

## Parc Llangwydd, Land at West Bridgend

### Ecology Briefing Note

#### edp3980\_r003a

#### 1. Introduction

- 1.1 This Ecology Briefing Note has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of Llanmoor Development Co Ltd (hereafter referred to as 'the Client'), in relation to Parc Llangwydd, Land at West Bridgend (hereafter referred to as 'the Study Site').
- 1.2 EDP is an independent environmental planning consultancy with offices in Cirencester, Cardiff, Cheltenham and Shrewsbury. The practice provides advice to private and public sector clients throughout the UK in the fields of landscape, ecology, archaeology, cultural heritage, arboriculture, rights of way and master planning. Details of the practice can be obtained at our website [www.edp-uk.co.uk](http://www.edp-uk.co.uk).

#### Background and Scope

- 1.3 The purpose of this assessment is to identify the Study Site's 'in principle' suitability for development, and thus inform its potential for inclusion as a candidate site for allocation within the emerging Local Development Plan for Bridgend County Borough Council. A Proposed Masterplan Framework for the Study Site is provided at **Annex EDP 1**.
- 1.4 To this end, this report provides a high-level assessment of the Study Site with respect to identifying key ecological constraints and opportunities to future development, which have been identified through standard desk and field-based investigations.

#### Site Context

- 1.5 The Study Site is centred approximately at Ordnance Survey Grid Reference (OSGR) SS 88083 80215, immediately west of the settlement of Bryntirion in Bridgend. Located on the edge of existing development, the wider landscape to the north and west is dominated by agricultural land, comprising predominately grazing pasture subdivided by native hedgerows and woodland units. The Study Site is located approximately 1.5km to the south of the M4 motorway.
- 1.6 The Study Site itself comprises several field parcels predominantly grazed by sheep, and sub-divided by mature tree lines and native hedgerows reinforced in places with post and wire fencing due to their occasionally defunct nature. The northern extents of the Study Site encompasses four fields which together are designated as a Site of Importance for Nature Conservation (SINC), hereafter referred to as 'Laleston Meadows SINC.' Here, woodland habitat

and pockets of marshy grassland dominate. Six waterbodies are scattered throughout the Study Site in association with field boundaries.

## 2. Methodology

### ***Desk Study***

- 2.1 The desk study is an important element of establishing the ecological baseline of a site proposed for development, enabling the initial collation and review of contextual information, such as designated sites, together with known records of protected and priority species<sup>1</sup>.
- 2.2 A desk study was undertaken by EDP during February 2020 and involved collating biodiversity information from the following sources:
- South East Wales Biodiversity Records Centre (SEWBRc); and
  - Multi-Agency Geographic Information for the Countryside (MAGIC) website<sup>2</sup>.
- 2.3 The desk study involved obtaining the following information:
- International statutory designations (10km radius around the Study Site);
  - National statutory designations (2km radius);
  - Non-statutory local sites (2km radius);
  - Annex II bat species<sup>3</sup> records (6km radius); and
  - All other protected/notable species records (2km radius).
- 2.4 The above listed search areas are considered sufficient to cover the potential zones of influence<sup>4</sup> of the proposed development in relation to designated sites, habitats and species. The distribution of pertinent designations around the Study Site is illustrated at **Plans EDP 1 - 3**.

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<sup>1</sup> Species considered of key significance to sustain and improve biodiversity in Wales, as defined under Section 7 of Part 1 of the Environment (Wales) Act 2016.

<sup>2</sup> [www.magic.gov.uk](http://www.magic.gov.uk).

<sup>3</sup> Bat species listed in Annex II of the EC Habitats Directive, namely greater horseshoe, lesser horseshoe, barbastelle and Bechstein's bats.

<sup>4</sup> Zone of Influence - the areas and resources that may be affected by the proposed development.

### **Extended Phase 1 survey**

- 2.5 The Extended Phase 1 survey was undertaken by a suitably experienced surveyor on 25 February 2020, during which the weather was 7°C with a moderate wind and 50% - 100% cloud cover. Throughout the survey it varied from rain and hail with only a short break of sun.
- 2.6 The survey technique adopted for the update habitat assessment was at a level intermediate between a standard Phase 1 survey technique<sup>5</sup>, based on habitat mapping and description, and a Phase 2 survey, based on detailed habitat and species surveys. The survey technique is commonly known as an Extended Phase 1 survey. This level of survey does not aim to compile a complete floral and faunal inventory for the Study Site.
- 2.7 The level of survey involves identifying and mapping the principal habitat types and identifying the dominant plant species present in each principal habitat type. In addition, any actual or potential protected species or species of Principal Importance<sup>6</sup> are identified and scoped. A Phase 1 Habitat Plan for the Study Site is provided at **Plan EDP 4**.

### *Limitations*

- 2.8 February is considered to be within a sub-optimal period for undertaking an Extended Phase 1 survey. Surveys were thus limited to recording plant species present in both vegetative and floristic forms at the time of survey. The lack of any species record from this report cannot be taken to automatically infer species' absence from the Study Site.
- 2.9 However, owing to the ecological context and type of habitats present within the site (i.e. predominance of intensively managed agricultural land) such limitations are not considered to have affected an assessment of the Study Site.
- 2.10 Further detailed botanical assessment of land comprising Laleston Meadows SINC during the optimal survey period will, however, be undertaken to robustly assess the botanical community of the SINC.

### **Detailed (Phase 2) Surveys**

- 2.11 In addition to an Extended Phase 1 survey, further detailed assessments were undertaken in relation to hedgerows, bats, badger (*Meles meles*) and great crested newt (*Triturus cristatus*) to further inform potential ecological constraints/opportunities in relation to any future development of the Study Site, as detailed further below.

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<sup>5</sup> Joint Nature Conservation Council (2004) *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit* (reprinted with minor corrections for original Nature Conservancy Council publication).

<sup>6</sup> Species considered of key significance to sustain and improve biodiversity in Wales, as defined under Section 7 of Part 1 of the Environment (Wales) Act 2016.

## **Hedgerows**

- 2.12 An assessment of the hedgerow network onsite was undertaken to determine their importance following the Wildlife and Landscape criteria provided in Part II of *Schedule 1 of the Hedgerows Regulations 1997*. The assessment was completed by a suitably qualified ecologist on 05 March 2020.
- 2.13 The aims of the hedgerow assessment were to:
- Determine the extent of hedgerows qualifying as ‘important’ under the *Wildlife and Landscape criteria of the Hedgerows Regulations (1997)*; and
  - Identify hedgerows which, whilst not qualifying as ‘important’ under the ecological criteria of the *Hedgerow Regulations (1997)* have ecological value in terms of species diversity or as potential wildlife corridors.
- 2.14 A total of 30 hedgerows (**H1-H30**, as illustrated on **Plan EDP 4**) located within the Study Site were surveyed, these hedgerows qualifying for assessment by being assessed to be greater than 30 years of age, being located adjacent to land in agricultural/horticultural use and exceeding 20m in length or by being connected at both ends to another hedgerow of any length.
- 2.15 The middle 30m of all hedgerows up to 100m in length were surveyed, whilst two 30m sections were surveyed for hedgerows up to 200m in length where access was possible. For hedgerows exceeding 200m in length, three 30m sections were surveyed.
- 2.16 Hedgerows are considered important, should the hedgerow be referred to in a record held by a biological records centre as containing protected plants (within 10 years) or birds and animals (within five years), contain species listed in Schedule 5 (animals) and eight (plants) of the Wildlife and Countryside Act 1981 (as amended), birds categorised as declining breeders<sup>7</sup>, or any species categorised as ‘endangered’, ‘extinct’, ‘rare’ or ‘vulnerable’ by any of the British Red Data Books, or contain one of the following per average 30m section surveyed:
- Seven Schedule 3 species;
  - Six Schedule 3 species and three listed features (see below);
  - Schedule 3 species, including one of the following: black poplar (*Populus nigra* subsp. *betulifolia*), large-leaved lime (*Tilia platyphyllos*), small-leaved lime (*Tilia cordata*) or wild service-tree (*Sorbus torminalis*);
  - Five Schedule 3 species and four listed features; or

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<sup>7</sup> Bladwell S, Noble DG, Taylor R, Cryer J, Galliford H, Hayhow DB, Kirby W, Smith D, Vanstone A, Wotton SR (2018) *The state of birds in Wales 2018*. The RSPB, BTO, NRW and WOS. RSPB Cymru, Cardiff.

- Four Schedule 3 species, two listed features and lying adjacent to a bridleway or footpath.

2.17 Listed features include:

- A bank or wall which supports the hedgerow along at least half of its length;
- Gaps which together do not exceed 10% of the length of the hedgerow;
- At least one standard tree per 50m of hedge;
- At least three Schedule 2 woodland species within the hedgerow;
- A ditch along at least one half of the length of the hedgerow;
- Connections scoring 4 points or more (1 point per connection of the hedgerow with another and 2 points per connection of the hedgerow to a pond or broad-leaved woodland); or
- A parallel hedge within 15m of the hedgerow.

2.18 It is recognised that, with reference to the *Hedgerow Regulations 1997*, certain species of bird or animals listed in the Wildlife and Countryside Act (as amended) or by the Joint Nature Conservation Committee (JNCC), that could result in a hedgerow being recognised as 'important', may have gone unrecorded due to the timing and nature of the survey. Indeed, the use of the hedgerow by such species may be seasonal or at particular periods during the day. Data gained through the relevant Phase 2 surveys have therefore been included within this assessment.

*Limitations*

2.19 The optimum time for undertaking hedgerow assessments is between April and September when species pre-dominantly associated with hedgerows are in flower. A survey undertaken in March may, therefore, have missed some species resulting in an underestimation of the Importance of a hedgerow. This is not considered to have affected the outcome of this initial assessment in this instance with sufficient data collected to inform an assessment of each hedgerow, whilst a number of target woodland species were already in flower and/or immediately apparent at the time of survey.

**Bats**

2.20 To determine the potential impacts of the future development upon bats potentially roosting within trees across the Study Site, all suitable trees were subject to a ground level visual

assessment with reference to current best practice guidance<sup>8</sup>.

2.21 The tree survey involved a ground-based visual assessment of trees for the presence of, or potential to support, roosting bats. The survey was undertaken 05 March 2020 by a suitably qualified and Natural Resource Wales (NRW) licensed ecologist. The trees were searched as thoroughly as possible from ground level, with all elevations covered where accessibility allowed. It should be noted that due to the amount of woodland within the Study Site, large stands of trees were assessed as a group rather than surveying every individual tree.

2.22 Suitable features for roosting bats sought for during the assessment included:

- Loss/peeling/fissured bark;
- Natural holes e.g. rot holes and holes from fallen limbs;
- Woodpecker holes;
- Cracks/splits or hollow tree trunks/limbs; and
- Thick-stemmed ivy.

2.23 Signs of roosting bats sought for included:

- Bat/s roosting in-situ;
- Bat droppings within or beneath a feature;
- Staining around or beneath a feature;
- Oily marks (staining) around roost access points;
- Audible squeaking from the roost;
- Large/regularly used roosts or regularly used Sites may produce an odour; and
- Flies around the roost, attracted by the smell of guano.

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<sup>8</sup> Bat Conservation Trust (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition*. Bat Conservation Trust, London.

2.24 Based upon the results of the visual assessment and features/evidence identified, the following ratings for trees were used during the assessment:

- **Known or confirmed roost** - European Protected Species (EPS) licence required for works to tree to be completed lawfully;
- **High potential** - Tree supports one or more features that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time;
- **Moderate potential** - Tree supports one or more features that could be used by bats but are unlikely to support a roost type of high conservation status;
- **Low potential** - Tree supports one or more features that could be used by individual bats opportunistically, or is of sufficient size and age to contain such features; and
- **Negligible potential** - Negligible features likely to support roosting bats.

#### *Limitations*

2.25 Visual assessments for roosting bats can be undertaken at any time of year. As such these investigations were not limited by seasonal or climatic factors.

2.26 Bats are mobile animals and will move between a series of different roost sites, frequently establishing and occupying new roost sites depending on seasonal requirements and resources available locally. This survey, therefore, only provides a snapshot of the conditions present at the Study Site at the time of survey.

#### **Badger**

2.27 Badger activity within the Study Site was recorded during the Extended Phase 1 survey on 25 February 2020 and updated during the hedgerow assessment on 05 March 2020. During the survey, any signs of badger activity such as holes, latrines, trails, snuffle holes and hairs on fencing or vegetation were recorded. Where holes of a size and shape consistent with badgers were identified, the following signs of badger activity were searched for in order to determine whether they were currently in active use:

- Fresh spoil outside entrances;
- Old bedding material (typically dried grass) outside entrances;
- Holes being cleared of leaf litter;
- Badger guard hairs; and

- Fresh tracks leading to/from the holes.

#### *Limitations*

- 2.28 Badger surveys can be undertaken at any time of year and are, therefore, not limited by seasonal or climatic factors.
- 2.29 The Study Site was fully accessible and visible at the time of survey such that a thorough search for evidence of badger was possible at this time.

### **Great Crested Newt**

#### *Habitat Suitability Index Assessment*

- 2.30 Six waterbodies were identified within the Study Site (**P1-P6**). As such a great crested newt Habitat Suitability Index (HSI) assessment for each pond was undertaken by a suitably qualified ecologist on 25 February 2020.
- 2.31 A HSI assessment, as developed by Oldham et al. (2000)<sup>9</sup>, was completed to assess the suitability of all onsite ponds to support great crested newt. The HSI assessment follows a standardised assessment criteria using habitat features such as water quality, fish/waterfowl presence and surrounding terrestrial habitat quality to derive a suitability score, or 'index'. Water bodies with high scores are considered more likely to support great crested newts compared to those with lower scores. HSI scores and the inferred suitability of the ponds assessed to support great crested newts are described within **Table EDP 2.1**.

**Table EDP 2.1:** HSI Scores and Inferred Pond Suitability.

<b>HSI Score</b>	<b>Pond Suitability to Support Great Crested Newts</b>
<0.5	Poor suitability
0.5-0.59	Below average suitability
0.6-0.69	Average suitability
0.7-0.79	Good suitability
>0.8	Excellent suitability

### **3. Survey Findings**

- 3.1 This section summarises the baseline ecological conditions determined through the course of initial desk-based and field-based investigations and should be read in conjunction with **Plans EDP 1 to 5**.

<sup>9</sup> Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). *Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal 10 (4), 143-155.



### **Designated Sites**

3.2 Information regarding designated sites was obtained during the desk study from the MAGIC website and local records centre (SEWBRReC). Statutory designations (those receiving legal protection) and non-statutory designations (those receiving planning policy protection only) are discussed in turn below.

#### *Statutory Designations*

3.3 Statutory designations represent the most significant ecological receptors, being of recognised importance at an international and/or national level. International designations include Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar Sites. National designations include Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs). Statutory designations which would be considered at this level include Local Nature Reserves (LNRs).

3.4 No part of the Study Site is covered by any statutory designations. However, there are a number of such designations within the Study Site's potential zone of influence, as summarised in **Table EDP 3.1**, with the nearest of these illustrated at **Plan EDP 1-2**.

**Table 3.1:** Statutory designations within the Study Site's potential zone of influence.

<b>Designation</b>	<b>Distance from site</b>	<b>Interest Feature(s)</b>
<b>International (10km)</b>		
Cefn Cribwr Grasslands SAC	North/north-east 1.8km	This is one of four sites representing <i>Molinia</i> meadows in south and central Wales, one of the major UK strongholds for this habitat type. Marsh fritillary butterfly ( <i>Euphydryas aurinia</i> ) are also present onsite.
Kenfig SAC	West 2.3km	Designated for its fixed coastal dunes with herbaceous vegetation and for petalwort ( <i>Petalophyllum ralfsii</i> ) and fen orchid ( <i>Liparis loeselii</i> ).
Blackmill Woodlands SAC	North-west 5.9km	Blackmill Woodlands is an example of old sessile oak ( <i>Quercus petraea</i> ) woodland. The ground flora is restricted by the relative dryness of the site, but the main habitat features of sessile oak canopy, acidic ground flora of bilberry ( <i>Vaccinium myrtillus</i> ) and wavy hair-grass ( <i>Deschampsia flexuosa</i> ), and moderate fern and bryophyte cover are present.
Dunraven Bay SAC	South 7km	Designated for populations of shore dock ( <i>Rumex rupestris</i> ) present on damp coastal limestone, which are the only remnant of the species' former Bristol Channel range.

Designation	Distance from site	Interest Feature(s)
<b>National (2km)</b>		
Waun-fawr, Cefn Cribwr SSSI	North-west 1.8km	Of interest for its marshy grassland, species-rich neutral grassland and scrub habitats. There is frequent purple moor-grass ( <i>Molinia caerulea</i> ) and meadow thistle ( <i>Cirsium dissectum</i> ), together with carnation sedge ( <i>Carex panicea</i> ), glaucous sedge ( <i>Carex flacca</i> ), and the broad-leaved herbs tormentil ( <i>Potentilla erecta</i> ) and devil's-bit scabious ( <i>Succisa pratensis</i> ). Quaking grass ( <i>Briza media</i> ) is also present.
Waun-fawr, Cefn Cribwr SSSI	North-west 1.8km	Of interest for its marshy grassland, species-rich neutral grassland and scrub habitats. There is frequent purple moor-grass ( <i>Molinia caerulea</i> ) and meadow thistle ( <i>Cirsium dissectum</i> ), together with carnation sedge ( <i>Carex panicea</i> ), glaucous sedge ( <i>Carex flacca</i> ), and the broad-leaved herbs tormentil ( <i>Potentilla erecta</i> ) and devil's-bit scabious ( <i>Succisa pratensis</i> ). Quaking grass ( <i>Briza media</i> ) is also present.
Bryn – Bach, Cefn Cribwr SSSI	North 2km	The area comprises marshy grassland and species-rich neutral grassland as well as wet heath, acid grassland, woodland and scrub. It is also of special interest for a population of a locally rare plant species.
<b>Local (2km)</b>		
Craig-y-Parcau SINC LNR	South-east 1.4km	A wooded, south-east facing slope, most of which is classified as ancient woodland. The main canopy species include oak, ash, beech and wych elm, with an understorey of bramble, hazel and holly ( <i>Ilex aquifolium</i> ).

#### Non-Statutory Designations

- 3.5 Non-statutory designations are also commonly referred to in planning policies as 'local sites', although in fact these designations are typically considered to be of importance at a county level. In Bridgend County Borough Council (BCBC), such designations are named Sites of Importance for Nature Conservations (SINCs). Additional designated sites which should be considered at this level include Local Nature Reserves (LNRs) and Ancient Semi Natural Woodland (ASNW), where these are not covered by other designations.
- 3.6 There are several non-statutory designations within the Study Site's potential zone of influence, including Laleston Meadows SINC which overlaps with the boundaries of the Study Site. A summary is provided **Table EDP 3.2** with locations illustrated at **Plan EDP 3**.

**Table EDP 3.2:** Non-statutory designations within the site's potential zone of influence.

Designation	Distance from site	Interest Feature(s)
Laleston Meadows SINC	Onsite	A mix of woodland, marshy grassland, damp semi-improved grassland and scrub.
Coed-Ty-Maen SINC	North 192m	This SINC comprises two blocks of broad-leaved woodland over limestone. The eastern part is classified as ancient woodland and this part generally supports the highest diversity of woodland indicator species. The western block is the least diverse and includes local evidence of former quarrying.
Cae-Porth SINC	North-west 380m	The majority of this site is a field of semi-improved acid grassland with projections of outcropping sandstone bedrock through most of the area.
Laleston County Primary School SINC	West 627m	The site contains various habitats with improved/species poor semi-improved grassland to the south-west and central north parts of the site, amenity grassland (playing field and playground) to the east of the site and tall ruderal herbs to the south-central part.
Court Colman Fishpond SINC	North 945m	A pond with banks shaded by over-mature landscape garden planting.
Ar-Graig Field SINC	West 1.1km	Attractive and locally unusual species rich semi-improved neutral/wet grassland with herbs dominating over grasses in parts of the site.
Coed-y-Gains SINC	North-east 1.1km	A block of broadleaved woodland that is mostly classified as ancient woodland. The canopy consists mostly of ash ( <i>Fraxinus excelsior</i> ) and oak ( <i>Quercus robur</i> ), with an understorey of hazel ( <i>Corylus avellana</i> ), hawthorn ( <i>Crataegus monogyna</i> ) and bramble ( <i>Rubus fruticosus</i> agg.), with occasional wych elm ( <i>Ulmus glabra</i> ), guelder rose ( <i>Viburnum opulus</i> ), field maple ( <i>Acer campestre</i> ) and Rhododendron ( <i>Rhododendron</i> sp.).
Cae Pen-y-Bryn SINC	North-west 1.2km	The southern part of the site is on an ancient semi-natural woodland site, with canopy trees dominated in areas by sessile oak with ash and sycamore ( <i>Acer pseudoplatanus</i> ). A small field to the north of this woodland has some rushes and wet areas with a dry field in the centre of the site.
Llangewydd (north of railway) SINC	North-west 1.2km	The largest field within this site supports damp semi-improved grassland grading into marshy grassland towards the south-western side.
Kiln Field	South-west 1.2km	Semi-improved neutral species-rich grassland with wet areas within the central field of three making up the site, surrounded by mixed hedgerows.

Designation	Distance from site	Interest Feature(s)
Coed-y-Tyle SINC	South 1.3km	Mixed woodland with ash dominating, particularly in the section south-west of the road dividing the woodland, which has beech ( <i>Fagus sylvatica</i> ) and banks of bluebells ( <i>Hyacinthoides non-scripta</i> ) and wet areas with opposite-leaved golden saxifrage ( <i>Chrysosplenium oppositifolium</i> ).
Cefn Cribwr Wood SINC	1.4km	A block of broadleaved woodland which comprises a mosaic of woodland age and species composition. The older parts have a canopy of oak, ash and hazel.
Tymaen Farm Entrance Verge SINC	North-west 1.5km	Wet grassy verge area to the east of a minor road. The small site contains several indicator species as well as orchids.
Coed Cwintin SINC	South-west 1.5km	Mixed semi-natural broadleaved woodland on an ancient woodland site, with ash and sycamore dominating the canopy, other species include hawthorn, elder ( <i>Sambucus nigra</i> ), hazel and elms ( <i>Ulmus sp.</i> ), with woodland ground flora species including dog's mercury ( <i>Mercurialis perennis</i> ), enchanter's nightshade ( <i>Circaea lutetiana</i> ), ferns and herb Robert ( <i>Geranium robertianum</i> ).
Cefn Glas Wood SINC	East 1.5km	Mature broadleaved woodland on a mainly east facing slope. Most of the area is classified woodland. The main canopy species include ash, sycamore, wych elm, with occasional beech and oak.
Chapel Hill SINC	South 1.6km	Semi-natural woodland plantation with canopy species dominated by beech and with characteristic woodland ground flora including ivy ( <i>Hedera sp.</i> ), dog's mercury and herb Robert.
Coed-y-Nawern SINC	South 1.6km	Semi-natural broadleaved woodland plantation forming a shelter belt for most of its length, including some very large veteran trees and on the edge of parkland (associated with Merthyr Mawr house).
Coed-yr-Hela SINC	North-east 1.6km	Mature broadleaved woodland with a canopy dominated by oak. Other tree species include ash, wych elm and occasional beech and sycamore.
Waun Fawr/ Coed Uchaf SINC	North-west 1.7km	The site had been identified as an ancient woodland and is directly adjacent to and partly made up of the Waunfawr, Cefn Cribwr SSSI. The site is designated for its species rich grassland, soft-leaved sedge ( <i>Carex disperma</i> ) and includes some areas of woodland.
Angelton Common SINC	North-east 1.7km	This small area of common land supports a mosaic of scrub, tall herbs and woodland. The woodland component is dominated by sycamore, grey willow ( <i>Salix cinerea</i> subsp. <i>oleifolia</i> ), alder ( <i>Alnus glutinosa</i> ) and ash with occasional hawthorn, oak and hazel.
Pwll-y-Mor SINC	West 1.7km	A small area of semi-natural woodland dominated by wet woodland and a pond.

Designation	Distance from site	Interest Feature(s)
Ffwyl Wood (South) SINC	North 1.8km	Mixed woodland plantation that has an assemblage of semi-natural ground flora indicator species.
Stormy Down SINC	North-west 1.7km	Extensive open down with un-grazed areas which have developed into predominantly dense continuous bracken ( <i>Pteridium</i> sp.) south of the M4 corridor with bramble, dewberry ( <i>Rubus caesius</i> ), hemp agrimony ( <i>Eupatorium cannabinum</i> ), willow herb ( <i>Epilobium angustifolium</i> ), mint ( <i>Mentha arvensis</i> ) and hemlock ( <i>Conium maculatum</i> ).
Penyfai Common SINC	North-east 1.7km	This large area of common mostly comprises a mosaic of semi-improved acid grassland, bracken and tall herbs, scrub and woodland.
Home Wood and Long Belt Wood SINC	West 1.8km	Mixed semi-natural broadleaved woodland on an ancient woodland site, comprising of a block to the main western part of the site plus a shelter belt of similar woodland extending along the hilltop to the east of the block.
Wildmill Community Park SINC, RIGS	East 1.8km	An area of scrubby broadleaved woodland with two areas of short-mown grassland, managed for public amenity. The southern part is mainly woodland.
Longacre Meadow SINC	North 1.9km	Small site consisting of an area of marshy grassland with scrub woodland on either side.
Island Farm POW Camp SINC	South-east 1.9km	Broadleaved semi-natural woodland with resident and breeding european protected species: hazel dormouse ( <i>Muscardinus avellanarius</i> ) and lesser horseshoe bat ( <i>Rhinolophus hipposideros</i> ).

### Habitats

- 3.7 Information on habitats within and around the Study Site was obtained during the desk study, Phase 1 survey and hedgerow assessment undertaken during spring 2020. The distribution of different habitat types within and adjacent to the Study Site is illustrated at **Plan EDP 4** and further described below. Illustrative photographs are provided at **Annex EDP 2**.

#### Arable

- 3.8 **F14** within the Study Site supports arable crop and currently comprises bare ground following autumn harvesting. The arable field within the Study Site is considered to be of limited ecological value given its poor botanical diversity, limited extent and intensive management.

#### Improved Grassland

- 3.9 The majority of the Study Site comprises agricultural land dominated by improved grassland, heavily grazed by sheep and/or cut for hay (**F1-F3**, **F10**, **F12**, **F13** and **F15-F17**), whilst **F6** is currently being grazed by horses. As such, improved grassland habitat is characterised by species-poor sward (circa 10cm high) with perennial rye-grass (*Lolium perenne*) is typically dominant. Crested dog's tail (*Cynosurus cristatus*), cock's-foot (*Dactylis glomerata*),

common bent (*Agrostis capillaris*), Yorkshire fog (*Holcus lunatus*) and false oat-grass (*Arrhenatherum elatius*) occur occasionally. Creeping thistle (*Cirsium arvense*), broadleaved dock (*Rumex obtusifolius*) and white clover (*Trifolium repens*) are also present across the Study Site and are further indicators of agricultural improvement. Improved grassland habitat is considered to be of limited ecological value given its poor floristic diversity and regular management.

#### *Marshy Grassland*

- 3.10 Four fields (**F5**, **F7**, **F8** and **F9**) within the northern and north-western extents of the Study Site, overlapping with Laleston Meadows SINC, support patches of marshy grassland habitat contiguous with woodland habitat and stands of semi-mature/mature trees. Each field is heavily grazed by sheep and, therefore, are represented by a short grassland sward (circa 0.1m high) characterised by false oat-grass, common bent, Yorkshire fog and cock's-foot with tufts of soft rush. Wood-sedge (*Carex sylvatica*) and glaucous sedge (*Carex flacca*), hairy-brome (*Bromopsis ramosa*), creeping thistle and common fleabane (*Pulicaria dysenterica*), were also present. Given its status as a SINC combined, marshy grassland is considered to be of at least **Local County Importance**, albeit deteriorated in condition due to grazing pressure.

#### *Semi-natural Broadleaved Woodland*

- 3.11 The northern and north-eastern boundaries of the Study Site comprise areas of broadleaved woodland characterised by mature and semi-mature ash (*Fraxinus excelsior*), beech (*Fagus sylvatica*), goat willow (*Salix capraea*), pedunculate oak (*Quercus robur*), hazel (*Corylus avellana*) and holly (*Ilex aquifolium*). Blackthorn (*Prunus spinosa*) and dog wood (*Cornus sanguinea*) occur occasionally. A ground flora community is relatively scattered with areas comprising bare, unvegetated ground. Where present a ground flora community is dominated by common ivy (*Hedera helix*) and bramble (*Rubus fruticosus* agg.) with occasional lesser celandine (*Ficaria verna*) and herb Robert (*Geranium robertianum*).
- 3.12 Broadleaved woodland provides suitable cover for a range of protected species including nesting habitat for birds and roosting and foraging opportunities for bats. A habitat of principal importance and further designated as a SINC, it is considered to be of relatively high ecological value.

#### *Scattered Broadleaved Trees*

- 3.13 Scattered trees are present in association with hedgerow boundaries and predominantly comprise mature and semi-mature ash (*Fraxinus excelsior*) and sycamore (*Acer pseudoplatanus*) with occasional pedunculate oak (*Quercus robur*). A line of poplar (*Populus* sp.) and alder (*Alnus glutinosa*) delineates the western boundary of **F13** whilst a defunct line of mature shrubs and trees delineates the boundary between the Study Site and Llangewydd Road, contiguous with broadleaved woodland. Here, sycamore, coppice hazel, blackthorn, pedunculate oak, hawthorn and holly is present.

- 3.14 Mature trees standards are of an age to be ecologically valuable in themselves but also provide potential habitat for nesting birds and roosting bats.

#### *Native Hedgerows*

- 3.15 The hedgerow network largely comprises native hedgerows in association with earth banks. The vast majority of the hedgerows are subject to regular management, and measure approximately 3m high and 2m wide. In contrast, hedgerows associated with boundaries of broadleaved woodland tend to remain unmanaged and thus outgrown.
- 3.16 The majority of hedgerows are species-poor, with blackthorn and hawthorn being the dominant species, whilst ash and hazel occur occasional. Mature tree standards occasionally present therein are typically dominated by semi-mature and mature ash and sycamore. Several of these hedgerows are defunct and subject to poaching by grazing sheep and cattle. As such, a ground flora community is relatively patchy and dominated by common ivy (*Hedera helix*), nettle (*Urtica dioica*), dog's mercury (*Mercurialis Perennis*) and cleavers (*Galium aparine*) with very occasional Lords-and-ladies (*Arum maculatum*).
- 3.17 In contrast, hedgerows **H6**, **H10**, **H11** and **H29** are notably species-rich and comprise such native shrubs as hawthorn, holly, hazel, blackthorn, dog wood (*Cornus sanguinea*), sycamore, ash, elder, rose (*Rosa* sp.) and elm (*Ulmus* sp).
- 3.18 Of the hedgerows recorded during the survey, **H3**, **H4**, **H11**, **H13** and **H30** qualify as 'Important' in accordance with the *Wildlife and Landscape criteria of the Hedgerow Regulations 1997 Act*. The full results of the hedgerow assessment for the Study Site are provided in **Annex EDP 3**.
- 3.19 Hedgerows comprise habitats of Principal Importance, whilst the hedgerows onsite form a relatively strong and well-connected network, both onsite and to the wider landscape. Such features are thus of ecological value and have potential to support a number of protected and notable species (as further detailed below).

#### *Continuous and Scattered Scrub*

- 3.20 Patches of scattered scrub are present along fence lines and sometimes in association with field margins, particularly around Laleston Meadows SINC (**F7**, **F8** and **F9**).
- 3.21 Such habitats are considered to be of limited ecological value *per se* given their limited floristic and structural diversity. Nevertheless, scattered scrub patches may provide additional cover for protected and notable species and a foraging resource.

#### *Tall Ruderal Vegetation*

- 3.22 Occasional stands of tall ruderal species are typically recorded in association with field margins or as stand along patches across improved grassland habitat. Common nettle (*Urtica dioica*) is dominant whilst hogweed (*Heracleum mantegazzianum*) and creeping thistle

(*Cirsium arvense*) occur occasionally. Such habitats are considered to be of negligible importance given their small extent and poor floristic diversity.

#### *Standing Water*

- 3.23 Several agricultural ponds (**P1-P6**) are present within the Study Site boundary. Ponds **P1**, **P5** and **P6** are medium sized and typically situated alongside field boundaries. They are characterised by shallow banks with scattered scrub and shrub present around the margins. As such, these ponds are heavily shaded with only occasional patches of aquatic vegetation including soft rush, water starwort (*Callitriche stagnalis*) and brooklime (*Veronica beccabunga*). Ponds **P2**, **P3** and **P4** are located within the boundaries of Laleston Meadows SINC. Located within areas of broadleaved woodland these waterbodies are similarly heavily shaded with a limited macrophyte community, represented by occasional patches of soft rush along shallow bank margins.
- 3.24 Ponds and waterbodies within the Study Site comprise Priority habitats and are thus considered of at least **Local** importance.

#### **Protected and/or Notable species**

- 3.25 The confirmed presence or likely absence of protected/and or notable faunal species within the Study Site is summarised below, with reference to desk study records, habitat suitability assessments recorded during the initial site visit and results of further detailed survey effort undertaken to date.

#### *Breeding Birds*

- 3.26 A large number of records of bird species were returned during the desk study assessment which include several Schedule 1 species, species listed on Section 7 of the Environment (Wales) Act 2016, and/or RSPB red/amber listed species<sup>10</sup>.
- 3.27 Records of Schedule 1 species include hobby (*Falco subbuteo*), barn owl (*Tyto alba*), red kite (*Milvus milvus*), fieldfare (*Turdus pilaris*), brambling (*Fringilla montifringilla*) and redwing (*Turdus iliacus*). A number of other priority species have also been recorded within 2km including house sparrow (*Passer domesticus*), dunnock (*Prunella modularis*), bullfinch (*Pyrrhula pyrrhula*), starling (*Sturnus vulgaris*), song thrush (*Turdus philomelos*), marsh tit (*Poecile palustris*), lapwing (*Vanellus vanellus*), kestrel (*Falco tinnunculus*), skylark (*Alauda arvensis*), tree pipit (*Anthus trivialis*) and lesser whitethroat (*Sylvia curruca*).
- 3.28 Woodland habitat within the Study Site has the potential to support several specialist woodland bird species, whilst mature tree standards may provide suitable features for nesting birds.

<sup>10</sup> Bladwell S, Noble DG, Taylor R, Cryer J, Galliford H, Hayhow DB, Kirby W, Smith D, Vanstone A, Wotton SR (2018) *The state of birds in Wales 2018*. The RSPB, BTO, NRW and WOS. RSPB Cymru, Cardiff.



Additionally, mature/semi-mature trees and hedgerows delineating internal field boundaries offer additional habitat to breeding birds more generally.

- 3.29 Improved grassland which dominates the Study Site, whilst providing an additional foraging resource, is considered unsuitable for nesting birds particularly ground nesting species, with grazing activity and intensive agricultural management likely to deter establishment of nests.

#### *Bats*

- 3.30 SEWBRc returned multiple records of bat species within 2km of the Study Site including records for brown long-eared bat (*Plecotus auritus*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), lesser horseshoe (*Rhinolophus hipposideros*), noctule (*Nyctalus noctula*) and *Myotis* sp. bats.
- 3.31 This is in addition to several records for bat roosts including a lesser horseshoe bat roost 680m south of the Study Site, a noctule, common pipistrelle, soprano pipistrelle and myotis bat roost 1.2km north of the Study Site, and a brown long-eared bat roost 1.5km north-west.
- 3.32 A single structure used as a shelter for livestock was identified within field **F6**, comprising three walls and a corrugated roof. This structure was considered to have negligible potential to support roosting bats given the absence of suitable roosting features, whilst the interior is exposed to light ingress and prevailing weather conditions.
- 3.33 With respect to mature trees present across the Study Site, including within the hedgerow network and in association with the Study Site's boundaries, an initial ground level inspection for features with bat roosting potential confirm the presence of trees with low, moderate and high bat roost potential.
- 3.34 More specifically, 11 trees/tree groups were considered to have high potential to support roosting bats (**T8, T21-25, T27-28, T30, G35 and T56**), seven trees/tree groups were considered to have moderate potential (**T2, T5, T7, T14, T18, G62 and G64**) to support roosting bats whilst 13 trees/tree groups were considered to have low potential (**T1, T4, T6, T10, T13, T20, T26, T61, T67, T88-89, T91 and T93**). The majority of these specimens are associated with Laleston Meadows SINC. The remaining trees on site were assessed as having negligible potential. The findings of the tree assessment are summarised within **Annex EDP 4** and illustrated on **Plan EDP 5**.
- 3.35 With respect to foraging and commuting bats, woodland and hedgerow boundaries provide suitable linear features for commuting bats further enhanced by the Study Site's connectivity to the wider landscape. Grassland habitat, in addition to woodland, also provides additional foraging opportunities.

### *Badger*

- 3.36 The closest records of badger (*Meles meles*) returned by SEWBRc during the desk study are within 1.1km of the Study Site. No records of badger were associated with the Study Site or immediate surrounding area.
- 3.37 No evidence of this species was recorded across the Study Site during the Extended Phase 1 survey. However, the Study Site supports extensive areas of grassland which could provide seasonal foraging opportunities to badger. Additionally, the hedgerow network and areas of woodland provide opportunities for sett building. In the absence of recorded badger setts, this species is considered to be of Site importance only.

### *Dormouse*

- 3.38 SEWBRc returned seven records for dormouse (*Muscardinus avellanarius*) during the desk study, the closest of which was for a nest 720m west of the Study Site, with other evidence of this species recorded by the People's Trust for Endangered Species (PTES) within 2km of the Study Site,
- 3.39 The Study Site supports a relatively extensive hedgerow network with good connectivity to additional hedgerow and woodland habitat present across the wider landscape. Such habitats are considered suitable to support dormouse, providing a potential foraging resource whilst offering suitable opportunities for dispersal, breeding and hibernation.

### *Otter and Water Vole*

- 3.40 A desk study returned multiple records for otter within 2km of the Study Site, several of which were returned from the River Ogmore. No records were returned for water vole (*Arvicola amphibicus*) during the desk study.
- 3.41 Waterbodies present onsite are considered unsuitable for water vole given the absence of suitable macrophyte cover and shallows banks unsuitable for burrowing. Similarly, waterbodies onsite are considered to be of negligible value to otter given their small size, absence of a foraging resource and lack of connectivity and spatial separation from more suitable habitat within the wider landscape. Both species are thus presumed absent from the Study Site. Overall the Study Site is considered to be of negligible importance to otter and water vole.

### *Great Crested Newt*

- 3.42 Four records for great crested newt were returned during the desk study, all located beyond 2km from the Study Site. This is in addition to several records of common frog (*Rana temporaria*) the closest of which is within 510m of the Study Site.

- 3.43 Six waterbodies were identified within the Study Site (**P1-P6**), whilst an initial desk study identified a further four waterbodies within 500m of the Study Site. As such, an HSI assessment of each waterbody onsite (**P1-P6**) was undertaken during the Extended Phase 1 survey.
- 3.44 A description of those ponds surveyed, and detailed results of the habitat suitability assessment is provided within **Annex EDP 5**. The habitat suitability assessment confirmed **P1** and **P4-6** to be of below average suitability to support great crested newt, whilst **P2** and **P3** are considered to have poor suitability.
- 3.45 More generally, managed/grazed improved and marshy grassland habitat is considered to be of limited suitability for a great crested newt population given its poor structural diversity and lack of suitable cover. Hedgerow boundaries and woodland habitat are, however, considered more suitable for great crested newt whilst also facilitating the dispersal of this species across the wider landscape such that its potential presence cannot be ruled out.

#### *Common Reptiles*

- 3.46 SEWBRc returned one record for grass snake (*Natrix natrix*) and common lizard (*Zootoca vivipara*), five for slow-worm (*Anguis fragilis*) and multiple records for adder (*Vipera berus*). The closest record is for slow-worm 243m west of the Study Site.
- 3.47 Sheep grazed improved and marshy grassland habitat is considered largely sub-optimal for a common reptile population given its poor structural diversity and lack of suitable cover. Hedgerow boundaries and woodland habitat are, however, considered more suitable for common reptiles. It is therefore considered unlikely that the Study Site supports a significant reptile population, although low numbers could possibly be supported, and likely confined to field margins and woodland habitat.

#### *Invertebrates*

- 3.48 A desk study returned several records of protected and notable species within 2km of the Study Site including pearl-bordered fritillary (*Boloria euphrosyne*), marsh fritillary (*Euphydryas aurinia*) and white-letter hairstreak (*Satyrium w-album*), all of which are listed under Schedule 5 of the Wildlife and Countryside Act (as amended, 1981). This is in addition to records of small pearl-bordered fritillary (*Boloria selene*) and dingy skipper (*Erynnis tages*), both red data book species.
- 3.49 Given the dominance of improved grassland of limited botanical and structural diversity, the Study Site is considered likely to support a wide range of common and generalist species only. A more diverse assemblage is likely to be associated with Laleston Meadows SINC including marsh fritillary a species which breeds exclusively on devil's-bit scabious (*Succisa pratensis*). Although not identified during the Extended Phase 1 survey, there are records for this species within Laleston Meadows SINC.

#### *Other Species Potentially Supported*

- 3.50 Records of other species within 2km of the Study Site include polecat (*Mustela putorius*) and European hedgehog (*Erinaceus europaeus*). Boundary features including hedgerows, scrub and woodland habitat provide suitable cover and foraging habitat for these species.
- 3.51 With respect to notable plant species, historical surveys of Laleston Meadows SINC during June 1996 and/or September 2011 recorded occurrences of the following notable species: devil's-bit scabious (*Succisa pratensis*), bluebell (*Hyacinthoides non-scripta*), yellow pimpernel (*Lysimachia nemorum*) and quaking grass (*Briza media*).
- 3.52 Two non-native species listed under Schedule 9 of the Wildlife and Countryside Act (1981, as amended) were identified during the Extended Phase 1 survey. A patch of Japanese knotweed (*Fallopia japonica*) was recorded offsite adjacent to Llangewydd Road, whilst scattered patches of Himalayan balsam was located within Laleston Meadows SINC.

#### **4. Summary and Conclusions in Respect of Ecology Matters**

- 4.1 This Ecology Briefing Note has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of Llanmoor Development Co Ltd in relation to Parc Llangewydd, Land at West Bridgend. This briefing note provides an initial high-level assessment of the Study Site with respect to identifying key ecological constraints and opportunities to inform a wider assessment of its potential to support future residential development and promotion to BCBC.
- 4.2 A desk study has identified several statutorily designated sites present within the Study Site's zone of influence the most pertinent of which includes Cefn Cribwr Grasslands SAC and Waun-fawr, Cefn Cribwr SSSI both of which are located 1.8km north-west of the Study Site, both of which are designated for populations of marsh fritillary butterfly and/or grassland habitat with potential to sustain such populations. Given the potential suitability of marshy grassland habitat associated with Laleston Meadows SINC to sustain metapopulations of marsh fritillary, potential indirect effects upon qualifying features of designated sites may therefore arise as a result of proposed development. Such effects are likely to be associated with the loss or degradation of habitats potentially supporting such species.
- 4.3 In addition, a desk study identified several non-statutory sites within the zone of Influence, most notably Laleston Meadows SINC which overlaps with the Study Site itself. As such, a future planning submission will need to consider the potential for direct and indirect impacts to arise upon qualifying features as a result of, for example, potential increased recreational pressure on sensitive habitats, a deterioration in water quality following increased surface water runoff and loss, disturbance and or degradation of qualifying features.

- 4.4 Inherent within the emerging masterplan, however, is the proposed retention of designated features associated with Laleston Meadows SINC, although some minor is anticipated to accommodate creation of new emergency access to the Study Site from its northern boundary. Such retained features will be further protected from potential harm/damage/disturbance through the sensitive design of built development away from SINC boundaries and inclusion of suitable buffers. The inclusion of Laleston Meadows SINC within the Study's Site boundary will, however, provide substantial potential for a balanced provision of areas of informal public open space and wildlife zones which, when linked with proposed Public Open Space (POS) and play areas across the developable site, this will provide a significant benefit to both visual and recreational amenity, conservation and biodiversity enhancement. In respect of the latter, the SINC provides a potential space to accommodate ecological mitigation and biodiversity enhancements and thus offset ecological impacts that may arise during development of adjacent land. Of further note, cessation of grazing activities following development and occupation of the Study Site and sensitive long-term management of sensitive habitats are likely to improve the existing condition of the SINC and facilitate its restoration to some extent, further compensating for habitat loss elsewhere across the Site.
- 4.5 Of further note will be the implementation of a sustainable strategy comprising attenuation features to manage and remediate surface water runoff, so as to ensure no detrimental impacts upon the water quality and hydrological regime of designated sites and sensitive habitat features within close proximity to the site. Such features are proposed for integration with areas of public open space, maximising opportunities for formal/informal play areas (where appropriate) or otherwise delivering further strengthening the green infrastructure network present onsite through provision of biodiversity enhancements, including species-rich grassland creation and/or new native tree and shrub planting.
- 4.6 An Extended Phase 1 survey was completed on 25 February 2020 by a suitably qualified ecologist. The Study Site to be dominated by agriculturally improved grassland of limited botanical interest and thus of low inherent ecological value. Habitats of greatest ecological importance include native hedgerows delineating the northern boundary of the Study Site and internal field boundaries in addition to woodland habitat and marshy grassland associated with Laleston Meadows SINC. Further detailed surveys in respect of roosting bats undertaken on 05 March 2020 identified several trees with low to high potential to support a bat roost whilst onsite ponds have been considered for their potential to support great crested newt.
- 4.7 As such, the Framework Masterplan has sought to locate development across those habitats of predominantly limited ecological value whilst retaining boundary habitats as far as possible. In particular, hedgerows **H3**, **H4**, **H11**, **H13** and **H30** which qualify as 'Important' in accordance with the *Wildlife and Landscape criteria of the Hedgerow Regulations 1997 Act*, are proposed to be retained in full. This is in addition to retention of hedgerows **H6**, **H10**, **H11** and **H29** which are notably species-rich and those which are likely to provide key wildlife corridors across the Study Site such as those associated with onsite waterbodies.

- 4.8 Where retained, such features have been accommodated within proposed informal open green space and sustainable transport links, which ultimately enhances connectivity throughout the Study Site and contributes to the wider green infrastructure resource.
- 4.9 Where avoidance is not possible, however, and will result in the loss of internal field boundaries albeit predominantly species-poor or defunct), the Study Site is considered to be of sufficient size and extent to enable future development proposals to flexibly avoid and/or mitigate for any significant ecological constraints and compensate for the unavoidable loss of ecologically valuable habitats through the enhancement and long-term management of retained habitat features of value to protected and notable species in addition to new habitat creation. This will be in addition to the sensitive positioning of built development away from retained boundary features to minimise damage.
- 4.10 Further detailed habitat and species surveys are recommended to inform a planning application and ensure proposed mitigation is appropriate and proportional. Recommended survey effort is detailed in **Table EDP 4.1** below:

**Table EDP 4.1:** Scope of further detailed protected species surveys.

Survey Type	Description
Bat Tree Assessment	Any trees likely to be felled/impacted by development proposals, with moderate or high potential to support roosting bats should be subject to detailed aerial inspection to confirm presence/infer absence of roosting bats. Further formal ground level assessments of all trees within the working footprint is, furthermore, recommended once a fixed masterplan for development proposals has been established.
Detailed Botanical Survey	Further detailed botanical assessment of land comprising Laleston Meadows SINC is recommended to assess the current condition of the SINC and thus inform the scope of any mitigation. Of particular pertinence, an assessment should include a search for devil's bit scabious to inform the site's potential to support populations of marsh fritillary, with further survey in respect of this invertebrate species undertaken if necessary following completion of the botanical assessment.
Bat Activity Surveys	Hedgerow corridors across the Study Site provide a linear feature for bats commuting across the landscape, whilst grazed pasture and woodland provide a foraging resource. Survey effort comprising manual transect and automated bat detector surveys will be required to inform any future planning submission.
Breeding Birds	In respect of the suitability of habitats associated with the SINC, to support a breeding bird assemblage, further assessment may be required to determine the importance of the Study Site for a bird assemblage. As suitable habitat is, however, confined to the SINC and internal field boundaries a single 'pilot' survey is recommended in the first instance.
Badger	In respect of the ability of this species to excavate new setts in a short space of time, further update surveys will be required to inform a future planning application.

Survey Type	Description
Dormouse	Woodland and hedgerow boundaries and dense scrub provide suitable habitat for this species whilst there are records of dormouse presence within 2km of the Study Site. Nest tube surveys combined with a search for nibbled hazel nuts (where present) will be required to confirm presence/infer absence of this species.
Great Crested Newt	Water sampling (eDNA) analysis of onsite waterbodies and those within 500m of the Study Site is recommended to confirm presence/infer absence of great crested newt with further survey effort being undertaken to establish a population size if presence is confirmed.

4.11 **Table EDP 4.2** summarises other survey types which, while commonly required to inform a planning submission for development sites, were not considered necessary/appropriate in this case.

**Table EDP 4.2:** Ecology surveys scoped out.

Survey Type	Reasons for Scoping Out
Otter/ Water Vole	No suitable habitat for these species exist on or adjacent to the Study Site. As such, no further detailed surveys are considered necessary to inform the application.
Reptiles	In respect of the limited extent of suitable habitat for common reptiles restricted to woodland and field margins, combined with the proposed retention of woodland habitat no further survey effort to validate a future planning application is considered necessary. In this instance, however, precautionary measures during future site clearance should be adopted to avoid harm/injury in the unlikely event a reptile population is identified.

4.12 More generally, however, it is considered that future development of the Study Site could incorporate appropriate inherent avoidance, mitigation and enhancement measures required to ensure that a development **scheme** could be implemented in accordance with national and local planning policy and wildlife legislation.



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**Annex EDP 1**  
**LDP Candidate Site Key Drawings, April 2020**



# PARC LLANGEWYDD LAND AT WEST BRIDGEND



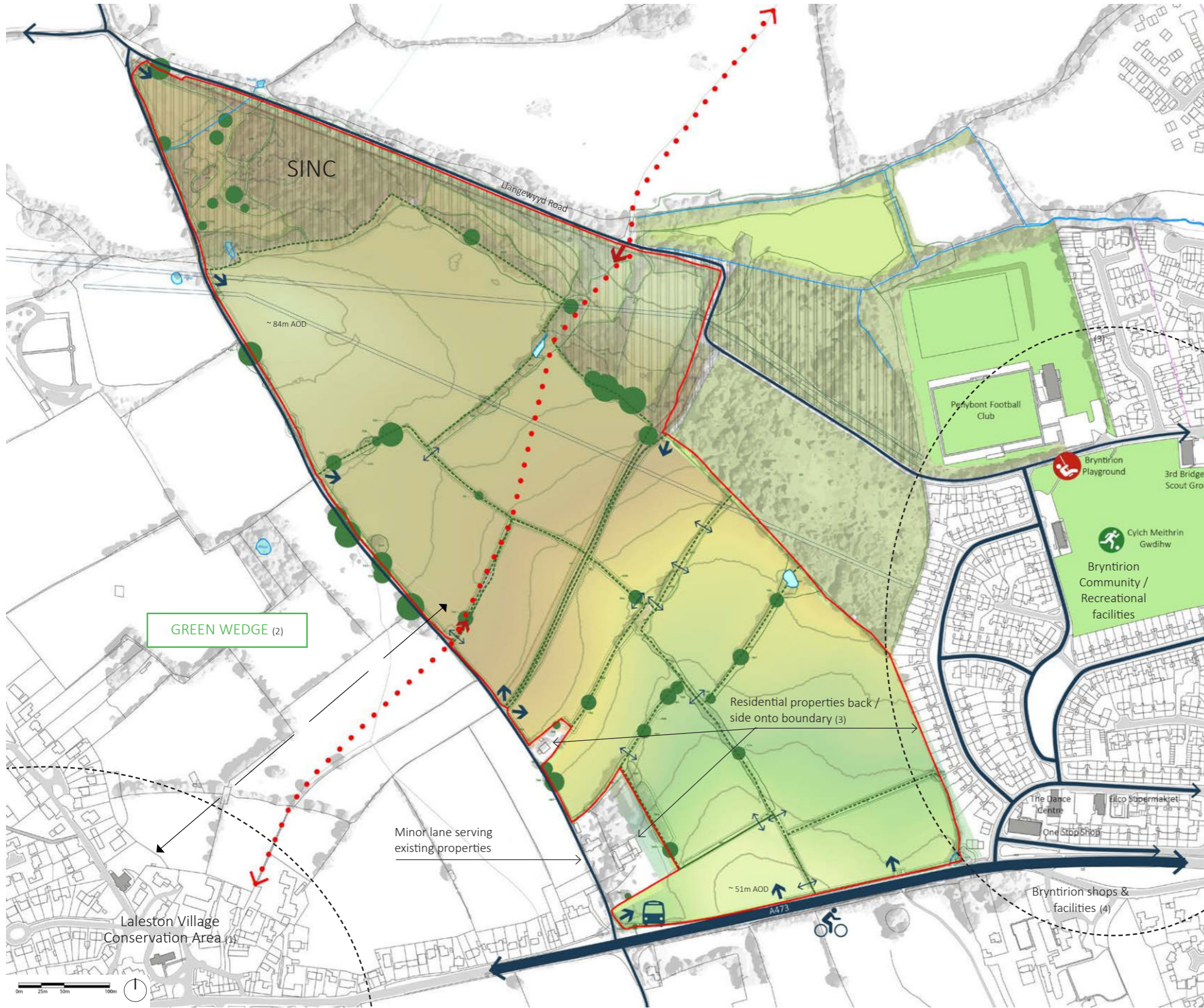
Llanmoor  
Homes

LDP CANDIDATE SITE  
DRAWINGS BOOKLET

FINAL ISSUE APRIL 2020 | VERSION 01

# PARC LLANGEWYDD | LAND AT WEST BRIDGEND

## KEY SITE FEATURES & CONSTRAINTS PLAN



### KEY

#### Key Site Features / Constraints:





















- Site Boundary 36.85ha [91.06ac]
  - ⤵ Existing ponds / watercourses
  - Existing field boundaries
  - Existing parallel hedge / track
  - ↗ Existing field access
  - ↗ Public Right of Way (PROW) connection
  - ⋯ Public Right of Way
  - Overhead Electricity Cable
  - Site of Important Nature Conservation (SINC)
  - Existing Tree / Hedgerow
  - ⊙ Adjacent Playground
  - ⊙ Playing fields
  - Public Open Space / Recreational Facilities
  - Surrounding road network
  - Minor lane - access limited
  - 🚌 Bus stop adjacent to site
  - 🚲 Cycle route
  - 2m Lidar Contours  
High: 83.8m AOD to Low: 51.5m
  - ↗ Views / to from Laleston Conservation Area- predominately stone rubble buildings with some buildings now stone washed and rendered
1. Proximity to Laleston Village and Conservation Area
  2. Green wedge forms a buffer between Laleston and the site
  3. Residential properties back / side on- over looking privacy consideration
  4. Proximity to Bryntirion community and recreational facilities /services

# PARC LLANGEWYDD | LAND AT WEST BRIDGEND

## MASTERPLAN FRAMEWORK



### PLACEMAKING PRINCIPLES

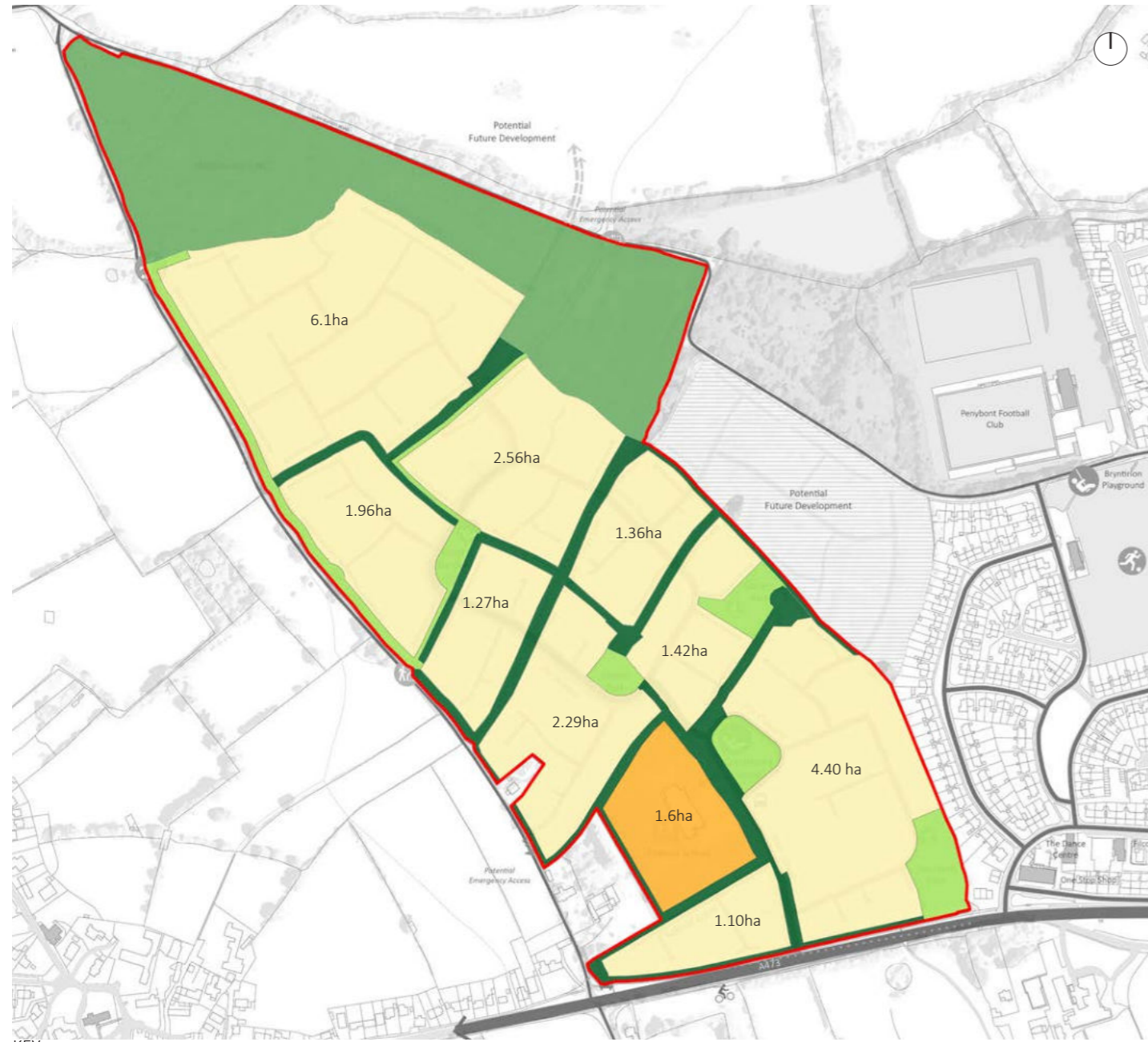
-  Site Boundary 36.85ha [91.06ac]
-  Residential - High quality, mixed tenure residential community with distinct character areas responding to the site context and creating a sense of place. Variation in built form and density, positively fronting streets and areas of public open space.
-  Education- 1.5 form entry Primary School and 45 nursery places, set within 1.6ha green space, incorporating playing fields and SUDS and sensitively integrated within existing hedgerows and tree planting screening views from Laleston.
-  Healthy Neighbourhoods - A coherent and attractive network of green streets, walking and cycling friendly routes, and open space promoting active travel, health and well being and enhancing biodiversity.
-  Indicative bus stop location on Main Street / The Crescent
-  Public Right of Way (PROW)- wayfinding system / interpretation.
-  'Laleston Link'- realigned PROW aligned with existing green corridors.
-  Formal shared foot and cycle route set within green corridor.
-  'Y Berth' - Informal track through existing hedgerow corridor.
-  Woodland Area / SINC: Nature Conservation Area / Wetland Habitat / Informal green space for people to experience nature.
-  Significant multifunctional network of green spaces, retaining/maintaining/re-providing hedgerows, trees and SUDS features.
-  Public Open Space that may incorporate formal play equipment; natural play and landscape detention basins that provide amenity and biodiversity benefits.
-  Wetland habitat / flood out area / SUDS feature.
-  Western Linear Park- Naturalised green buffer between the Lane and proposed residential area softening views between the site and Laleston and creating/maintaining wildlife corridors.
-  Local Equipped Area of Play (LEAP) and Local Area of Play (LAP).
-  Local Area of Play (LAP)
-  Local Landscape Area of Play (Softer landscape forms and features).
-  Trim Trail Adventure Play Zone
-  Trim Trail / Station.
-  Potential Emergency Access.

# PARC LLANGEWYDD | LAND AT WEST BRIDGEND






## PARAMETER PLANS



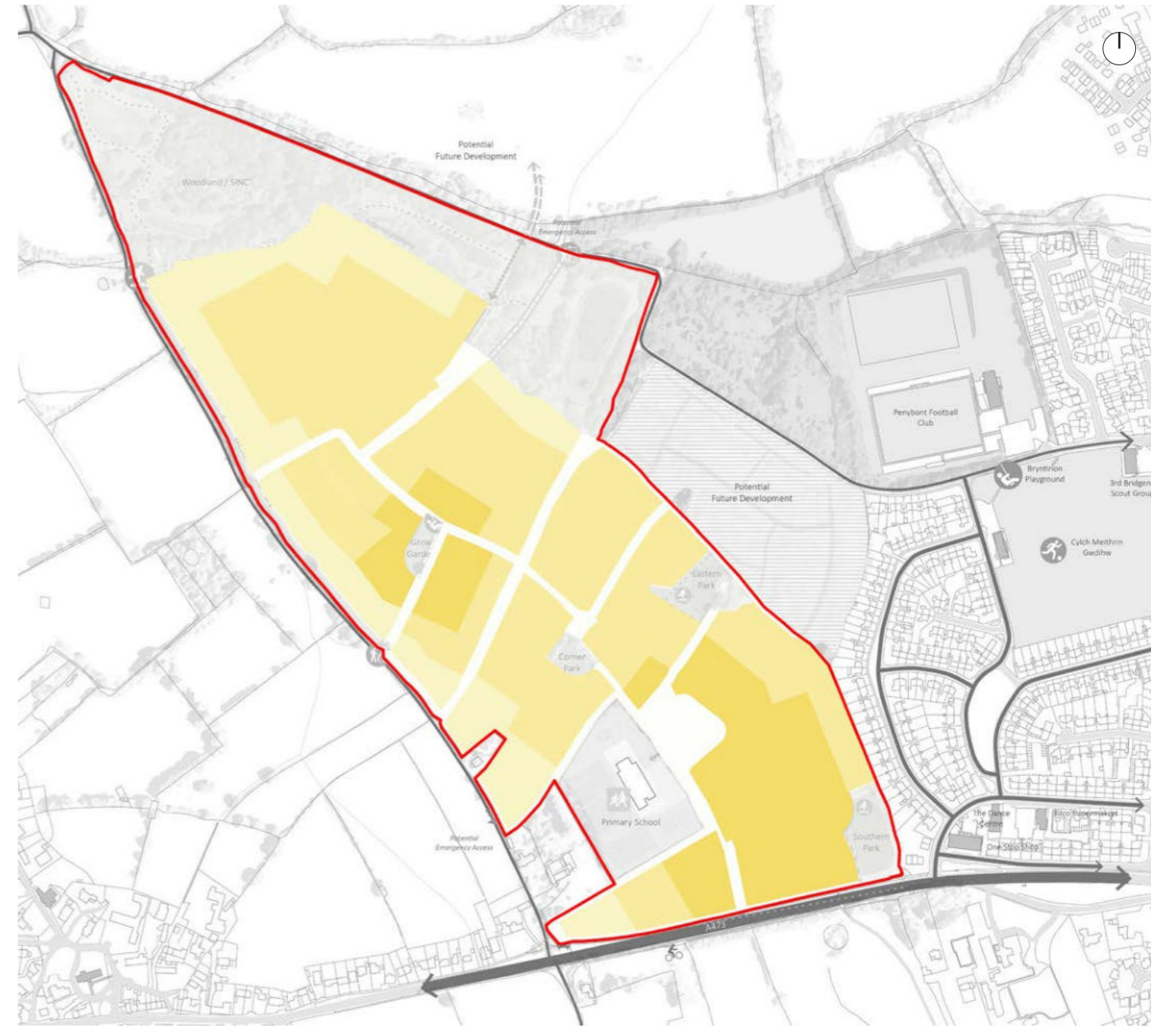
### LAND USE






KEY

 Residential: 22.46ha (Circa 850 open market & affordable homes)	 Woodland Area / SINC: 7.82ha (Natural/Semi natural area for nature conservation / new wetland habitat / SUDS / informal green space for people to experience nature)	 Green Infrastructure: 2.87ha (Green Streets, amenity green space)
 Education: 1.6ha (1.5 form entry Primary School, 45 nursery places and formal outdoor sports)	 Formal Public Recreation & Open Space: 2.1ha (Children's play space / Informal amenity space)	

### DENSITY

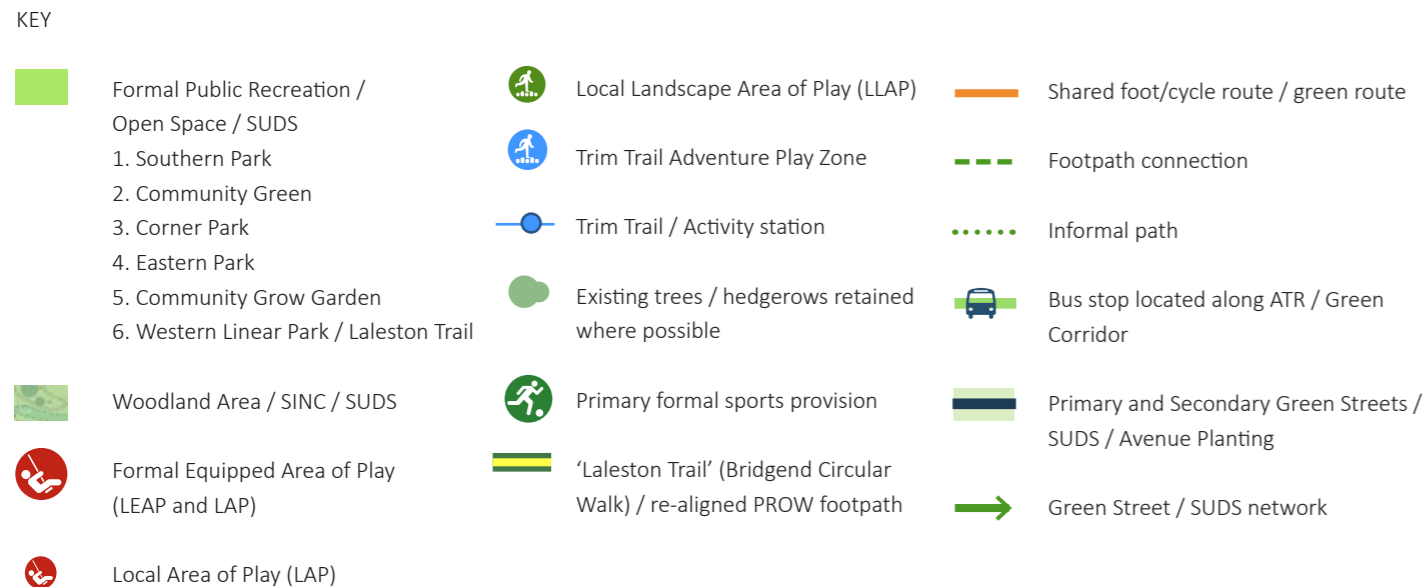


KEY

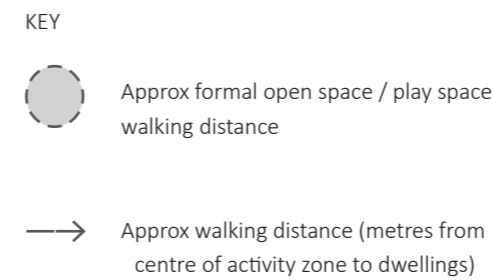
 Medium to Higher density: 7.19ha More formal pattern of development. Mix of 2, 2.5 and 3 storey development.	 Medium to Lower Density: 4.77ha Informal pattern of development that respects the setting of Laleston/woodland edge to the development. Typically 2 storey development.
 Medium Density: 10.5ha Less formal pattern of development. Typically 2 storey development with occasional 2.5 storey/3storey focal building development.	



**GREEN INFRASTRUCTURE**



**APPROXIMATE OPEN SPACE WALKING DISTANCES**

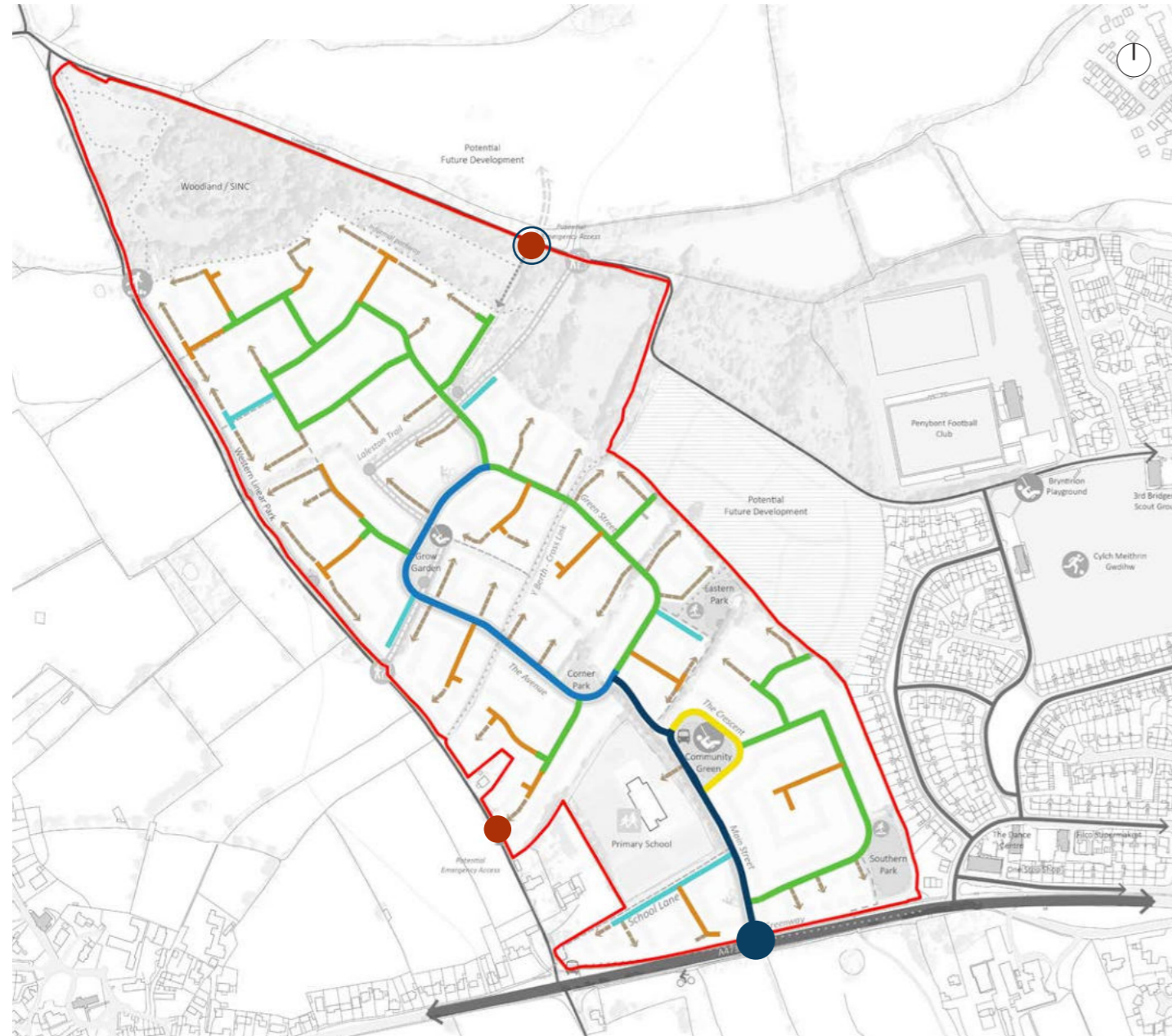


# PARC LLANGEWYDD | LAND AT WEST BRIDGEND

## PARAMETER PLANS

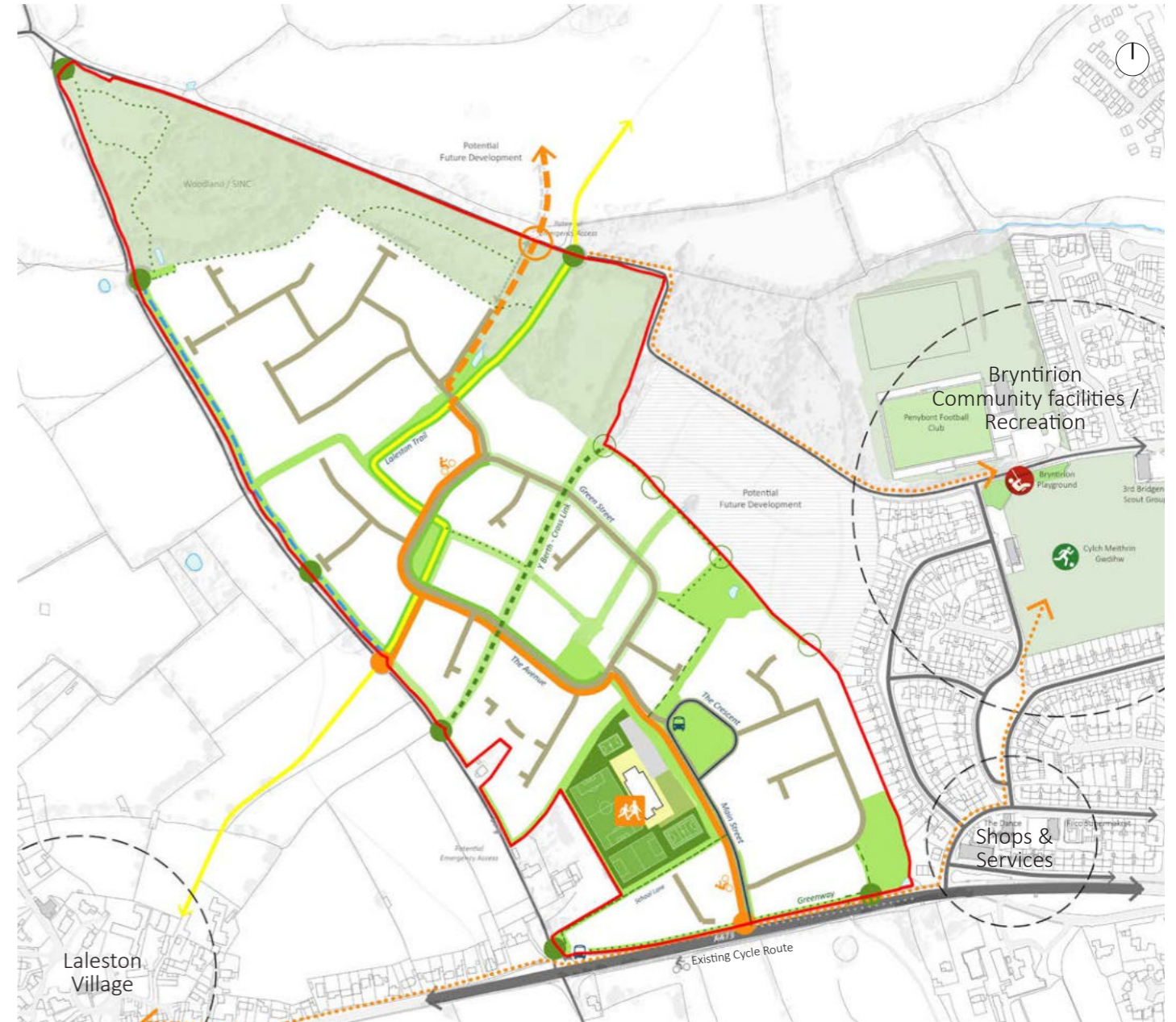


### STREET HIERARCHY



- KEY
- Site Access (all modes)
  - Potential emergency access point
  - Potential future vehicular connection
  - Main Street  
(Primary street accommodating buses, shared foot/cycle path, swales, street planting)
  - The Avenue  
(Primary Street accommodating shared foot/cycle path, swales, street planting)
  - The Crescent  
(Secondary Street accommodating bus loop, swales, street planting)
  - Green Street  
(Secondary Street accommodating swales, street planting, on carriageway cycling)
  - Inner Street  
(Tertiary Street, on carriageway cycling)
  - Community Street  
(Shared Street, link to POS / School)
  - Lane / Private Drive (Shared Street)
  - \* Car Parking Strategy: on plot/ on street/within courtyards, unallocated on street visitor parking

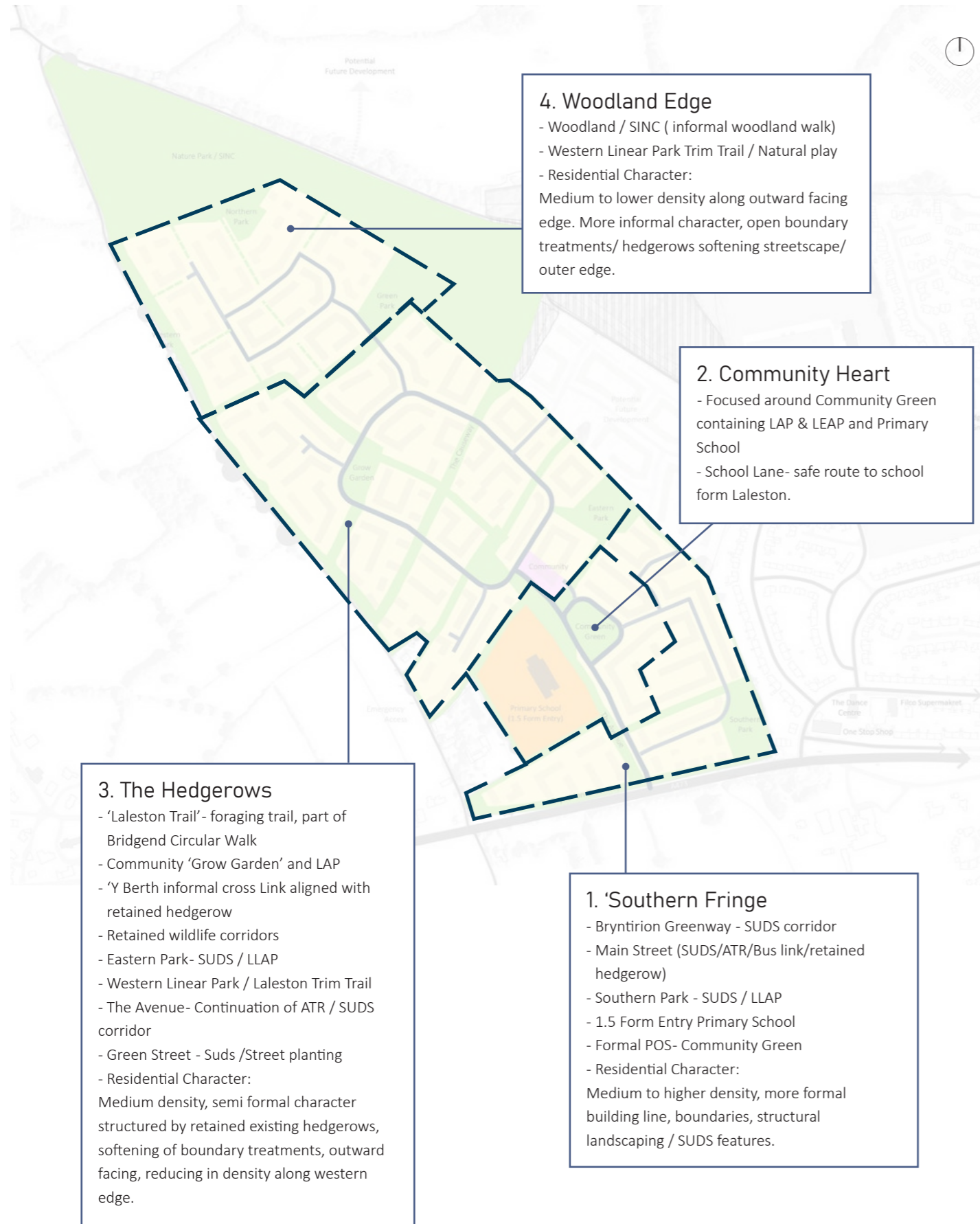
### ACTIVE TRAVEL ROUTES



- KEY
- Pedestrian / Cycle access
  - Pedestrian access
  - Future Pedestrian Access
  - Shared foot/cycle route (3m)
  - Potential shared foot/cycle route connecting to future development
  - Y Berth Cross Link (informal made footpath)
  - 'Laleston Way' (Bridgend Circular Walk) re-aligned 2m PROW footpath
  - Existing PROW
  - Footpath connection
  - Trim / Play Trail
  - Indicative informal path / nature trail
  - Connected street network
  - Bus Loop (clockwise)
  - Bus Stop (indicative only)



**CHARACTER & PLACE**



**BUILT FORM & KEY FRONTAGES**



**KEY**


- Residential / indicative built form
- Public open space
- School landmark / focal building
- Community focal space
- Gateway area / Focal space / Focal building
- Key frontage / corner building
- Frontage onto open space / Outward facing edge



INDICATIVE PHASING PLAN



KEY

-  Indicative Development Phase
- Phase 1 – Southern Fringe and Community Heart
- Phase 2 – The Hedgerows to Y Berth
- Phase 3 – The Hedgerows north of Y Berth
- Phase 4 – Woodland Edge.





## Community Cross Links

The existing dual hedgerow feature traversing the site will be ratified as an informal walking trail - **Y Berth/ The Hedgerows**. Openings in the route will ensure a safe, attractive and convenient trail experience.

The existing Public Right of Way through the site will be realigned along retained hedgerows and areas of open space to provide a more naturalistic and accessible connection. The **Laleston Trail** (PROW) will connect the site to Laleston via the wider Bridgend Circular Route. Opening along the route will provide space for 'natural' play stations forming part of the wider **Trim/Play Trail**.



## Natural Edges

**Western Linear Park** will provide a natural, soft buffer to the edge of the site bordering Laleston. The existing green hedgerows and trees along the lane will be retained and form the edge of a new natural park. A **Trim/Play trail** could be provided along the length of the linear park with equipped/ natural 'stations' providing opportunity for exercise and imaginative play.

**The Woodland** to the north/north-east is identified as a SINC, protected because of its nature conservation value, will be celebrated as a multifunctional 'green and blue' asset. Opportunities to create **wetland areas** in existing glades will extend the habitat and provide space for SUDs. Opportunities to provide controlled access, via an informal trail(s) of crushed stone path/ mown grass, will allow people to enjoy and appreciate nature without harming the sensitive environment. Allocating provision for **allotments** could also be considered.



## Green Streets & Amenity Space

A network of attractively landscaped **Green Streets and Spaces** provided across the development will accommodate and link the essential green infrastructure for the site. Landscaped **SUDs features** will be integrated to manage surface water and create an aesthetically pleasing area to travel through. Other 'green elements' including generous gardens, hedges, trees, street trees and planting will provide further amenity space and help increase habitat and biodiversity.



## Natural Parks

**Southern Park, Eastern Park** and **Corner Park** will form a collection of softer areas of open space. The design of these spaces will incorporate unequipped natural spaces that encourage imaginative play, accommodate SUDs and support biodiversity.



## Civic Parks

**Community Green** and a **Grow Garden** area will be located along the primary and secondary street network, well served by a designated walking and cycling paths. They will form the main 'civic' spaces to the development. The design of these space will incorporate both active and quiet areas and accommodate a wide range of activities, including formal equipped play areas and SUDs features integrated in a naturalistic way.



## Formal Outdoor Sport Provision

**Parc Llangewydd Primary School** will play a much wider and multi-functional role in the community through addressing both the broad range of educational needs of children and young people during traditional school opening hours and also acting as community-based learning and recreational environments, especially during out-of-school hours and school holidays. A range of formal active recreational uses will be

provided on site, such as pitches, green courts and formal trim trails which could be made available to the wider community.

**Bryntirion Playing Fields, Penybont Football Club** and **Cylch Meithrin Gwdihwed** Community Centre are located to the north-east of the development, providing large outdoor areas of space and a play park for the wider community to utilise.



**Annex EDP 2**  
**Illustrative Photographs**



**Photo EDP 1:** Field **F1**, improved grassland.



**Photo EDP 2:** Field **F4**, grazed marshy grassland.



**Photo EDP 3:** Field **F6** delineated by broadleaved woodland.



**Photo EDP 4:** Woodland associated with Laleston Meadows SINC



**Photo EDP 5:** Improved grassland and line of poplar trees delineating field boundary.



**Photo EDP 6:** Waterbody **P1**.



**Photo EDP 7:** Waterbody P2.



**Photo EDP 8:** Tree with bat roost potential.

**Annex EDP 3  
 Hedgerow Assessment Results**

**Table EDP A3.1:** Hedgerow Assessment Results, March 2020.

Criteria	Hedgerow ID										
	H1		H2		H3	H4		H5	H6		
Hedgerow Length (Approx.)	155m		190m		90m	145m		90m	240m		
Hedgerow notes	Managed double hedge on bank, cut annually, intact		Managed hedge cut annually on a bank		Managed dense hedge	Section of hedge next to a ditch, section comprising a double hedge and another section on a bank (leggy)		Managed hedge, leggy in places due to poaching from livestock	Managed roadside hedge		
Schedule 3 woody species noted	Blackthorn, ash, hazel	Blackthorn, ash	Rose, blackthorn, hazel, hawthorn	Blackthorn, holly	Ash, hazel, rose, blackthorn, hawthorn	Blackthorn, holly, elder	Blackthorn, hawthorn, elder, dog rose	Blackthorn, hawthorn	Blackthorn, hawthorn, hazel, dogwood	Holly, blackthorn	Blackthorn, elm, hawthorn, rose
Average number of Schedule 3 woody species	2.5		3		5	4		2	3.5		

Criteria	Hedgerow ID					
	H1	H2	H3	H4	H5	H6
Black-poplar, wild service-tree, large-leaved lime or small-leaved lime?	No	No	No	No	No	No
Schedule 2 woodland species	Bluebell, dog's mercury, hart's tongue, herb-robert, Lords-and-ladies	Hart's tongue, herb-robert, Lords-and-ladies	Hart's tongue, herb-robert, Lords-and-ladies	Hart's tongue, Lords-and-ladies	Herb-robert, Lords-and-ladies	Hart's tongue, herb-robert, Lords-and-ladies
3 woodland species?	5	3	3	2	2	3
Other ground flora species present	Celandine, common ivy.	Common nettle, common ivy, daisy, cleavers	Cow parsley, cleavers, common nettle, common ivy	Cow parsley, cleavers, common nettle, common ivy	Common nettle, cleavers, daisy	Common nettle and ivy, cow parsley
Supporting bank/wall along 50% of hedgerow?	Yes	Yes	Yes	Yes	Yes	Yes
Ditch along at least 50% of hedgerow?	No	No	No	Yes	No	No
Total proportion of gaps in hedgerow less than 10% of hedgerow length?	Yes	Yes	Yes	No	Yes	Yes
At least one standard tree per 50 of hedgerow?	No	No	No	No	No	No
Parallel hedge present?	Yes	Yes	Yes	Yes	No	Yes

Criteria	Hedgerow ID					
	H1	H2	H3	H4	H5	H6
Hedgerow adjacent to a bridleway/footpath/byway?	Yes	Yes	Yes - Road	Yes - footpath	No	Yes - Road
Number of connection points?	4	3	4	6	4	4
<b>Hedgerow 'Important'?</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>No</b>

Criteria	Hedgerow ID						
	H7	H8	H9	H10	H11	H12	
Hedgerow Length (Approx.)	140m	120m	180m	250m	250m	150m	
Hedgerow notes	Defunct hedge and tree line with shrubby section	Managed hedge, shrubby and with one section where the livestock have crossed through	Outgrown hedge with some trees and sections of bramble. Areas poached by sheep	Managed roadside hedge, shrubby.	Managed roadside hedge. Unmanaged on the field side.	Managed hedge adjacent to tree line. Some bramble sections.	
Schedule 3 woody species noted	Blackthorn, hawthorn, ash, sections of bramble Blackthorn, hawthorn, holly, ash	Blackthorn	Blackthorn	Hawthorn, blackthorn	Hawthorn, hazel, blackthorn	Hawthorn, hazel, blackthorn	Semi-mature ash
Average number of Schedule 3 woody species	3.5	1	3	3.5	4	2	
Black-poplar, wild service-tree, large-leaved lime or small-leaved lime?	No	No	No	No	No	No	
Schedule 2 woodland species	Lords-and-ladies	Herb-robert, Lords-and-ladies	Lords-and-ladies	Bluebell, Lords-and-ladies, primrose	Bluebell, herb-robert, Lords-and-ladies	Dog's mercury, Lords-and-ladies, primrose	

Criteria	Hedgerow ID					
	H7	H8	H9	H10	H11	H12
3 woodland species?	1	2	1	3	3	3
Other ground flora species present	Common nettle, daisy, fern sp.	Common nettle, daisy, cleavers	Common nettle, daisy, dock, common ivy	Common nettle, daisy, bracken, cleavers	Snowdrop, celandine, common ivy	Common ivy and nettle
Supporting bank/wall along 50% of hedgerow?	Yes	Yes	Yes	Yes	Yes	Yes
Ditch along at least 50% of hedgerow?	No	No	No	No	No	No
Total proportion of gaps in hedgerow less than 10% of hedgerow length?	No	Yes	No	Yes	Yes	Yes
At least one standard tree per 50 of hedgerow?	Yes	No	Yes	Yes	No	Yes
Parallel hedge present?	No	No	No	Yes	Yes	No
Hedgerow adjacent to a bridleway/footpath/byway?	No	No	Yes - footpath	Yes - Road	Yes - Road	No
Number of connection points?	3	4	6	6	5	6
<b>Hedgerow 'Important'?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>



Criteria	Hedgerow ID									
	H13	H14	H15	H16	H17	H18				
Hedgerow Length (Approx.)	160m		80m	155m	190m	170m	70m			
Hedgerow notes	Managed hedge		Managed hedge	Outgrowth shrubby hedge with trees. Some poaching	Outgrown shrubby hedge with trees	Outgrown defunct hedge with trees	Managed hedge			
Schedule 3 woody species noted	Hawthorn, dogwood, ash, blackthorn	Hazel, ash, hawthorn, blackthorn	Elder, hawthorn, blackthorn	Hawthorn, semi-mature ash	Holly, hawthorn, blackthorn, hazel	Hawthorn, elder	Hawthorn, ash, blackthorn	Hawthorn, semi-mature ash, holly	Hawthorn, ash, blackthorn	Hawthorn, elder
Average number of Schedule 3 woody species	4		3	3	2.5	3.5	2			
Black-poplar, wild service-tree, large-leaved lime or small-leaved lime?	No		No	No	No	No	No			
Schedule 2 woodland species	Bluebell, dog's mercury, hart's tongue, Lords-and-ladies, primrose		Herb-robert, Lords-and-ladies	Herb-robert, Lords-and-ladies, primrose	Dog's mercury, herb-robert, Lords-and-ladies, primrose	Herb-robert, Lords-and-ladies	Herb-robert, Lords-and-ladies			
3 woodland species?	5		2	3	4	2	2			
Other ground flora species present	Common ivy and nettle and celandine		Red campion common nettle and ivy, cleavers	-	Common ivy and nettle, celandine	Celandine	Common nettle and ivy, celandine			
Supporting bank/wall along 50% of hedgerow?	Yes		Yes	Yes	Yes	Yes	Yes			

Criteria	Hedgerow ID					
	H13	H14	H15	H16	H17	H18
Ditch along at least 50% of hedgerow?	No	No	No	No	No	No
Total proportion of gaps in hedgerow less than 10% of hedgerow length?	Yes	Yes	Yes	Yes	No	Yes
At least one standard tree per 50 of hedgerow?	No	No	Yes	Yes	Yes	No
Parallel hedge present?	Yes	No	No	No	No	No
Hedgerow adjacent to a bridleway/footpath/byway?	No	Yes	No	No	No	No
Number of connection points?	5	4	3	6	6	5
<b>Hedgerow 'Important'?</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Criteria	Hedgerow ID					
	H19	H20	H21	H22	H23	H24
Hedgerow Length (Approx.)	170m	85m	180m	45m + 70m	145m	130m
Hedgerow notes	Managed roadside hedge	Managed hedge	Managed hedge	Two sections of hedgerow subdivided by a wall	Managed hedge	Managed hedge with mature trees and some gaps
Schedule 3 woody species noted	Hawthorn, blackthorn Blackthorn, ash, holly	Blackthorn	Dogwood, blackthorn, elder Blackthorn, holly, elder	Elder, blackthorn, hawthorn, rose Hawthorn, hazel, elder, ash, blackthorn	Blackthorn, hawthorn, hazel Blackthorn, hawthorn, hazel	Elder, blackthorn, hawthorn, rose Elder, blackthorn, hawthorn, rose
Average number of Schedule 3 woody species	2.5	1	3	4.5	3	4
Black-poplar, wild service-tree, large-leaved lime or small-leaved lime?	No	No	No	No	No	No
Schedule 2 woodland species	Herb-robert, Lords-and-ladies	Herb-robert, Lords-and-ladies	Hart's tongue, herb-robert, Lords-and-ladies	Lords-and-ladies	Dog's mercury, Lords-and-ladies	Dog's mercury
3 woodland species?	2	2	3	1	2	1
Other ground flora species present	Common nettle and ivy	Common ivy, celandine	Common ivy and nettle	Common ivy and nettle, cleavers	Common ivy and nettle, daisy, celandine	Common ivy and nettle

Criteria	Hedgerow ID					
	H19	H20	H21	H22	H23	H24
Supporting bank/wall along 50% of hedgerow?	Yes	Yes	Yes	Yes	Yes	Yes
Ditch along at least 50% of hedgerow?	No	No	No	No	No	No
Total proportion of gaps in hedgerow less than 10% of hedgerow length?	Yes	Yes	Yes	No	No	Yes
At least one standard tree per 50 of hedgerow?	No	No	No	No	No	Yes
Parallel hedge present?	No	No	No	No	No	No
Hedgerow adjacent to a bridleway/footpath/byway?	Yes - Road and pavement	No	No	Yes - Road and pavement	No	No
Number of connection points?	3	2	2	2	3	4
<b>Hedgerow 'Important'?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Criteria	Hedgerow ID						
	H25	H26	H27		H28	H29	H30
Hedgerow Length (Approx.)	60m	70m	140m		85m	190m	45m
Hedgerow notes	Edge of woodland with outgrown shrubs and trees	Managed hedge	Managed hedge		Outgrown shrubby hedge, defuncted in places	Managed hedge	Hedge cutback
Schedule 3 woody species noted	Blackthorn, hawthorn	Holly, ash, blackthorn	Hawthorn, blackthorn, elder, ash	Hawthorn, blackthorn, elder, ash	Blackthorn, hawthorn, holly	Hawthorn, blackthorn, dogwood Hawthorn, ash, elder, birch	Elm, privet, hawthorn, blackthorn
Average number of Schedule 3 woody species	2	3	4		3	3.5	4
Black-poplar, wild service-tree, large-leaved lime or small-leaved lime?	No	No	No		No	No	No
Schedule 2 woodland species	Dog's mercury, hart's tongue, Lords-and-ladies	Herb-robert, Lords-and-ladies	Herb-robert, Lords-and-ladies		Bluebell, Lords-and-ladies	Dog's mercury, herb-robert, Lords-and-ladies	Lords-and-ladies
3 woodland species?	3	2	2		2	3	1
Other ground flora species present	Common ivy and nettle	Common ivy and nettle, celandine	Common ivy and nettle		Dock, common ivy and nettle, cleavers	Common ivy and nettle, daisy, cleavers	Common ivy and nettle, celandine
Supporting bank/wall along 50% of hedgerow?	Yes	Yes	Yes		Yes	Yes	Yes
Ditch along at least 50% of hedgerow?	No	No	No		No	No	No

Criteria	Hedgerow ID					
	H25	H26	H27	H28	H29	H30
Total proportion of gaps in hedgerow less than 10% of hedgerow length?	No	Yes	Yes	No	Yes	Yes
At least one standard tree per 50 of hedgerow?	Yes	Yes	Yes	Yes	No	No
Parallel hedge present?	No	Yes	No	No	Yes	Yes
Hedgerow adjacent to a bridleway/footpath/byway?	No	Yes - Road	No	No	Yes	Yes - Road
Number of connection points?	3	1	1	5	3	1
<b>Hedgerow 'Important'?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>Yes</b>

## Annex EDP 4 Ground Level Visual Assessment Results – Trees

**Table EDP A4.1:** Summary of the findings of the bat tree assessment.

Tree ID	Species	Potential Roosting Features (PRFs) Identified/Inspected	Bat Roosting Potential
<b>T1</b>	Ash ( <i>Fraxinus excelsior</i> )	Tear-out feature present.	Low
<b>T2</b>	Ash ( <i>Fraxinus excelsior</i> )	Butt rot and cavity present as well as fused branches.	Moderate
<b>T4</b>	Oak ( <i>Quercus robus</i> )	Flaky bark, tear-outs and splits identified.	Low
<b>T6</b>	Ash ( <i>Fraxinus excelsior</i> )	Several rot holes due to felling but small stem chamber.	Low
<b>T7</b>	Goat Willow ( <i>Salix capraea</i> )	Transverse snap in branch and tear out in main trunk	Moderate
<b>T8 (G1)</b>	Oak ( <i>Quercus robus</i> )	There is butt rot and an old tear-out with potentially a hollow trunk.	High
<b>T10</b>	Oak ( <i>Quercus robus</i> )	Relatively small tear-outs and transverse snap wounds.	Low
<b>T13</b>	Ash ( <i>Fraxinus excelsior</i> )	Relatively small limb holes, tear-outs and with a dense ivy covering.	Low
<b>T14</b>	Oak ( <i>Quercus robus</i> )	Multiple features: limb holes, rot holes, tear-outs and splits.	Moderate
<b>T18</b>	Oak ( <i>Quercus robus</i> )	Large tear-out with cavity present and flaking bark.	Moderate
<b>T20</b>	Ash ( <i>Fraxinus excelsior</i> )	Fissures and a single wound present.	Low
<b>T21</b>	Oak ( <i>Quercus robus</i> )	Woodpecker holes identified.	High
<b>T22</b>	Oak ( <i>Quercus robus</i> )	Multiple features: woodpecker holes, limb holes, tar-outs, splits and flaky bark. There are multiple smooth entry points present.	High
<b>T23 &amp; 24</b>	Oak ( <i>Quercus robus</i> )	Two woodpecker holes and potentially a very large cavity. <b>T24</b> leaning on <b>T23</b> . Trees within mature woodland.	High
<b>T25</b>	Oak ( <i>Quercus robus</i> )	Several woodpecker holes identified.	High
<b>G25</b>	Goat willow ( <i>Salix caprea</i> )	Mostly low potential feature with some trees with cankerous wounds.	Low
<b>T26</b>	Oak ( <i>Quercus robus</i> )	Recent tear-out present.	Low
<b>T27 (G51)</b>	Hazel ( <i>Corylus avellane</i> )	Mostly hollow tree with tear-out features, limb holes and rot holes present.	High
<b>T28 (G51)</b>	Oak ( <i>Quercus robus</i> )	Wound identified with potentially large cavity.	High
<b>T30 (G51)</b>	Oak ( <i>Quercus robus</i> )	Features identified include woodpecker holes, limb holes, rot holes and tear-outs.	High

<b>Tree ID</b>	<b>Species</b>	<b>Potential Roosting Features (PRFs) Identified/Inspected</b>	<b>Bat Roosting Potential</b>
<b>G35</b>	Group of oak trees	Several trees with multiples features including split limbs, woodpecker holes, split limbs	High
<b>T56 (G1)</b>	Oak ( <i>Quercus robus</i> )	On the site boundary. Features include woodpecker holes, limb holes and rot holes. There is also a hollow dead limb.	High
<b>T61</b>	Sycamore ( <i>Acer pseudoplatanus</i> )	Broken limb and immature ivy covering as well as a wound formed from a crack.	Low
<b>G62</b>	Several trees	Group of trees, several with limb and rot holes.	Moderate
<b>G64</b>	Several trees	Several trees damaged by waterlogged ground, cankers and fissures.	
<b>T67</b>	Ash ( <i>Fraxinus excelsior</i> )	Butt rot is present.	Low
<b>T88</b>	Sycamore and Ash ( <i>Acer pseudoplatanus</i> and <i>Fraxinus excelsior</i> )	Snapped limbs and immature ivy covering.	Low
<b>T89</b>	Sycamore and Ash ( <i>Acer pseudoplatanus</i> and <i>Fraxinus excelsior</i> )	Snapped limbs and immature ivy covering.	Low
<b>T91</b>	Ash ( <i>Fraxinus excelsior</i> )	Broken limbs and dense ivy covering.	Low
<b>T93</b>	Ash ( <i>Fraxinus excelsior</i> )	Features present include limb holes and tear-outs which are exposed and relatively clean.	Low



**Annex EDP 5**  
**Habitat Suitability Index Assessment Results**

**Table EDP A5.1:** Pond Habitat Suitability Assessment of onsite waterbodies.

Suitability Index	Criteria	Definition	Possible Score	P1	P2	P3	P4	P5	P6
<b>Sl<sub>1</sub></b>	Geographic Location	Zone A - optimal	1	0.5	0.5	0.5	0.5	0.5	0.5
		Zone B - marginal	0.5						
		Zone C - unsuitable	0.01						
<b>Sl<sub>2</sub></b>	Pond Area	Pond surface area to the nearest 50m <sup>2</sup>	*	0.01	0.05	0.55	0.05	0.1	0.05
<b>Sl<sub>3</sub></b>	Permanence	Never Dries	0.9	1	1	0.5	0.5	0.5	1
		Rarely dries (Dries no more than 2/10 years or in drought only)	1						
		Sometimes dries (Dries between 3/10 years to most years)	0.5						
		Dries annually	0.1						
<b>Sl<sub>4</sub></b>	Water Quality	Good (abundant & diverse invertebrate community)	1	0.67	0.33	0.67	0.67	0.67	0.33
		Moderate (moderate invertebrate community)	0.67						
		Poor (low invertebrate diversity, few submerged plants)	0.33						
		Bad (clearly polluted, pollutant tolerant invertebrates present, no submerged plants)	0.01						

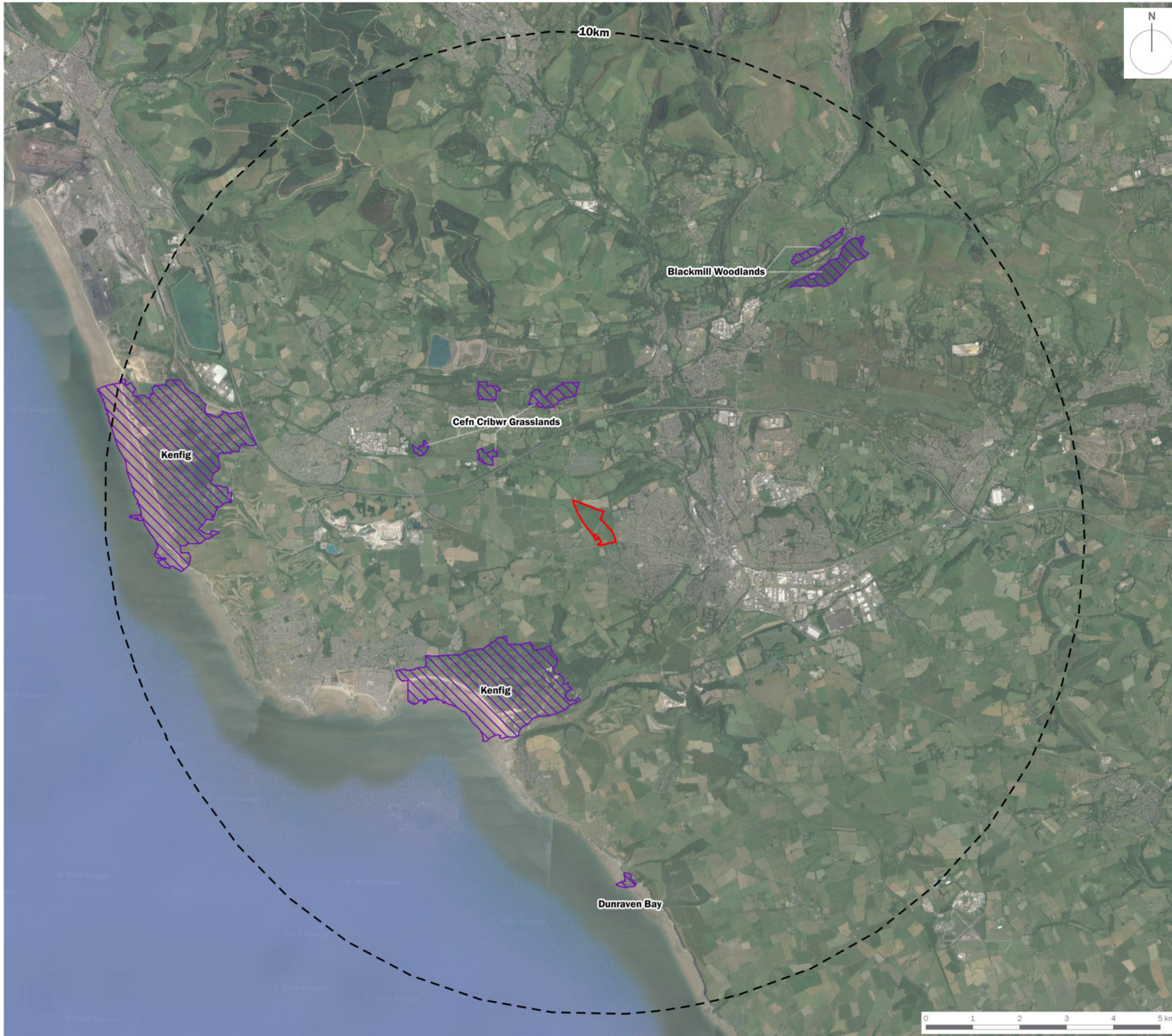
Suitability Index	Criteria	Definition	Possible Score	P1	P2	P3	P4	P5	P6
SI <sub>5</sub>	Shade	% shade of pond perimeter to at least 1m from the shore	*	0.2	0.2	0.4	0.6	0.2	0.6
SI <sub>6</sub>	Waterfowl	Absent (no evidence of waterfowl, excluding moorhen)	1	1	0.67	1	1	1	1
		Minor (waterfowl present, though little impact)	0.67						
		Major (severe impact of waterfowl)	0.01						
SI <sub>7</sub>	Fish	Absent (no records of fish stocking and no fish seen during survey)	1	1	1	1	1	1	1
		Possible (no evidence of fish, but conditions suggest presence)	0.67						
		Minor (small numbers of crucian carp, goldfish or stickleback)	0.33						
		Major (dense populations of fish present)	0.01						
SI <sub>8</sub>	Pond Count	No. ponds within 1 km of survey pond not separated by major barriers and divided by 3.14	*	0.85	0.85	0.85	0.85	0.85	0.85
SI <sub>9</sub>	Terrestrial	Good (extensive habitat offering good opportunities for foraging and shelter surrounding pond)	1	1	0.67	1	1	1	1



Suitability Index	Criteria	Definition	Possible Score	P1	P2	P3	P4	P5	P6
		Moderate (habitat offering opportunities for foraging and shelter, but not extensive and does not completely surround pond)	0.67						
		Poor (habitat with poor structure, offering limited opportunities for foraging and shelter)	0.33						
		None (No suitable habitat around pond)	0.01						
<b>SI<sub>10</sub></b>	Macrophytes	% pond surface area occupied by macrophyte cover (excluding duckweed) and submerged plants reaching the surface	*	0.8	0.3	0.3	1	0.7	0.35
<b>HSI Score = (SI<sub>1</sub>*SI<sub>2</sub>*SI<sub>3</sub>*SI<sub>4</sub>*SI<sub>5</sub>*SI<sub>6</sub>*SI<sub>7</sub>*SI<sub>8</sub>*SI<sub>9</sub>*SI<sub>10</sub>)<sup>1/10</sup></b>				0.58	0.42	0.49	0.58	0.54	0.52
<b>Pond Suitability</b> (<0.5 = poor; 0.5-0.59 = below average; 0.6-0.69 = average; 0.7-0.79 = good; >0.8 = excellent)									

## Plans

- Plan EDP 1** International Statutory Designations  
(edp3980\_d005a 28 April 2020 MJC/EMc)
- Plan EDP 2** National Statutory Designations  
(edp3980\_d006a 28 April 2020 MJC/EWi)
- Plan EDP 3** Non-statutory Designations  
(edp3980\_d007a 28 April 2020 MJC/EMc)
- Plan EDP 4** Phase 1 Plan  
(edp3980\_d008b 28 April 2020 MJC/EWi)
- Plan EDP 5** Ground Level Bat Tree Assessment Results  
(edp3980\_d012a 28 April 2020 GY/EW)







- Site Boundary
- 10 km Detailed Study Area
- Special Area of Conservation (SAC)

client			
<b>Llanmoor Development Co Ltd</b>			
project title			
<b>Parc Llangewydd, Land at West Bridgend</b>			
drawing title			
<b>Plan EDP 1: International Statutory Designations</b>			
date	<b>28 APRIL 2020</b>	drawn by	<b>MJC</b>
drawing number	<b>edp3980_d005a</b>	checked	<b>EMc</b>
scale	<b>1:80,000 @ A3</b>	QA	<b>GY</b>



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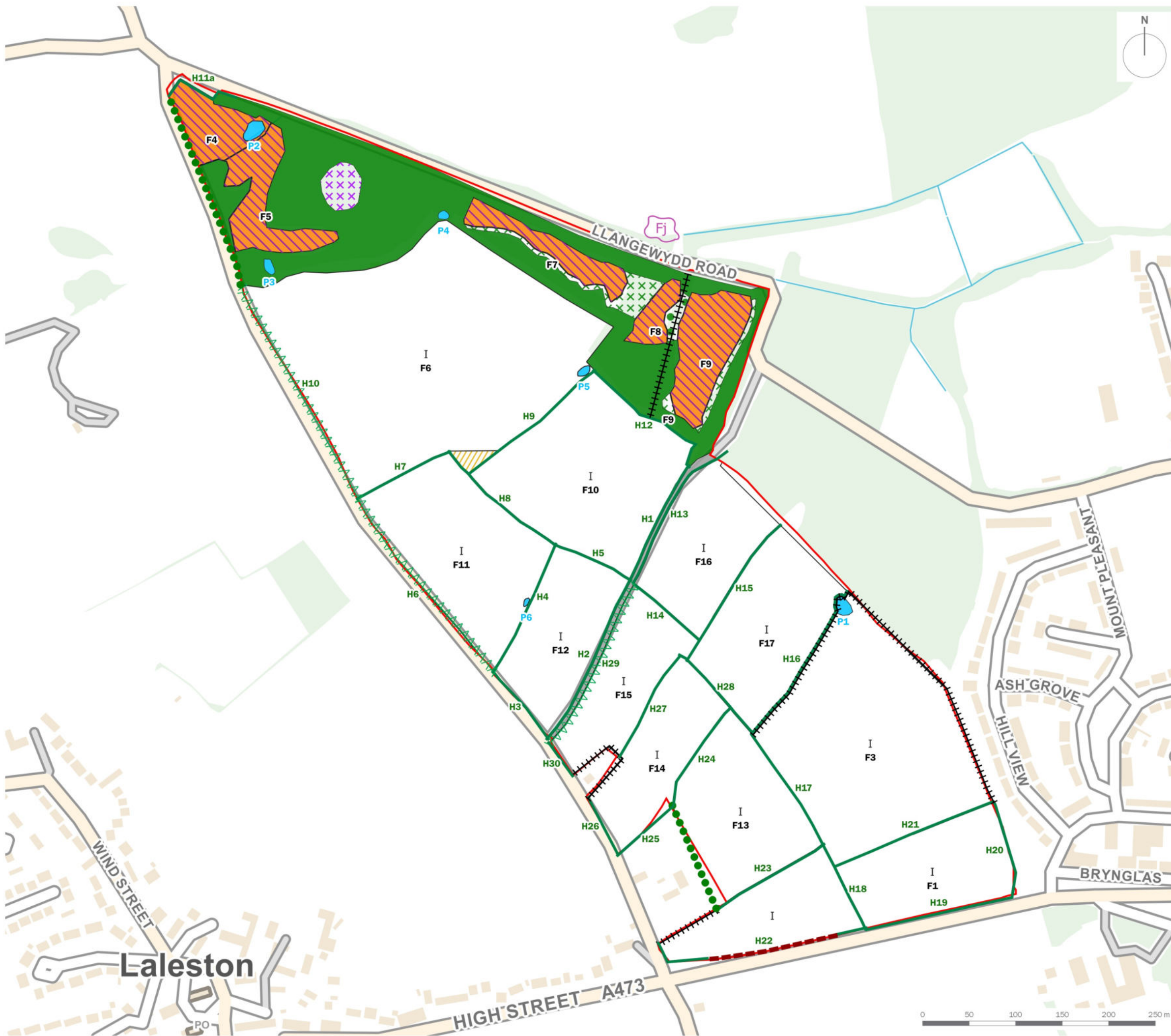
-  Site Boundary
-  2km Detailed Study Area
-  Site of Special Scientific Interest (SSSI)
-  National Nature Reserve (NNR)
-  Local Nature Reserve (LNR)

client	<b>Llanmoor Development Co Ltd</b>		
project title	<b>Parc Llangewydd, Land at West Bridgend</b>		
drawing title	<b>Plan EDP 2: National Statutory Designations</b>		
date	<b>28 APRIL 2020</b>	drawn by	<b>MJC</b>
drawing number	<b>edp3980_d006a</b>	checked	<b>EMc</b>
scale	<b>1:20,000 @ A3</b>	QA	<b>GY</b>



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- Site Boundary
- Broadleaved Woodland - Semi-natural
- Other Tall Herb and Fern - Ruderal
- Marsh/Marshy Grassland
- I Improved Grassland
- Broadleaved Woodland - Scattered Trees
- Scrub - Scattered
- Himalayan Balsam
- Standing Water
- Hardstanding
- Scattered Trees/Parkland (Broad-leaved)
- Intact Species-rich Hedgerow
- Intact Species-poor Hedgerow
- Wall
- Fence
- Fj Japanese Knotweed

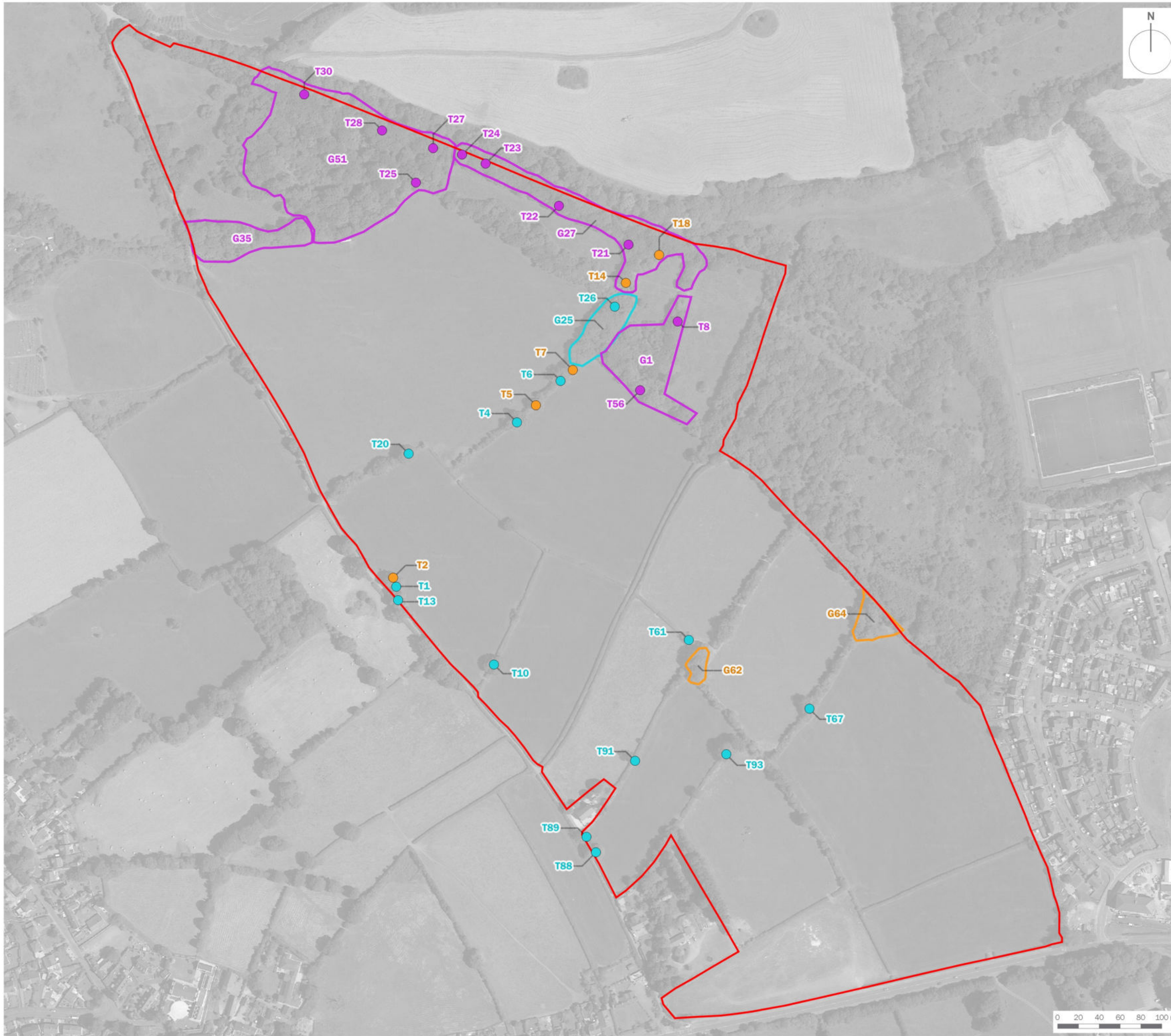
client  
**Llanmoor Development Co Ltd**

project title  
**Parc Llangewydd, Land at West Bridgend**

drawing title  
**Plan EDP 4: Phase 1 Plan**

date	<b>28 APRIL 2020</b>	drawn by	<b>MJC</b>
drawing number	<b>edp3980_d008b</b>	checked	<b>EWI</b>
scale	<b>1:4,000 @ A3</b>	QA	<b>GY</b>





client	<b>Llanmoor Development Co Ltd</b>	
project title	<b>Parc Llangwydd, Land at West Bridgend</b>	
drawing title	<b>Plan EDP 5: Ground Level Bat Tree Assessment Results</b>	
date	28 APRIL 2020	drawn by GY
drawing number	edp3980_d012a	checked EW
scale	Refer to scale bar @ A3	QA JTF



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