to be confirmed (refer to drawing **DC3-ATK-ZZ-ZZ-DR-EE-641001** for initial external lighting proposals.
- Vehicle movements, including articulated lorries and cranes, associated with the day to day operation of the businesses within the buildings. Potential effects on landform/drainage patterns/urban form/street pattern: The built elements and operational activities would generally reflect the existing landform, urban form and street pattern of the surrounding area. The density of built form across the areas to be developed would be increased compared to the baseline, but this would be wholly in keeping with the overall character of this landscape.
- Improvements to the site would be through incorporating a SuD’s strategy to manage the surface water runoff within the site which would provide beneficial effects, including amenity value. This will improve the current condition of the site.

Potential effects on land cover/land use patterns/urban structure: there would be some loss of vegetation across the development areas, with other vegetation that has emerged due to colonisation of brownfield sites, this landcover type is characteristic of the immediate landscape but not with the wider landscape and the built form that would replace it would reflect the land-use patterns and urban structure of the surrounding commercial areas. Replacement planting would be proposed and incorporated into the SuD’s scheme which would help compensate for loss of vegetation of similar characteristics of the study area which would be an improvement to the existing condition.

Potential effects on cultural and historic associations: Neither the setting of Tredegar House or Tredegar Park and features associated with the SSSI, SLA & LOHI would change to any noticeable degree as a result of the proposals. The surroundings would comprise the same range of elements with the same overall character. The proposed SuD’s scheme would incorporate drainage features with species that would be characteristic of the cultural features represented with the reens within the Gwent Levels.

Potential effects on perception– tranquillity and human interaction: The proposed development reflect the scale, layout, use and appearance of the surrounding areas and as such the area would continue to be perceived as a busy, urban, predominantly commercial area.

It is considered that the operational phase of the proposals at year 1 of opening would result in **minor adverse** magnitude of effect with “slight loss or damage to existing character or features and elements” and at year 15 once planting has matured and the site has become coherent with the area there would be “no noticeable loss, damage or alteration to existing character, features or elements” and would in some cases enhance characteristic features by restoring existing elements and land use of the site (as set out in **Table 4**). As a result, there would be some **minor beneficial** effects but overall, the landscape character would experience **no change** as a result of the proposals.

4.2. Visual Effects

As identified in the Scope of Assessment and Baseline section above, the proposals have the potential to affect the visual amenity of receptors in the immediate vicinity and few longer distant areas within the study area:

Receptors within close proximity to the proposals, including motorists, visitors and workers within Imperial Park adjacent to the site, have the potential to be affected by the proposals due to the proximity with direct views towards the site.

Visitors and workers at Imperial Park are considered to be low sensitivity receptors due to the nature of their use. Other nearby residential receptors would likely have no views of the scheme due to a combination of distance and intervening vegetation and buildings. The low-lying nature of the landscape means there are no elevated NGD points and therefore even relatively low tree belts and hedges provide an effective screen.

Receptors within 1km of the proposals would experience glimpsed views, these include cyclists and walker’s user the National Cycle Route 88 and public access route. These receptors do not have the potential to be affected by the proposals as distance and intervening elements would screen out much of the views from these receptors, who are considered to have a high sensitivity to change due to the nature of their use.

Walkers and residential properties in the wider study area on higher ground to the north east, north west and south east would have a high sensitivity to change, however these would view the proposals as a distant feature which would not detract away from the visual amenity of these locations and would be seen in context with the existing industrial/commercial buildings close to the site.

Cumulative visual effects include the Allocated future employment (EMI(i)) and Major Road Scheme (SP16(i)) as shown on the Newport Local Development Plan 2011-2026 Proposals Map West, Jan 2015. It is considered that these proposals would result in increased adverse visual effects and therefore lessen the overall impact of the proposals. Locations shown on **Figure 3** Landscape Constraints Plan.

Receptors in the immediate vicinity of the scheme (Viewpoints 1-4)

4.2.1. Construction Effects

Visitors and workers within Imperial Park accessing places of work off North Lake Drive, Celtic Way and Imperial Way have open views of the construction areas for the development. Construction phase elements would be visible across the urban fabric of this area. However, existing intervening vegetation cover along the eastern boundary of the Scheme and to the boundaries of some offices would provide some degree of screening. Additionally, these construction elements would be seen in the context of surrounding buildings and urban fabric. It is considered that the change from the baseline visual amenity would be noticeable due to the distances involved and the nature of the construction elements that would be introduced into the area. It is

therefore considered that there would be a **moderate adverse** effect during the construction phase for affected visual receptors in these areas.

4.2.2. Operational Effects

There would be views of the proposed buildings from these receptors due to the proximity, however the change from the baseline visual amenity would only be slightly more noticeable due to the existing industrial/urban context of the area. The proposed planting/ATK enhancements including proposed wildflowers grassland, bulbs, ornamental shrubs, native shrubs and trees would provide both ecological and amenity value whilst providing some visual screening for a proportion of the building in addition to the retention of the existing trees along the eastern boundary. It is considered that the operational phase of the proposals at year 1 of opening would result in “slight loss or damage to existing character or features and elements” and at year 15 once planting has matured and when judged against the existing condition of the site, one of incoherence compared to the proposals which will offer some beneficial effects, it is considered that there would be **no change** during operation.

Receptors within 1km of the scheme (Viewpoint 7)

4.2.3. Construction Effects

Users of National Cycle Route 88 and public access route would experience glimpsed views of the construction elements of the Scheme. Views would be sporadic between intervening vegetation and buildings. The construction elements that would be visible only form a part of the overall Scheme. It is considered that the change from the baseline visual amenity would be barely noticeable due to the distances involved, intervening elements and the urban context of the surrounding areas. Only a limited proportion of these receptors in this location would experience any effects and those that do would only have views of the proposed building elements. It is therefore considered that there would be a **minor adverse** effect during the construction phase for affected visual receptors in this area.

4.2.4. Operational Effects

Impacts and effects during the operational phase would be broadly similar to those described in the above paragraph, however with less construction elements in view. The new building would be slightly visible but would not alter the visual amenity available to these receptors as the cyclists and walkers move along these routes. The addition of new built elements into the views available would be barely noticeable in the context of the surrounding industrial/commercial areas. It is therefore considered that with views of the building elements only from these locations there would be **no change** during the operational phase at year 1 and 15 for affected visual receptors in these areas.

Receptors within 2.5km of the scheme (Viewpoints 5,6,8 & 9)

4.2.5. Construction Effects

Receptors at these distances of more than 1km, including; the property off Penylan Road north west of the Scheme and footpath users from public access off Sirhowy Valley Walk which passes along the south west edge of Newport between 90-100m AOD are considered to have views but at a distance involved that it is considered the construction elements would coalesce into the wide, panoramic views that are available from these locations. The scheme, or a part of it, would cause a “barely perceptible deterioration in the existing view” and as a result the magnitude of effect is **minor adverse**.

4.2.6. Operational Effects

Impacts and effects during the operational phase would be broadly similar to those described in the above paragraph, however with less construction elements in view. The new buildings would be visible but would not alter the visual amenity available to these receptors, especially for footpath users as they move along this route. The addition of new built elements into the views available would be barely noticeable in the context of

the surrounding industrial/commercial areas. It is therefore considered that there would be **no change** during the operational phase at year 1 and 15 for affected visual receptors in this area.

5. Mitigation

5.1. Primary during the Construction Phase

There is limited potential to reduce the effects on the landscape and visual amenity of the study area during the construction phase. The effect of dust and noise impacts will be reduced by the adoption of 'best practice' construction techniques.

Landscape and visual impacts resulting from the construction activities on the site and associated plant and equipment are difficult to mitigate against, but any resultant adverse effects are temporary and reversible, and the phased construction period would reduce the scale of construction activities.

5.2. Primary Mitigation

The design proposals have considered primary mitigation through layout, location and design of the Scheme and associated infrastructure and access. This includes:

- The height of the new building has been considered in relation to their scale against the existing data hall facility and will be no higher than the existing facilities (at around 19.6m high plus 1m flues to the roof totalling 20.6m) and consisting of 2 storeys.
- The data hall building will have an external appearance similar to the existing and recently consented data centre buildings and would be compatible with the general industrial vernacular of this area which is predominantly made up of proprietary coated metal cladding panel systems in various muted colours.
- The type and location of external lighting to be specified to minimise light spill and glare but aid a safe and secure environment for staff and visitors. Final lighting details to be confirmed.

5.3. Secondary Mitigation

- Retention, protection and enhancement of the existing trees along the eastern boundary which provide some screening to the east whilst also providing amenity value.
- Where appropriate and in keeping with the character of the immediately surrounding landscape, use clusters of trees and shrubs to help screen and soften particularly detracting elements and/or reduce the magnitude of impact for sensitive receptors who may otherwise experience important adverse visual effects including those receptors that are in closest proximity to the site.
- Mitigation planting to provide amenity value and landscape integration, therefore the planting should focus on an appropriate mix of species local to the area.
- Species chosen to reflect the local character of the immediate site and wider character area.
- A mix of native plants to be selected and planted in areas to enable landscape integration and aid amenity value.
- A SuD's strategy for the Scheme will incorporate swales, rain gardens and a detention basin with permeable paving to manage the surface water runoff on the site whilst incorporating amenity and biodiversity value. These elements will also reflect some elements of the distinctive drainage ditches which form part of the character of the Gwent Levels.

- Any stripped topsoil and subsoil shall be stored in such a way that it is not damaged during the construction process and can be reinstated close to its original location – a soil management plan will be prepared prior to works commencing.
- Where space permits, localised mounding to be provided to plant trees to further help screen detracting elements and help reduce visual effects of Scheme.

Refer to drawing **DC3-ATK-XX-XX-DR-L-9100** for details of the landscape proposals.

6. Limitations

The visual assessment has been undertaken from publicly accessible viewpoints. No direct access has been sought to private land such as residential properties or private business premises. To ensure a robust assessment, the following measures have been undertaken to accommodate this limitation;

- Use of a digital surface model for the ZTV mapping that takes into account landform and landcover, including built development and vegetation;
- Use of OS base maps and aerial photography to determine where the straight line of sight may be available to the proposed Scheme, considering topography and large intervening feature such as woodland and buildings;
- Site surveys to verify the ZTV and to assess the views available from footpaths, local roads, open space and land with public access that are near to private areas;
- The use of inter-visibility studies. The location of the proposed Scheme was walked and an assessment of visual receptor locations visible was undertaken. Where buildings were visible, the quantity and orientation of visible windows was noted.

This process illustrates which visual receptors would in turn have views back towards the proposed Scheme and the proportion of the building/route/area that is likely to be affected. Refer to the Ecological Report 'Data Centre Three, Newport, Ecological Impact Assessment, October 2020' for further details on predicted effects on vegetation and habitats.

7. Recommendations

Planting proposals will aim to focus primarily on mitigation measures to help screen the proposals and provide amenity value for SuDs requirements, however species recommended to be chosen to reflect the local area to retain and improve biodiversity value.

8. Conclusion

The Scheme comprises elements of a scale, layout and massing that are in keeping with the surrounding built form of the area with some increase in detracting elements during the construction period. Although the Scheme introduces new elements and removes some existing elements (such as spoil heaps and self-colonised vegetation) the essential components that define the overall character of the area would not noticeably change. As a result of the proposed planting strategy as part of the SuD's scheme, including the water management on the site and mitigation proposals, this would result in beneficial effects on the landscape character and landcover of the site itself when considered against the existing condition. When judging the effects of the new buildings within the wider landscape against the proposed landscape planting, it is concluded that the impacts on the landscape character would have a **minor** significance of effect during construction and at year 1 of opening then reduced to **no change** during operation at year 15.

The Scheme comprises elements of a scale, layout and massing that would be viewed in the context of numerous existing features of this type within the view available, both during the construction and operational phases in addition to the consideration of allocated future development. The changes to the visual amenity baseline would be barely noticeable with the exception of those places of work, motorists and visitors adjacent to the site within Imperial Park, who have low sensitivity would experience a highly noticeable visual disturbance resulting in a minor significance of effect during construction. However, retention of the existing trees to the east of the site and dense vegetation cover to the immediate south along with landscape enhancement including tree and shrub planting and other landscaped elements would result in an improvement to the current condition. Visual receptors moving through the area would only have views of the Scheme for a limited part of their journey. There is potential for views of the Scheme from first floor windows of residents in close proximity to the Scheme to the east and south east who have a high sensitivity to change, however these are not publicly accessible and therefore not accounted for within this assessment. It is therefore concluded that when taking into consideration the baseline condition and landscape and visual criteria used for assessing the landscape and visual magnitude of effects that the overall magnitude of effect for landscape visual effects would be **minor adverse** during construction and year 1 of opening then reduced to **no change** during operation at year 15.

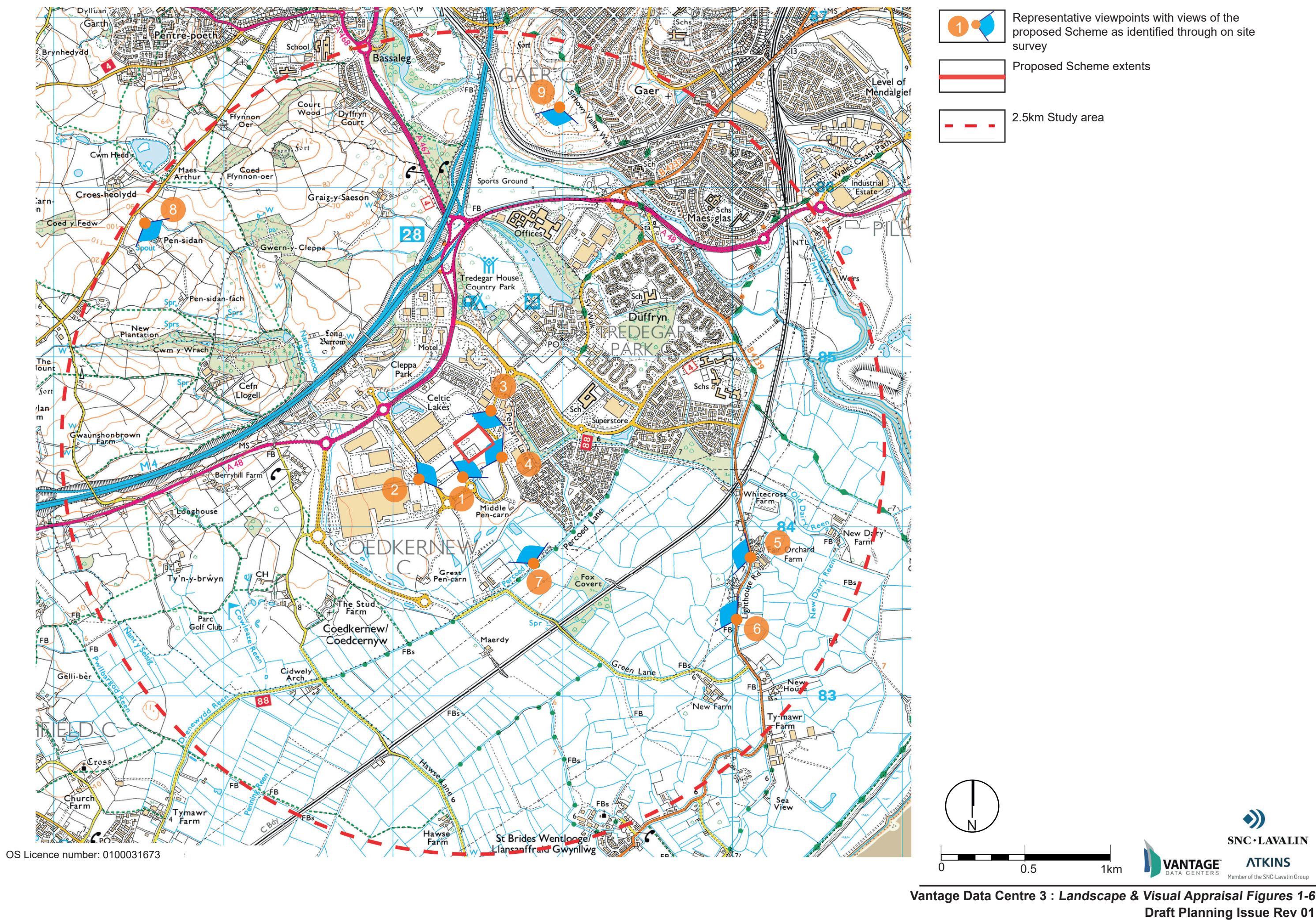
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Figure 1 - Viewpoint Location Plan
Sheet 1 of 1





Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
1	North Lake Drive	Motorist	Type 1	Summer	Planar	10/09/2020	Nikon D5100	50mm	40	North East	Latitude - 51; 33; 14" Longitude - "3; 21; 1"



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
1	North Lake Drive	Motorists, visitors + workers	Type 1	Summer	Cylindrical	10/09/2020	Nikon D5100	50mm	40	North East	Latitude - 51; 33; 14" Longitude - 3; 21; 1"



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
2	Celtic Way	Motorists, visitors and workers	Type 1	Summer	Planar	10.09.20	Nikon D5100	50mm	40	North East	Latitude: 51; 33; 10 Longitude: 3; 2; 13



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
2	Celtic Way	Motorist	Type 1	Summer	Cylindrical	10.09.20	Nikon D5100	50mm	40	North East	Latitude: 51.33.10 Longitude: 3.2.13



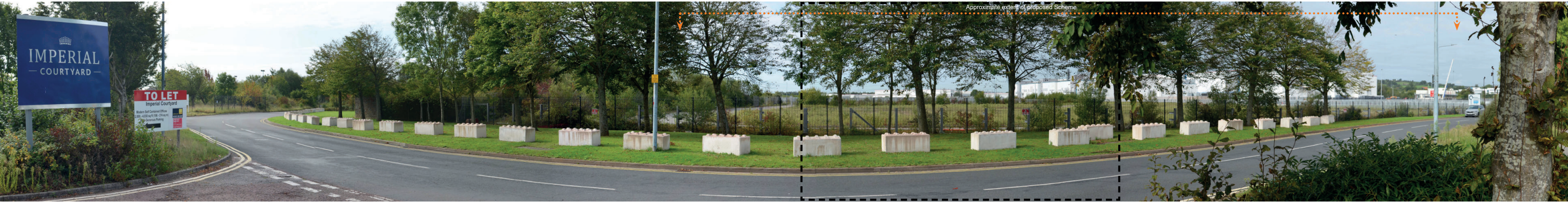
Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
3	Imperial Way	Motorists, visitors and workers	Type 1	Summer	Planar	10.09.20	Nikon D5100	50mm	40	South West	Latitude: 51; 33; 23 Longitude: 3; 1; 56



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
3	Imperial Way	Motorists, visitors and workers	Type 1	Summer	Planar	10.09.20	Nikon D5100	50mm	40	North	Latitude: 51; 33; 23 Longitude: 3; 1; 56



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
4	South Lake Drive	Motorists, visitors and workers	Type 1	Summer	Planar	10.09.20	Nikon D5100	50mm	40	South	Latitude: 51; 33; 19 Longitude: 3; 1; 52



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
4	South Lake Drive	Motorists, visitors and workers	Type 1	Summer	Cylindrical	10.09.20	Nikon D5100	50mm	40	West	Latitude: 51; 33; 19 Longitude: -3; 1; 52



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
5	Fair Orchard Farm	Residential	Type 1	Summer	Planar	10.09.20	Nikon D5100	50mm	40	North West	Latitude: 51; 32; 56 Longitude: 3; 0; 33



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
5	Fair Orchard Farm	Residential	Type 1	Summer	Cylindrical	10.09.20	Nikon D5100	50mm	40	North West	Latitude: 51; 32; 56 Longitude: 3; 0; 33



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
6	Properties on Light-house Road	Residential	Type 1	Summer	Planar	10.09.20	Nikon D5100	50mm	40	North West	Latitude: 51; 32; 46 Longitude: 3; 0; 37



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
6	Lighthouse Road	Residential	Type 1	Summer	Cylindrical	10.09.20	Nikon D5100	50mm	40	North West	Latitude: 51; 32; 40 Longitude: 3; 0; 37



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
7	National Cycle Route 88	Recreational users (cyclists and footpath users)	Type 1	Summer	Planar	10.09.20	Nikon D5100	50mmer	40	North West	Latitude: 51; 32; 46 Longitude: 3; 1; 58



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
7	National Cycle Route 88	Recreational users (cyclists and footpath users)	Type 1	Summer	Cylindrical	10.09.20	Nikon D5100	50mm	40	North West	Latitude: 51; 32; 46 Longitude: -3; 1; 59



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
8	Property off Penylan Road	Residential	Type 1	Summer	Planar	10.09.20	Nikon D5100	50mm	40	South East	Latitude: 51; 33; 59 Longitude: 3; 3; 41



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
8	Property off Penylan Road	Residential	Type 1	Summer	Cylindrical	10.09.20	Nikon D5100	50mm	40	South East	Latitude: 51.33.59 Longitude: 3.3.41

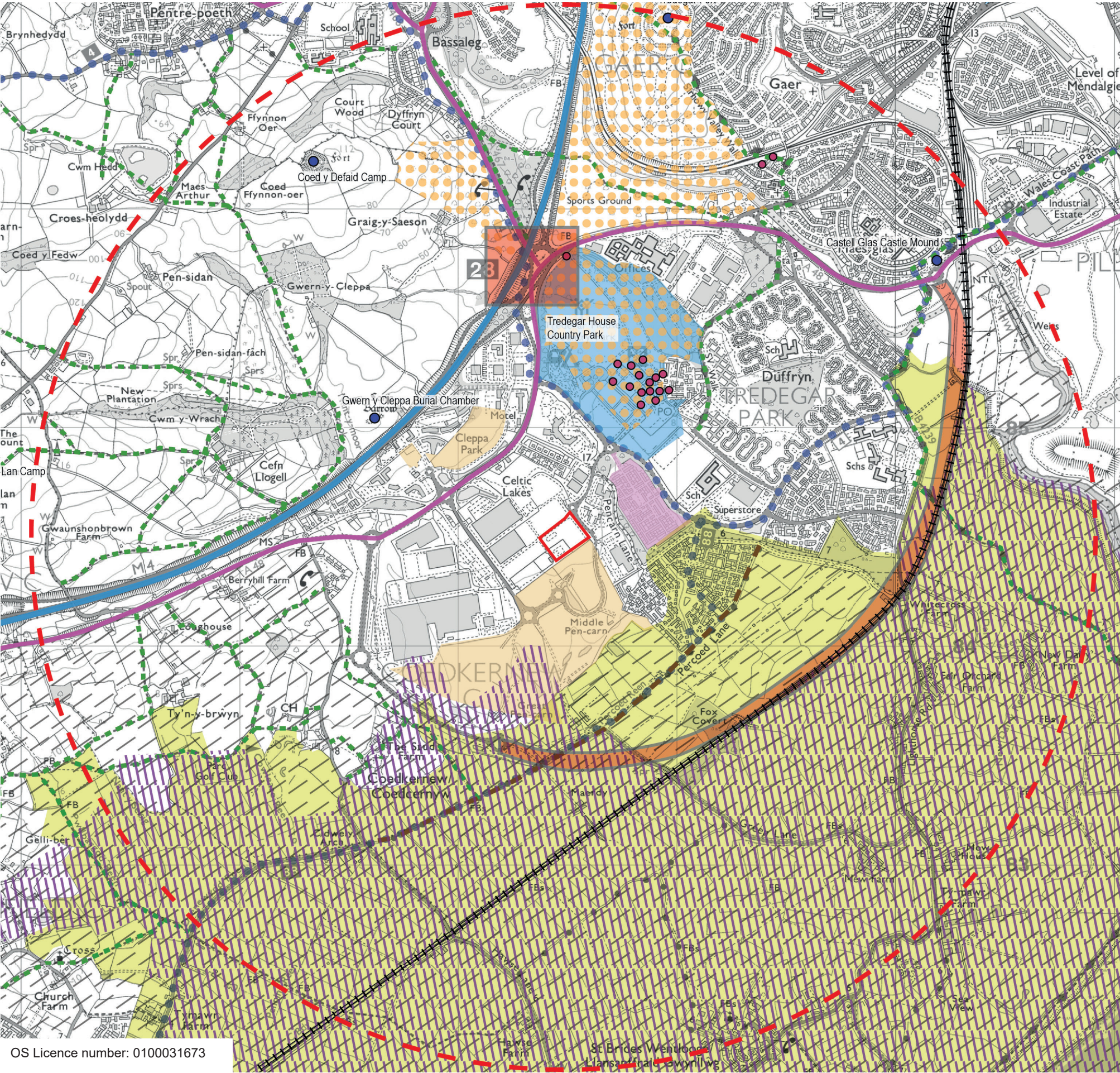


Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
9	Public access off Sirhowy Valley Walk.	Recreational users (footpath users)	Type 1	Summer	Planar	10.09.20	Nikon D5100	50mm	40	South West	Latitude: 51; 34; 18 Longitude: 3; 1; 37



Viewpoint location number	Title	Receptors	Visualisation type	Timing of photograph	Projection	Date	Brand and model of camera	Focal length	Horizontal field of view	Direction of view	Location
9	Public access off Sirhowy Valley Walk	Recreational users (footpath users)	Type 1	Summer	Cylindrical	10.09.20	Nikon D5100	50mm	40	South West	Latitude: 51; 34; 19 Longitude: 3; 1; 37

Figure 3 - Landscape constraints plan
Sheet 1 of 1



OS Licence number: 0100031673

KEY

- Planning Application Boundary
- 2.5km Study Area
- National Cycle Route
- Public Right Of Way
- Other route with public access
- Railway Line
- Motorway (M4)
- A Roads
- Housing Commitment (H1(58))
- Major road schemes (SP16)
- Future Employment (EMI)
- Conservation Area
- Site of Special Scientific Interest (SSSI) - Gwent Levels St Brides
- Special Landscape Area (SLA) - Wentlooge Levels
- Landscape of Outstanding Historic Interest (LOHI) - Gwent Levels
- Historic Parks & Gardens
- Listed buildings
- Scheduled Monuments

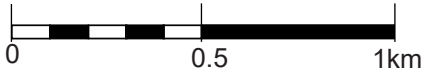
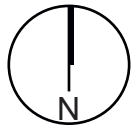
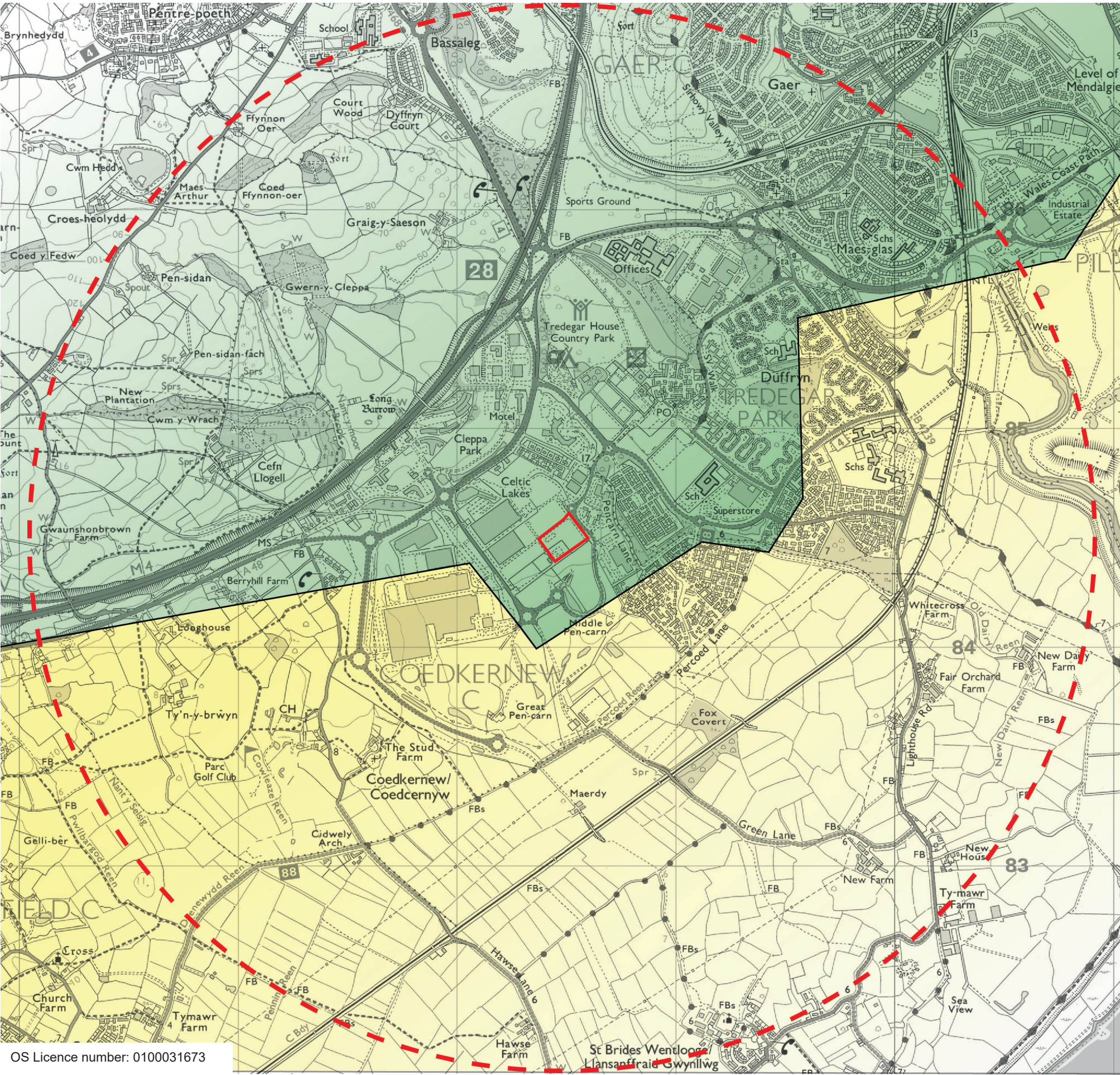


Figure 4 - National landscape character areas
Sheet 1 of 1



OS Licence number: 0100031673

KEY

- Planning Application Boundary
- 2.5km Study Area
- National Landscape Character Area - 34, Gwent Levels
- National Landscape Character Area - 35, Cardiff, Barry and Newport

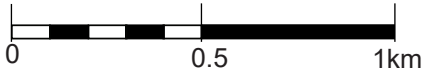
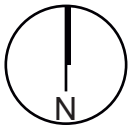
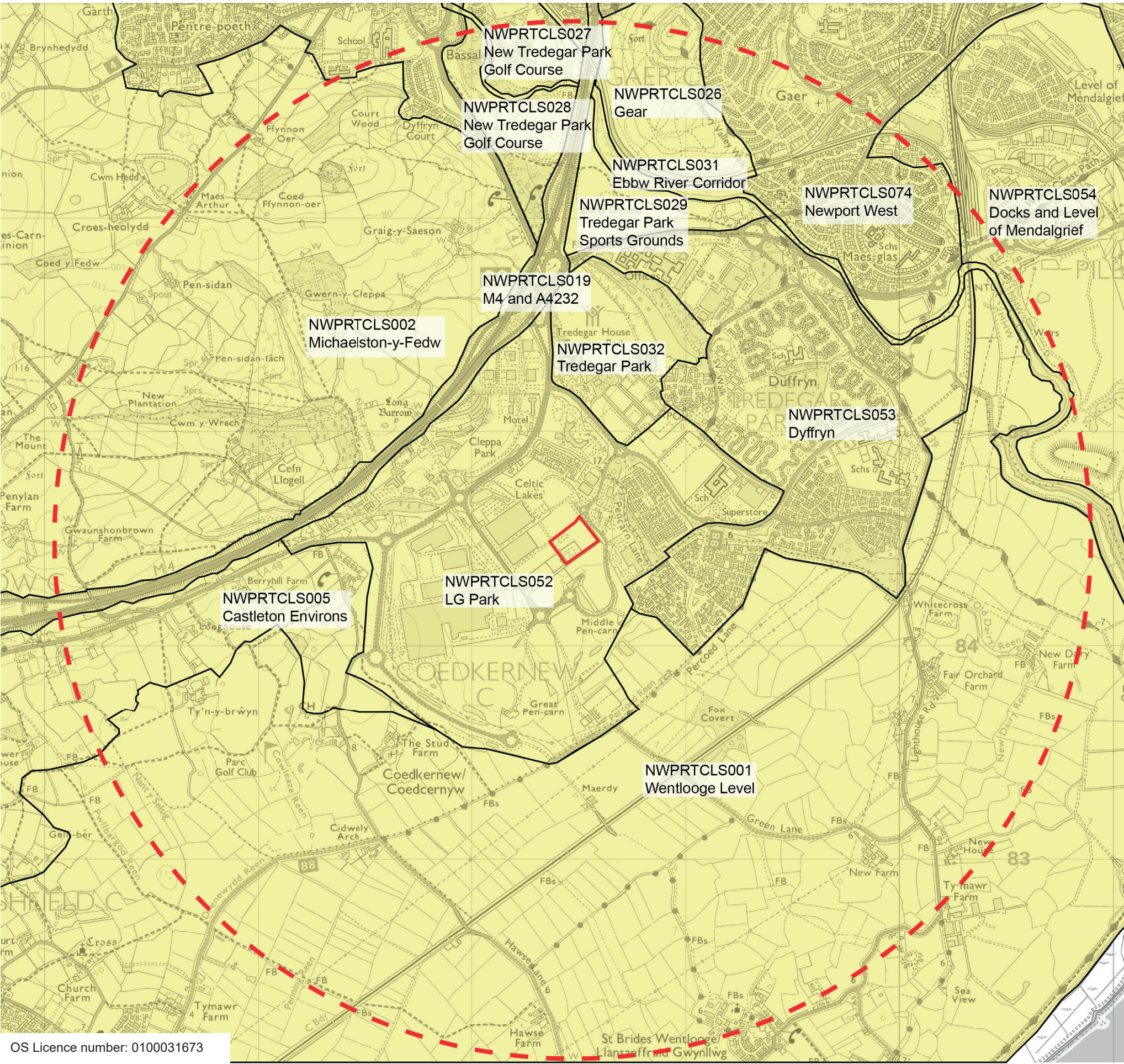


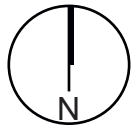
Figure 5 - Regional LANDMAP landscape character areas - Cultural landscape aspect areas
Sheet 1 of 5



OS Licence number: 0100031673

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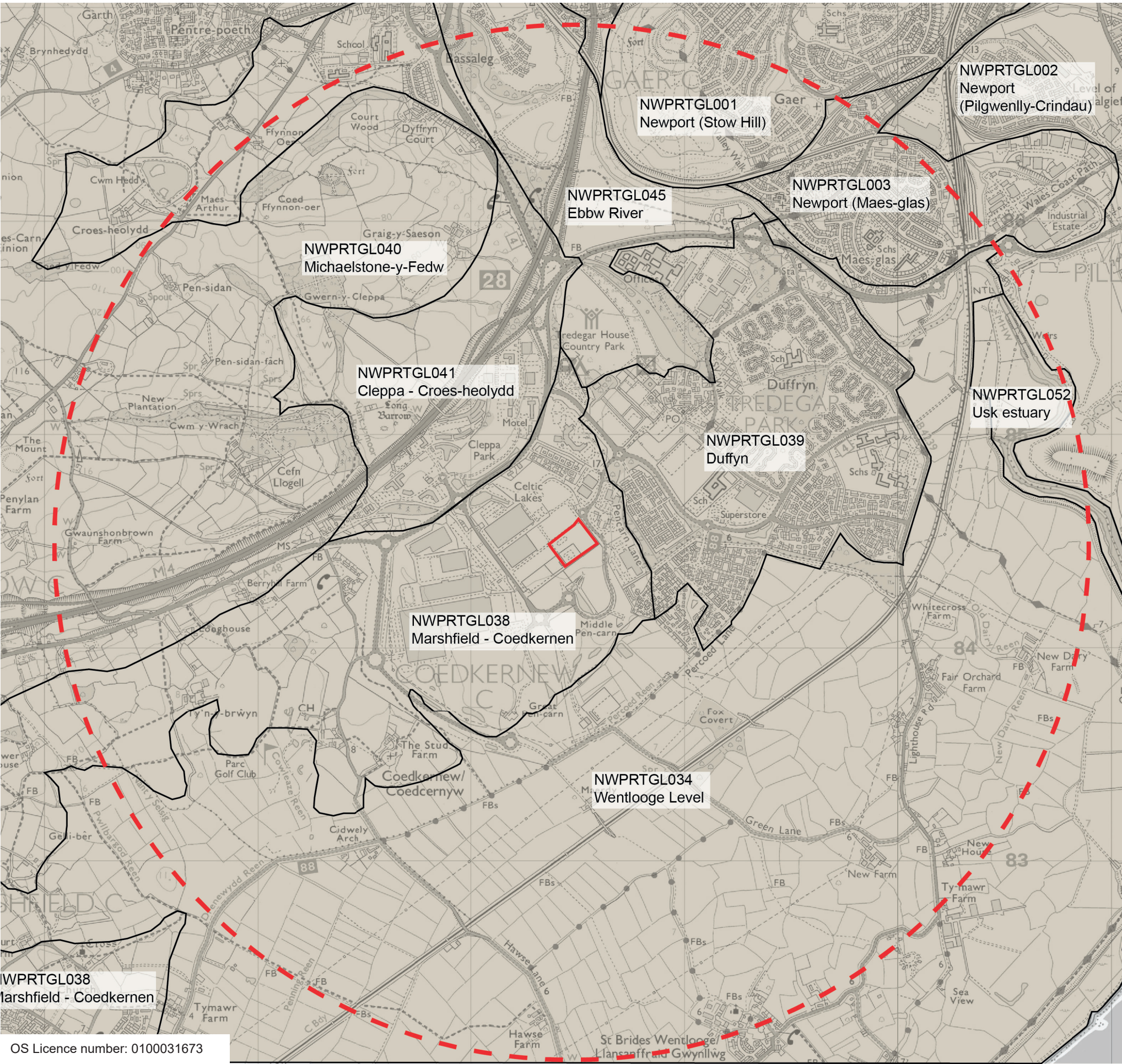
- Planning Application Boundary
- 2.5km Study Area



0 0.5 1km



Figure 5 - Regional LANDMAP Landscape character areas - Geological landscape aspect areas
Sheet 2 of 5



OS Licence number: 0100031673

KEY

- Planning Application Boundary
- 2.5km Study Area

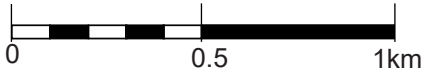
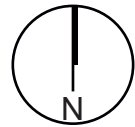
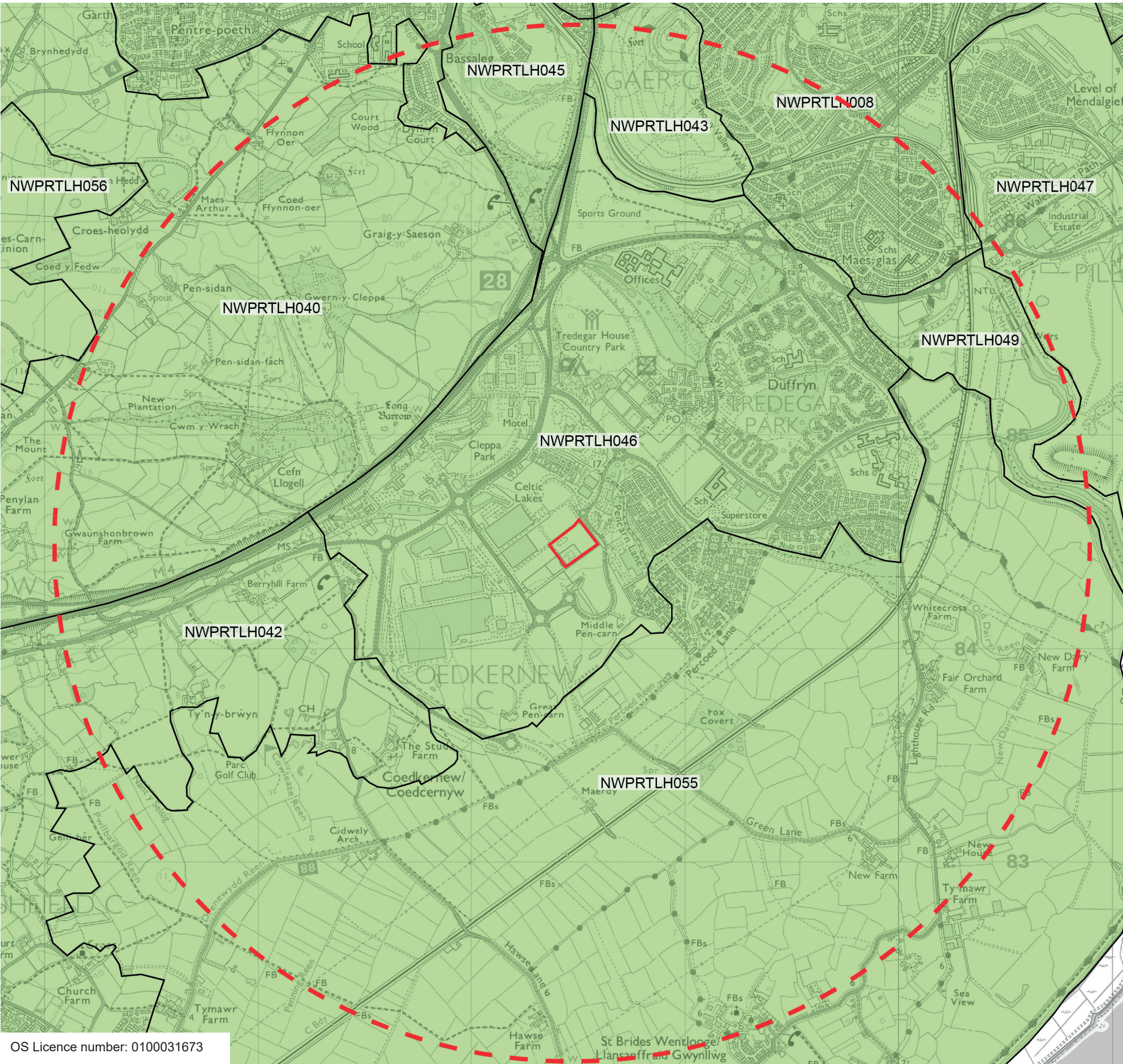


Figure 5 - Regional LANDMAP landscape character areas - Landscape habitat aspect areas
Sheet 3 of 5



OS Licence number: 0100031673

KEY

- Planning Application Boundary
- 2.5km Study Area

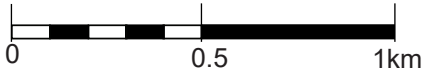
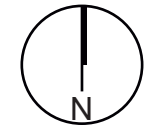
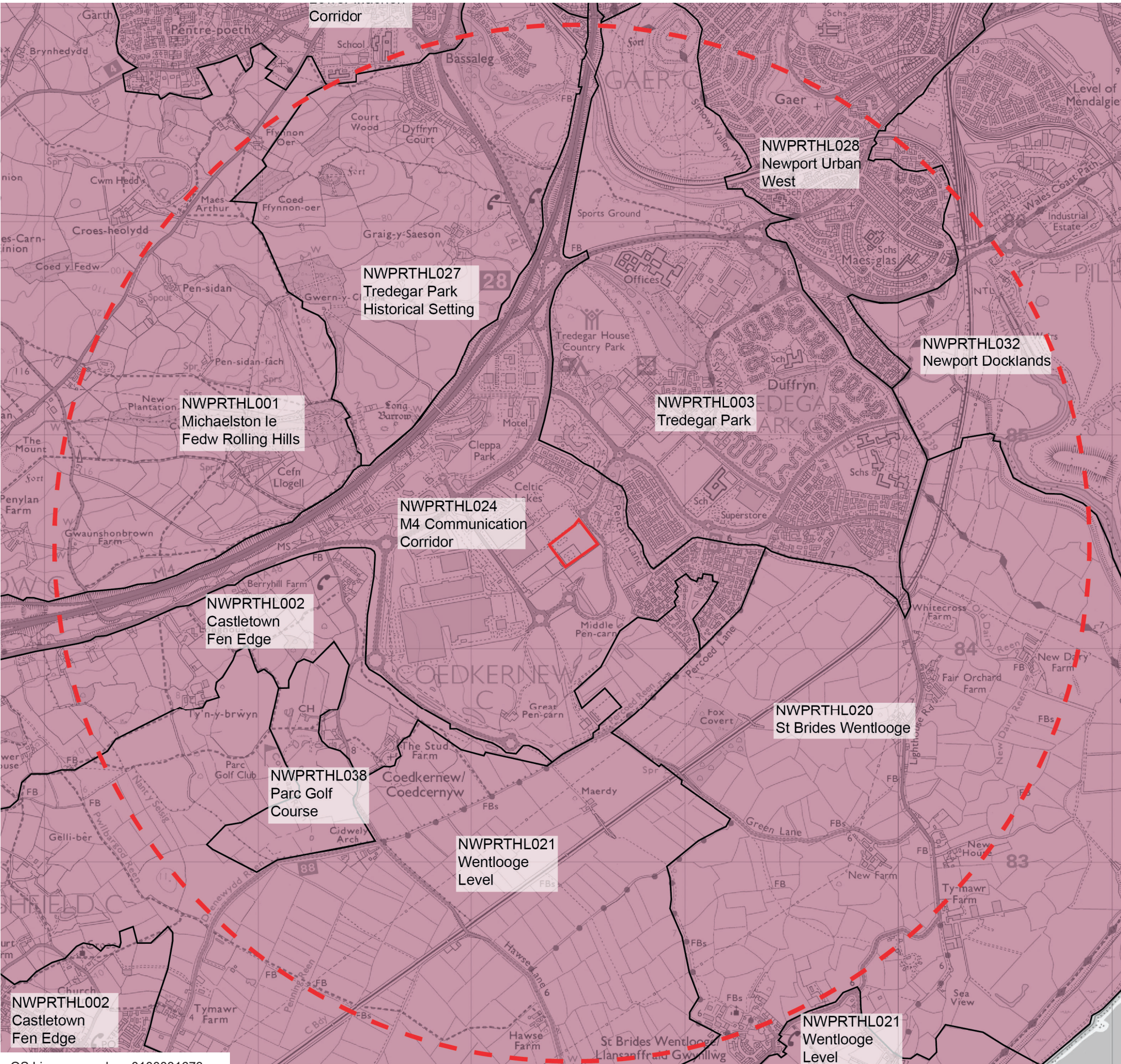


Figure 5 - Regional LANDMAP landscape character areas - Historic landscape aspect areas (no area names shown via LANDMAP)
Sheet 4 of 5



OS Licence number: 0100031673

KEY

Planning Application Boundary

2.5km Study Area

N

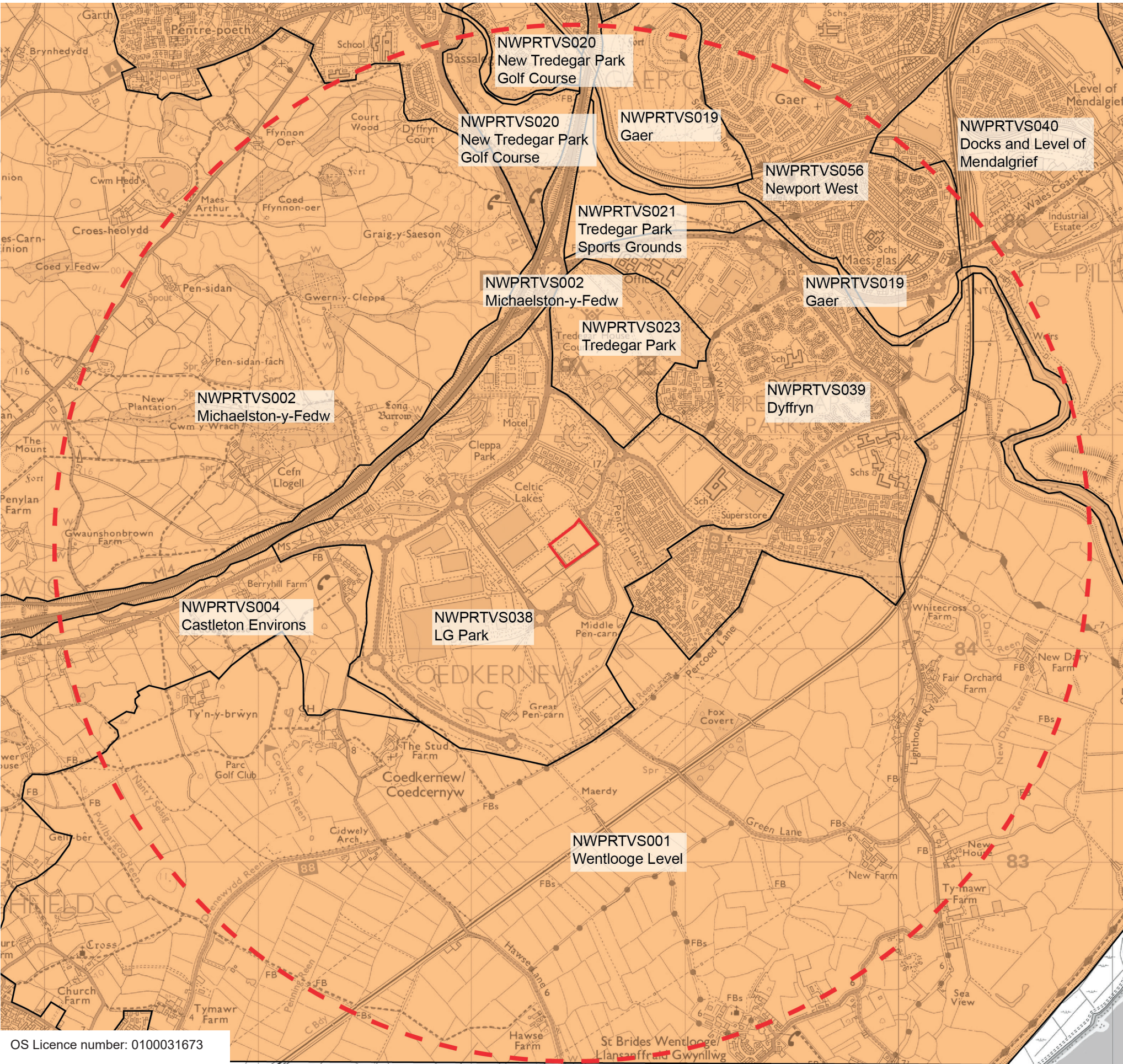
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1km

SNC-LAVALIN
VANTAGE DATA CENTERS
ATKINS
Member of the SNC-Lavalin Group

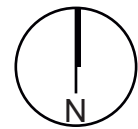
Figure 5 - Regional LANDMAP landscape character areas - Visual and sensory landscape aspect areas
Sheet 5 of 5



OS Licence number: 0100031673

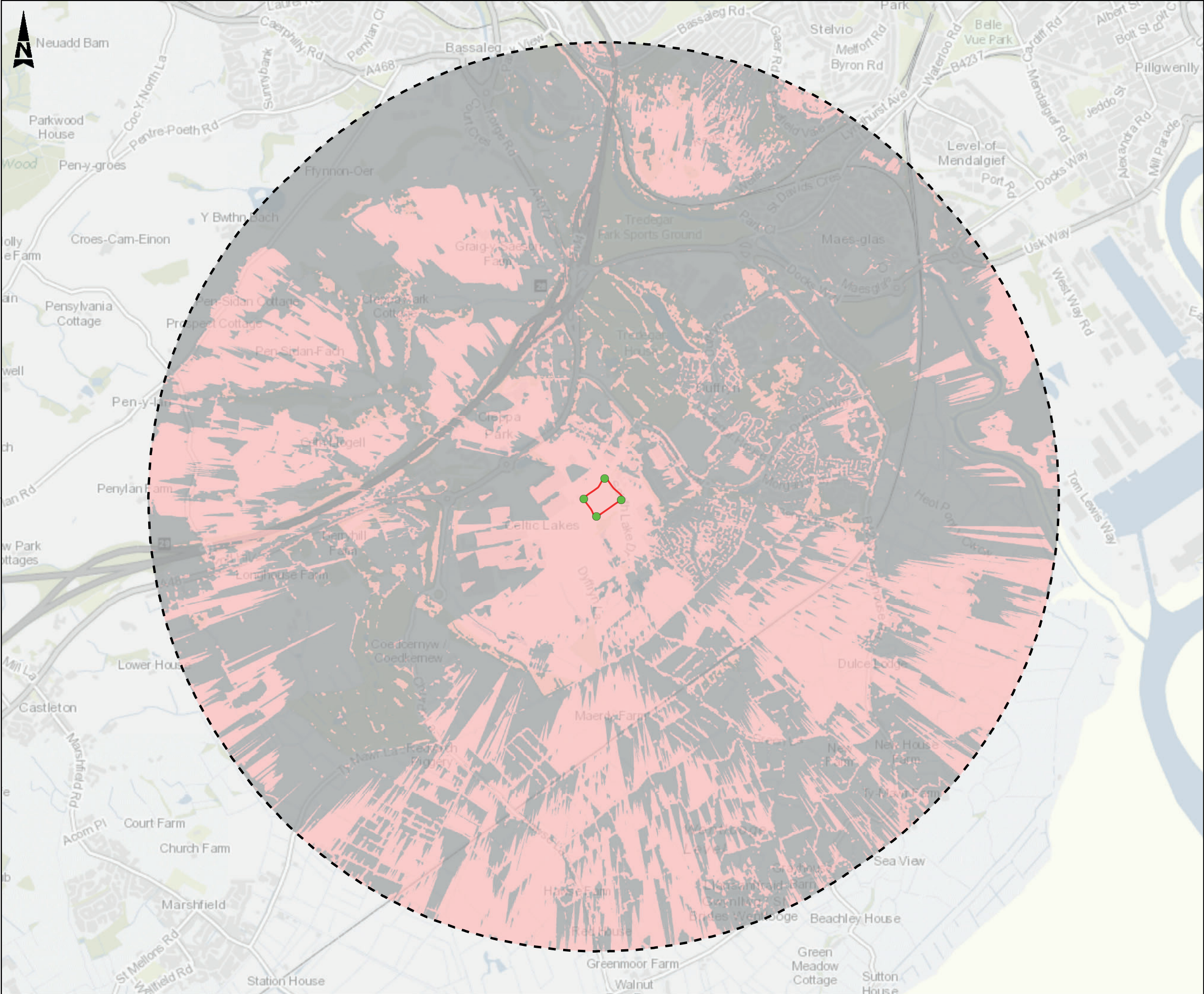
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- Planning Application Boundary
- 2.5km Study Area



0 0.5 1km












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Legend

-  2.5km Study Area
-  Indicative Observation Point from Site
-  Red Line Boundary

ZVI Value

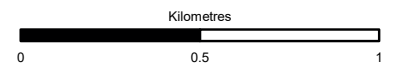
-  Not Visible
-  Indicative Extent of Visible Views

Notes

The Zone of Visual Influence (ZVI) shown is a theoretical indication of the area within which the proposed water works site may be visible.

The ZVI is based on a 2 metre Digital Surface Model (DSM). The DSM considers the surface details of buildings and trees.


A height of 1.6m has been added to the surface to simulate assumed eye level, and height of 19.6m + 1m flues (20.6m total) has been added to simulate the average height of the proposed Data Centre 3.



Kilometres
0 0.5 1

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Atkins, Member of the SNC-Lavalin Group
Nova North
11 Bressenden Place
London
SW1E 5BY



Member of the SNC-Lavalin Group

Client

VANTAGE

Project

DATA CENTRE 3

Title

FIGURE 6

Sheet Size	Original Scale	Designed / Drawn	Checked	Authorised
A3	1:20,000	KP	SD	AB
Date	08/10/20	Date	08/10/20	Date
Drawing Number				Rev
5197938				01

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100
0 10
Millimetres

GENERAL ARRANGEMENT KEY

- Red Line Boundary - Client ownership
- Proposed Contours for Drainage Features
- Permeable paving - vehicular permeable paving sub base to engineer's specification
- Permeable paving - vehicular permeable paving sub base to engineer's specification
- Vehicular Tarmac Sub-base to engineer's specification
- Concrete pad foundations to security lodge & generators to engineer's specification
- Blister Warning Paving to Road Crossings

- Bollards - PAS 68 to parking bays Stainless steel
- Bollards - Static Stainless steel
- Bollards - Removable Stainless steel
- Fixed benches Timber and stainless steel
- Stainless steel Sheffield cycle stands building entrance
- Boulders for SuDS inlet erosion control - rough sizes to be cut and detailed at later design stage but approximately 300-500mm diameter.
- Thermoplastic Road Markings

- Double leaf gate to main site entrance, exit & maintenance access - 4m high, stainless steel, Colour - Black.
- Proposed 4m high Secure Fence Colour - black
- Proposed 1.8m high Fence to eastern Site Boundary Colour - black
- Proposed 1.2m high post and rail fence
- Existing Trees Retained*
- Proposed Trees
- Root Protection Areas

- Proposed Native Shrub Planting
- Proposed Rain Garden Planting
- Proposed Swale Planting
- Proposed Species Rich Grassland
- Proposed Bulb Planting
- Existing Levels
- Proposed Levels

*Locations based on Arboricultural Survey Drawing number: 5197838-ATK-BHM-ARB001

DO NOT SCALE

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

CONSTRUCTION

MAINTENANCE/CLEANING

DECOMMISSIONING/DEMOLITION

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement

To be read in conjunction with drawings:
DC3-ATK-XX-XX-DR-L-9300 - Softworks
DC3-ATK-XX-XX-DR-L-9450 - Site Sections
DC3-ATK-XX-XX-DR-L-9500 - Fencing Detail

High containment kerbs at turning point around building.

Proposed SuDS swale running along the west boundary.

Proposed 22 car parking (total of 40 spaces provided over whole site).

Covered cycle storage (space for 10 bicycles).

Ramped access down to lorry loading bay (drop of 1m).

Proposed location of security lodge.

Rain garden at road level to intercept all runoff from the vehicle entry area.

High containment kerbs at entrance.

Trees planted on a 1m raised mound.

DC2 SITE

IMPERIAL WAY ROUNDABOUT

Proposed 13 car parking (total of 40 spaces provided over whole site).

Existing drainage chambers on concrete plinth to be retained.

Detention basin.

Existing wall to be demolished

High containment kerbs at turning point around building.

Uncovered cycle storage (space for 4 bicycles).

Proposed 5 car parking spaces (2 disabled, 3 charge points). Total of 40 spaces provided over whole site.

Section of double height kerb to accommodate height change

4m Security fence

Single leaf gate to match security fence to allow for access for maintenance of soft landscape.

Root Protection Zone (RPZ) - any works within this should be hand dig only.

Infill tree planting.

Proposed SuDS swale running along the west boundary.

Infill tree planting.

High containment kerbs at turning point around building.

P01	23/10/20	Stage 2 For Planning	CMS	EW	WR
Rev.	Date	Description	By	Chk'd	App'd

Drawing Status	FOR INFORMATION	Suitability	SO
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NEXT GENERATION DATA

Project Title
Data Centre Three

Drawing Title
LANDSCAPE
GENERAL ARRANEMENT PLAN

Scale	Designed	Drawn	Checked	Authorised
1:500	AB	CMS	EW	WR
Original Size	Date	Date	Date	Date
A1	23/10/2020	23/10/2020	23/10/2020	23/10/2020

Drawing Number	Revision
DC3-ATK-XX-XX-DR-L-9100	P01

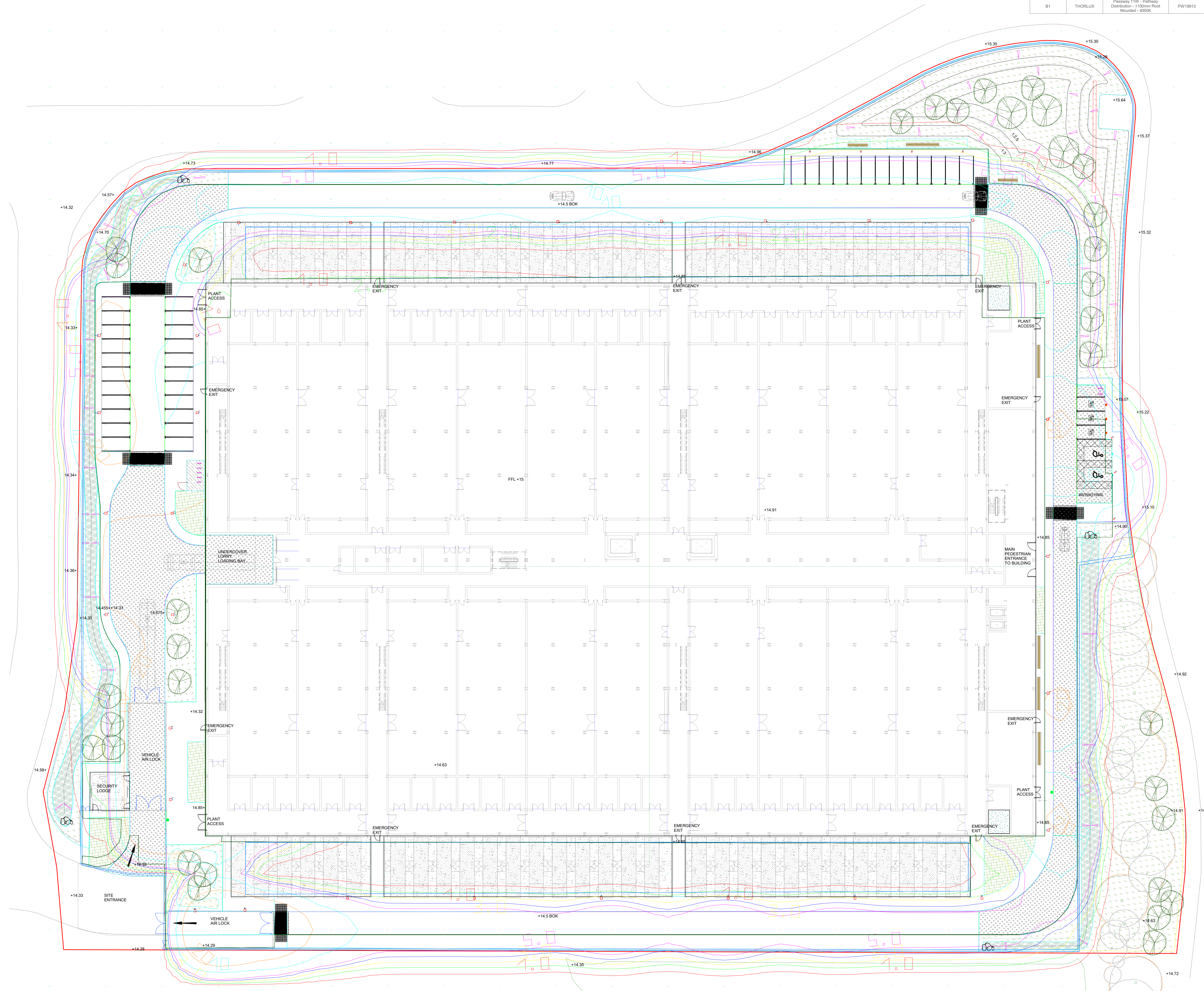
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
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CONSTRUCTION

DECOMMISSIONING/DEMOLITION	
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Legend

1lx —
2lx —
3lx —
4lx —
5lx —
10lx —
20lx —

[illegible]

P01	21/10/20	Issued For information	ISa	OMS	
Rev.	Date	Description	By	Chk'd	App'd
Drawing Suitability				Status	

Drawing Suitability	INFORMATION	Status
		S2



Client:	
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Project Title	DATA CENTRE THREE
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Drawing Title	Electrical Engineering Services Sitewide External Lighting Layout
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Scale As indicated	Designed CSa	Drawn ISa	Checked OMS	Authorised JO
Original Size A0	Date 21/10/20	Date 21/10/20	Date 21/10/20	Date 21/10/20

CLASSIFICATION - CONTAINS BASELINE INFORMATION