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# Land north of Dinas Powys

Preliminary Ecological Appraisal

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# 1 Summary

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| **Report purpose** | Preliminary ecological appraisal of land north of Dinas Powys, which is proposed for allocation for residential development in the Local Development Plan. |
| **Client and commission date** | Boyer; April 2022 |
| **Date and methods of survey** | An extended phase 1 habitat survey of the Site was completed over two days by Anna Gundrey MCIEEM and one day by Dominic Hill QCIEEM. |
| **Key findings** | The Site comprises several fields of grazed pasture and hay meadows of moderate biodiversity value. Field boundaries are delineated by a network of mature intact and defunct species-rich hedgerows / hedge and trees, with trees of local value to biodiversity. Two small woodland parcels are located in the centre and southern sections of the Site. Both the woodland and hedgerows meet the definitions of 'Priority Habitats' (Maddock, 2011) under Section 7 of the Environment (Wales) Act, 2016.<br>Habitats on Site have the potential to support the following protected species: great crested newt (and other amphibians), badger (setts, foraging, and commuting), bats (roosting, foraging, and commuting), breeding birds (including barn owl), hazel dormouse, otter (foraging and commuting) and reptiles. Priority mammal species such as hedgehog and brown hare may also be present. |
| **Further survey or consultation requirements** | Retaining hedgerows, woodland, and mature trees would reduce potential impacts to protected species. The design of development within the Site will determine the scope of further survey work, which may include:<br>• Bat surveys of buildings and mature trees likely to be affected by the proposed development.<br>• Breeding bird survey including a check for barn owl within farm buildings on Site.<br>• Great crested newt survey of the on-Site pond.<br>• If hedgerows and mature trees are to be lost to facilitate development, a bat activity survey and hazel dormouse survey is recommended to determine the use of the Site by both species and inform Site design and a lighting plan.<br>• A reptile presence / (likely) absence survey to determine population size and inform mitigation measures.<br>• Consultation with the Local Planning Authority to agree the scope of survey work (as required). |
| **Potential impacts** | In the absence of mitigation, development of the Site has potential to result in direct and / or indirect impacts including:<br>• Loss of priority habitat (hedgerow) and mature trees with potential for local designation.<br>• Adverse impacts on protected species through accidental injury or killing, increased disturbance, and loss / fragmentation of habitats.<br>• Pollution events leading to local loss of condition of any ecologically valuable habitat affected. |

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| **Measures to avoid and / or reduce impacts** | Recommended measures to avoid and / or reduce impacts include:<br>• Control measures to ensure no materials / pollutants can enter on Site and adjacent water courses should be incorporated into Construction Environmental Management Plan (CEMP) for the Site.<br>• Boundary vegetation and habitats of ecological importance should be retained and enhanced within the proposed development. Adopt sensitive management practices during construction by providing suitable buffers / stand offs (root protection areas) from retained areas.<br>• Existing access points and field gates should be used to facilitate access across the Site where possible.<br>• Lighting should be sensitively designed to avoid adverse effects on bats and hazel dormouse (if present).<br>• Sensitive working methods should be adopted during the construction phase to avoid impacts to protected species, including badger, breeding birds, hazel dormouse (if present), reptiles and other notable mammal species (hedgehog). |
| **Opportunities for biodiversity enhancement** | Current policy and legislation places a duty on public authorities and developers to not only maintain biodiversity, but also include enhancements for nature conservation and biodiversity (see Appendix 3, paragraphs 8.11 to 8.15). Recommendations to be incorporated into future Site design include:<br>• Enhancement of any retained habitats (hedgerows, woodland, and mature trees).<br>• New habitat creation within drainage schemes to benefit a range of aquatic / wetland species.<br>• Incorporating native species of local provenance into landscape design.<br>• Incorporation of habitat enhancement for reptiles, amphibians, invertebrates, and small mammals.<br>• Inclusion of bat and bird boxes within the building design. |

# 2 Introduction

### Background to commission

2.1 BSG Ecology were asked to undertake a Preliminary Ecological Appraisal (PEA) of land north of Dinas Powys (the 'Site'), centred on Ordinance Survey Grid Reference (OSGR) ST 16027 72088.

2.2 The Site is proposed for allocation for residential development in the Local Development Plan. It is understood that the Vale of Glamorgan County Borough Council are scheduled to open the second call for Candidate Sites in autumn 2022.

2.3 The Site boundary is shown on **Figure 1** in **Section 7**.

### Site Description

2.4 The Site is located north of Dinas Powys and west of Penarth. It comprises 28 fields of horse grazed lowland pasture and hay meadow subdivided by a network of hedgerows, characterised by mature trees and fringing woodland. The footprint of the Site is approximately 45 ha in size.

2.5 There are two small blocks of woodland, located in the centre and southern section of the Site, occupying an area of 1.1 ha and 1.8 ha respectively. Other features are a pond in the southern part of the Site, and East Brook, a minor watercourse which runs north / south along the Site. There are 14 buildings on Site situated in the south-east corner and in the west. Buildings include residential properties, farm buildings and agricultural barns / livestock shelters.

2.6 The surrounding landscape includes residential housing estates adjacent to the south and west Site boundary. There are fields under similar agricultural management with field boundary hedgerows and scattered woodland parcels to the north. Cardiff road A4055 runs north / south along the western Site boundary and Pen Y Turnpike Road along the east Site boundary. A railway line runs north-east / south-west adjacent to the east Site boundary, beyond Cardiff Road. Extensive woodland blocks are present to the west of the Site, beyond Pen-Y-Turnpike Road.

### Aims of study

2.7 The aim of the PEA is to identify ecological constraints that will need to be considered within any future development / planning application, with reference to Vale of Glamorgan County Borough's Candidate Sites Assessment Methodology (June 2022). The PEA will:

- Identify areas of international / national importance for biodiversity within and surrounding the Site.
- Review and summarise biological records obtained during the desk study.
- Describe and evaluate habitats and features present within the Site and assess their potential to support protected species.
- Outline legislative and / or policy protected afforded to habitats and species of importance which may be associated with the Site.
- Identify potential impacts of the scheme on biodiversity,
- Provide recommendations for further survey, where this is likely to be needed.

2.8 In addition, the PEA makes initial recommendations on how to achieve biodiversity enhancements within the scheme in line with the requirements of the Environment (Wales) Act 2016.

# 3 Methods

### Desk study

3.1 A data request was made to the South-East Wales Biodiversity Records Centre (SEWBReC) to obtain information on non-statutory designated sites and records of protected, invasive or otherwise notable species. The data request was for records from within the Site and a 2 km search radius[1] centred at OSGR ST 16027 72088.

3.2 The desk study also involved a review of publicly available information including the UK Government's MAGIC[2] website and Google Earth Pro[3]. Data from both of these sources was, most recently, accessed on 06/09/2022.

3.3 The MAGIC database was used to establish the presence of statutory designated sites of nature conservation interest in relation to the proposed development Site. Google Earth Pro was used to review recent and historical aerial photography of the sites and surrounding area, and to provide ecological context for the results of the Site assessment.

### Field survey

#### *Phase 1 habitat survey*

3.4 An extended Phase 1 habitat survey of the Site was completed by Anna Gundrey on 24 and 25 May 2022, and the remaining central parcel of the Site by Dominic Hill (Pure Ecology) on 04 August 2022. The survey method was based on industry standard guidance (JNCC, 2010). Habitats present were identified and mapped, with features of ecological interest recorded as 'target notes'.

3.5 The survey was extended, in line with IEA (1995), to include an assessment of the suitability of the habitats present to support protected (and non-native) species.

3.6 The survey also included a ground level assessment of trees and an external inspection of buildings, with reference to the Bat Tree Habitat Key (Andrews, 2018) (for trees) and the Bat Conservation Trust (BCT) survey guidance (Collins, 2016) (for buildings). Buildings and trees were broadly categorised regarding their potential to support roosting bats[4] as follows:

**Trees**

- High / Moderate: Buildings or trees with multiple features capable of supporting a bat roost.
- Low / negligible: Buildings with little to no obvious features capable of supporting very low numbers of bat. Trees with little to no obvious features (but are of a suitable size and age) capable of supporting very low numbers of bat.

### Limitations to methods

3.7 Habitats were accessed from inside the Site only. Boundary woodland and trees were viewed from within the Site and only those aspects of trees facing the Site could be viewed. This has been taken into consideration within the assessment section.

3.8 Buildings were not internally inspected. However, the information gathered is sufficient to assess each building's potential to support roosting bats.

[1] SEWBReC allocate a 'mobile' buffer to species to demonstrate their potential range. This is dependent on the individual spcies and their ability to travel significant distances within their ranges. Therefore, whilst data is requested for 2 km, records are frequently provided for species recorded up to another 2 km beyond the search radius.

[2] Multi-Agency Geographic Information for the Countryside. Available at www.magic.defra.gov.uk/magicmap.aspx

[3] Google Earth Pro 7.3.4.8248.

[4] Following industry standard guidance (Collins [3rd edition], 2016).

3.9 Dense scrub habitat on Site may conceal evidence of protected species (such as badger setts). However, vegetation and surrounding areas (where accessible) were inspected for evidence of use (i.e., mammal runs, prints, tracks, or droppings). Therefore, this is not considered to be a significant limitation to this assessment.

**Personnel involved**

3.10 Personnel principally involved in the planning and implementation of field survey at the Site, and in the production of this report were as follows:

- Habitat survey work and external building inspections within the western half of the Site were completed by Anna Gundrey, MCIEEM. Anna has 26 years of habitat surveying experience and has been working in ecological consultancy for 15 years. As well as her specialism in botany and habitats, she is licenced to survey for bats and great crested newts by both Natural Resources Wales and Natural England.
- Habitat survey work and external building inspections on the eastern half of the Site was completed by Dominic Hill, QualCIEEM. Dominic has two years of habitat surveying experience and holds a Level 3 Field Identification Skills Certificate (FISC) in botanical identification.
- Becky Gibbs is the primary author of the report. Becky has three years of ecological consultancy experience and has experience in ecological assessments for small- and medium- scale projects and is currently working towards gaining a bat survey licence.
- Gareth Lang MCIEEM acted as a technical reviewer on the first draft of this report. Gareth is a Principal Ecologist at BSG Ecology, and has 10 years of experience as an ecological consultant. Gareth holds survey licences for great crested newt, dormouse, and bats in both England and Wales, and has been the named ecologist on several dormouse and bat mitigation licences.

3.11 A summary of each BSG staff member's experience and competence as a professional ecologist is provided at http://www.bsg-ecology.com/people/.

# 4 Results and Evaluation

4.1 In this section the results of fieldwork and desk study are brought together. Interpretation of the results and an assessment of the potential impacts of the proposed development are included in **Section 5**.

**Designated Sites**

4.2 The desk study identified one international designated site within 5 km of the Site, two national statutory designated sites and 15 non-statutory designated sites within 2 km of the Site. The results of the desk study are presented in **Table 1**.

**Table 1** – Summary of international designated sites within 5 km of the Site and national designated sites within 2 km of the Site.

**Statutory designated sites**

| Site name and designation[5] | Key interest features | Distance / direction from the Site |
|---|---|---|
| Cwm Cydfin, Leckwith SSSI | Designated for its mixed deciduous woodland and diverse ground flora, adjacent to the River Ely. The main trees are pedunculate oak *Quercus robur*, ash *Fraxinus excelsior*, elm *Ulma procera*, maple *Acer campestre*, with hazel *Corylus avellana*, dogwood *Cornus sanguinea* and spindle *Euonymus europaeus*. | 1.8 km north |
| Severn Estuary Ramsar, SAC, SPA, SSSI | Designated for its estuarine habitats and the species it supports. The Severn Estuary provides important habitat for migratory fish, and overwintering and migratory waterfowl birds, including Bewick's swan *Cyngus columbianus bewickii*. | 3.9 km east |

**Non-statutory designated sites**

| Site name and designation[6] | Key interest features | Distance / direction from the Site |
|---|---|---|
| Case Hill Wood SINC | Of ecological interest for its planted ancient woodland and the species supported, including hazel dormouse, kestrel, and several moth species that rely entirely on small-leaved lime. | 513 m west |
| Dinas Powis Castle Woodland SINC | Dinas Powis Castle is a grade II listed building. | 844 m south-west |
| Coed Clwyd-Gwyn SINC | Of ecological interest for its extensive semi-natural broadleaved woodland with areas of mixed and coniferous plantation on an ancient woodland site. | 876 m west |

4.3 SINCs over 1 km from the Site include: Reservoir Wood 1 km north, Cross Common 1.3 km south, Coed Twyncyn 1.3 km south-west, Factory Wood 1.4 km north-east, North of Pop Hill 1.6 km south, River Ely 1.6 km south-east, Shortlands Wood 1.7 km south, Cogan Spur 1.7 km east, Land by Winstone Brook 1.7km north-west, Grangemore Park 1.8 km west, Coed Ysgybor-Goch 1.9 km west, and Pwll Erw-naw 4.9 km south-west of the Site.

**Habitats**

4.4 The habitats present on Site are described below and illustrated in **Figure 1**. Photographs are included in **Section 9** of this report and target notes are included in **Section 8.**

[5] Ramsar Sites are wetlands of international importance, Special Area of Conservation (SAC), Special Protection Area (SPA), Site of Special Scientific Interest (SSSI)

[6] Site of Important Nature Conservation (SINC)

4.5 The desk study identified the following priority habitats within and adjacent to the Site boundary:

- Semi-natural broadleaved woodland within the site (two woodland blocks and a woodland strip associated with Eastern Brook which runs from the north-west corner to the south-east corner of the Site).
- Semi-improved neutral grassland immediately beyond the north-east boundary of the Site.

4.6 A review of the Ancient Woodland Inventory for Wales[7] shows that the western parcel of the southern woodland block on Site is recorded as Ancient Semi-natural Woodland (TN7) and the central woodland block is recorded as Restored Ancient Semi-natural Woodland (TN4).

***Ancient semi-natural woodland***

4.7 The southern broadleaved woodland block (see TN7 on **Figure 1** and Photographs 11 & 12) is 1.8 ha in size and comprises a mature canopy of oak trees in the western parcel, and recently replanted woodland in the eastern parcel, with a canopy dominated by sycamore *Acer pseudoplatanus* (slim and close growing) and ash. The ground flora comprises wild garlic *Allium ursinum* in damper areas and ivy *Hedera helix* throughout. Several oak trees had minor roost features (e.g., cracked limbs). These trees were assessed as negligible / low potential to support roosting bats.

4.8 This habitat meets the definition for mixed deciduous woodland priority habitat (Maddock, 2011), and criteria for local designation[8] (Gwent Wildlife Trust, 2004).

***Restored ancient semi-natural woodland***

4.9 The central broadleaved woodland block (see TN4 on **Figure 1** and Photograph 9) is 1.1 ha in size and has a canopy comprising mature ash and oak, with a bramble understorey. Trees were assessed as negligible / low potential to support roosting bats.

4.10 This habitat meets the definition for mixed deciduous woodland priority habitat (Maddock, 2011), and criteria for local designation[8] (Gwent Wildlife Trust, 2004).

***Semi-natural broadleaved woodland***

4.11 Semi-natural broadleaved woodland is present where hedgerows with mature trees have outgrown (more than 5 m in width) and a dense understorey of bramble has developed, particularly along East Brook. These linear woodland strips are dominated by several mature oak trees. Most of these are out-grown coppice and do not have features suitable to support roosting bats. Several minor features, including cracked limbs were recorded, but the majority were considered unlikely to provide suitable bat roosting opportunities. Trees with negligible / low potential are included on **Figure 1**.

4.12 This habitat meets the definition for mixed deciduous woodland priority habitat (Maddock, 2011). Semi-natural broadleaved woodland habitats on Site do not meet local designation guidelines due to a lack of ancient woodland indicator species (Gwent Wildlife Trust, 2004).

***Semi-improved neutral grassland***

4.13 The fields comprise semi-improved neutral grassland and are managed as either hay meadows or as pasture for horse grazing. The hay meadows are relatively species-rich, whilst the horse grazed fields were broadly similar, though less species-rich and with a greater proportion of weed species. The sward is approximately 50 cm in height, uniform, lush and grass dominant.

[7] http://lle.gov.wales/catalogue/item/AncientWoodlandInventory2021/?lang=en Accessed on 08/09/2022.

[8] Criterion for local designation include “all ancient woodlands as recorded in the Ancient Woodland Inventories, apart from those felled and replanted with non-native species which have also entirely lost their ancient features such as characteristic ground flora”, “semi-natural woodlands, of whatever size, which support an assemblage of ancient woodland indicator species”, “all semi-natural beech and yew woodlands”, “all semi-natural upland woodlands”, ”all semi-natural wet woodlands”, and “planted / re-planted wet woodland with semi-natural ground flora or other areas of interest such as ditches, pools and marshy areas”.

4.14 Species recorded include meadow foxtail *Alopecurus pratensis*, sweet vernal grass *Anthoxanthum odoratum*, crested dog's tail *Cynosurus cristatus*, cock's-foot *Dactylus glomerata*, meadow fescue *Festuca pratensis*, red fescue *Festuca rubra*, Yorkshire fog *Holcus lanatus*, perennial rye-grass *Lolium perenne*, creeping bent *Poa trivialis*, and yellow oat-grass *Trisetum flavescens*. Sedges and rushes recorded include glaucous sedge *Carex flacca*, hairy sedge *Carex hirta*, remote sedge *Carex remota*, hard rush *Juncus inflexus*, and field woodrush Luzula campestre.

4.15 Herbs recorded include agrimony *Agrimonia eupatoria*, cuckoo flower *Cardamine pratense*, common mouse-ear *Cerastium fontanum*, cut-leaved cranesbill *Geranium dissectum*, meadow vetchling *Lathyrus pratenis*, pale flax, bird's-foot trefoil *Lotus corniculatus*, creeping cinqfoil *Potentialla reptans*, self-heal *Prunella vulgare*, meadow buttercup *Ranunculus acris*, creeping buttercup *Ranunculus repens*, common sorrel *Rumex acetosa*, curled dock *Rumex crispus*, lesser trefoil *Trifolium dubium*, red clover *Trifolium pratense*, white clover *Trifolium repens*, nettle *Urtica dioica*, and common vetch *Vicia sativa*.

4.16 This habitat does not meet the definition of any priority habitat (Maddock, 2011) or local designation criteria (Gwent Wildlife Trust, 2004).

***Poor semi-improved neutral grassland***

4.17 Poor semi-improved grassland is present within a field, divided by fences, in the east of the Site. The sward is short due to heavy grazing and patches of bare earth are present where livestock have compacted the ground. The field is almost entirely dominated by red bartsia *Odontites vernus*, with frequent meadow foxtail, red fescue, Yorkshire fog, perennial rye grass, hawkweeds *Hieraciun sp.*, creeping buttercup and white clover. Occasional species include *Agrostis sp.*, crested dog's tail, rough meadow grass *Poa trivialis*, yarrow *Achillea millefolium*, common Knapweed *Centaurea nigra*, greater plantain *Plantago major*, creeping cinquefoil *Potentialla reptans*, self-heal and red clover.

4.18 This habitat does not meet the definition of any priority habitat (Maddock, 2011) or local designation criteria (Gwent Wildlife Trust, 2004).

***Hedgerows***

4.19 The Site is compartmentalised by a network of intact and defunct species-rich hedgerows / hedges with trees, and mature tree lines (the latter described under semi-natural broadleaved woodland).

4.20 Many of the hedgerows are characterised by large mature oaks, which are short and multi-stemmed (outgrown coppice), and scattered ash trees, all dying back severely. Composition of hedgerows and tree lines is similar throughout the Site, averaging between six and seven woody species per 30 metre sample (See **Figure 1** and Photographs in Section 9).

4.21 The hedgerow understory is dense, stock proof and comprised of bramble, and located on either side of most boundaries.

4.22 Most commonly occurring species in the boundary vegetation include hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, English oak, ash *Fraxinus excelsior*, hazel, dog-rose *Rosa canina*, elder *Sambucus nigra*, spindle *Euonymus europaeus*, and dogwood. Other occasional species recorded include crab-apple *Malus sylvestris*, field maple, grey willow *Salix cinerea*, holly *Ilex aquifolium*, and elm *Ulmus sp.*

4.23 All species-rich hedgerows on Site meet the definition for priority habitat hedgerows (Maddock, 2011)[9] and are likely to meet guidelines for local designation under hedgerow criteria (Gwent Wildlife Trust, 2004). The hedgerows on Site are likely to be a valuable commuting, foraging and nesting resource for local biodiversity.

[9] "*Any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less that 20m wide"* including "*all hedgerows consisting predominantly (i.e., 80% or more cover) of at least one woody UK native species are covered by this priority habitat*"

***Scattered trees / treeline***

4.24 A row of black poplar *Populus nigra* trees line two of the fields in the north-western section of the Site (See **Figure 1** and Photograph 3).

4.25 This habitat does not meet the definition of any priority habitat (Maddock, 2011) or local designation criteria (Gwent Wildlife Trust, 2004).

***Dense scrub***

4.26 Dense bramble scrub is present along several field boundaries. (See **Figure 1** and Photograph 10).

4.27 This habitat does not meet the definition of any priority habitat (Maddock, 2011).

***Running water***

4.28 Several ditches associated with East Brook are present and run from the north-west corner of the Site to the south-east corner of the Site. At the time of the survey most were dry, approximately 0.5 m in depth and 1 m in width. Marginal vegetation included ivy, common nettle and ferns.

4.29 The ditches run through broadleaved semi-natural woodland in the centre and eastern section of the Site (See **Figure 1**, and Photographs 5 & 28).

***Standing water***

4.30 A pond is located along the southern Site boundary and was dry at the time of the survey. The pond appears to hold water occasionally, as evidenced by a 5 x 5 m area of bare mud (see TN6 on **Figure 1** and Photograph 31). The pond is heavily shaded by scrub and hedgerow vegetation. No aquatic flora or fauna were observed during the survey.

4.31 A review of aerial imagery and OS mapping suggests that a large pond is present in a residential garden adjacent to the north-west corner of the Site (TN8), and a large pond is present 1.2 km south-west of the Site.

4.32 Ponds are priority habitats listed under Section 7 of the Environment (Wales) Act 2016.

***Building and hardstanding***

4.33 There are 14 buildings on Site. These are described below in **Table 2**. Building locations are shown on **Figure 1** with photographs presented in **Section 9**.

**Table 2 - Suitability and PRFs of on-Site buildings.**

| **Building / Photograph Reference** | **Building description** | **Potential Roost Features (PRFs)** | **Suitability** |
|---|---|---|---|
| **Building 1** (B1)<br>Photograph 14 | Modern brick-built bungalow with a tiled pitch roof. The building appears relatively newly built with tight-fitting roof tiles and well-maintained walls and windows. | A loft void is present, but no apparent access for bats was seen. | Negligible |
| **Building 2** (B2)<br>Photograph 16 | Single storey stable block comprised of breeze block walls, a slate tiled pitch roof, wooden barge boards and wooden stable doors. | Access to the interior through open stable doors and window / vents. | Low |

| Building / Photograph Reference | Building description | Potential Roost Features (PRFs) | Suitability |
|---|---|---|---|
| **Building 3** (B3) Photograph 17 | Single storey stable block comprised of brick walls, wooden cladding, wooden stable doors and a corrugated half pitch roof. | Access to the interior through open stable doors | Low |
| **Building 4** (B4) Photograph 18 | Large, corrugated iron farm building with a pitched roof. | Access to the interior through open stable doors. | Negligible |
| **Building 5** (B5) Photograph 19 | Large, open-sided, corrugated iron farm building with a half pitch roof. | Access to the interior through open sides. | Negligible |
| **Building 6** (B6) Photograph 20 | Large, corrugated iron farm building with a pitched roof. | Access to the interior through open door. | Negligible |
| **Building 7** (B7) Photograph 21 | Small, single-storey brick built shed with wooden windows and door on the eastern aspect. The southern aspect is covered in dense ivy. | Dense ivy may obscure PRFs and access points. | Low |
| **Building 8** (B8) Photograph 21 & 22 | Small, open-sided farm building used for storage. | Open-sided | Negligible |
| **Building 9** (B9) Photograph 23 | Large, open-sided farm building with wooden cladding and a half pitch corrugated iron roof. | Open-sided | Negligible |
| **Building 10** (B10) Photograph 24 | Small stable block comprised of brick wall foundations with wooden cladding and stable doors. | Access to the interior through open stable doors. | Low |
| **Building 11** (B11) Photograph 25 & 26 | Small, stable block / storage shed comprising breeze block walls, corrugated iron roof, and wooden stable doors. | Access to the interior through open stable doors. | Low |
| **Building 12** (B12) Photograph 26 | Small, stable block / storage shed comprising breeze block walls, corrugated iron roof, and open windows. | Access to the interior through open windows. | Low |
| **Building 13** (B13) Photograph 27 | Large, corrugated iron farm building with a pitch roof and open / broken door on the north aspect. | Access to the interior through open door on the north aspect and through a hole in the eastern gable. | Low |
| **Building 14** (B14) | Set of two storey terraced houses. The buildings are comprised of rendered brick walls, UVPC soffits. The roof is complex and pitched with slate tiles. | Loft voids are present, and gaps between the wall and UVPC soffits. | Low |

**Protected and notable species**

4.34 The results of the data provided by SEWBReC are summarised below. Consideration is given to these records and to the habitats present on Site to determine the potential for the Site to support protected species.

**Bats**

4.35 Bats, their roosts and resting places are protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and the WCA 1981 (as amended).

4.36 Several species of bat are also listed on Section 7 of the Environment (Wales) Act 2016, including barbastelle *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared *Plecotus auratus*, greater horseshoe *Rhinolophus ferrumequinum* and lesser horseshoe *Rhinolophus hipposideros*.

4.37 SEWBReC returned 110 records of at least 12 bat species, including Brandt's *Myotis brandtii*, brown long-eared, common pipistrelle, Daubenton's *Myotis daubentonii*, Leisler's *Nyctalus leisleri*, lesser horseshoe, Nathusius' pipistrelle *Pipistrellus nathusii*, Natterer's *Myotis nattereri*, noctule *Nyctalus noctula*, serotine *Eptesicus serotinus*, soprano pipistrelle, and whiskered bat *Myotis mystacinus*.

Several bat roost records were returned. The closest is for unidentified bat droppings approximately 500 m west of the Site. Other notable roosts include a lesser horseshoe roost approximately 550 m from the Site, with records from within Case Hill Woodland approximately 500 m west of the Site, and a noctule roost approximately 800 m west of the Site.

4.38 The trees on Site offer very few roosting opportunities for bats. Where potential roost features are present, these have been assessed as having a Low suitability for bats, and only likely to support opportunistic use by individuals. These trees are broadly located within the woodland blocks and hedgerows across the Site.

4.39 The buildings on Site have been assessed as having negligible to low suitability to support roosting bats. Most negligible buildings are open-sided farm buildings that are in frequent use. Stable blocks offer open access into the interior through open stable doors and may provide a suitable feeding roost for horseshoe and long-eared bat. Residential properties (B14) offer low potential roosting features to small numbers of common bat species such as pipistrelles.

4.40 The habitat on Site has high suitability to support foraging and commuting bats given the complex network of linear hedgerows connected to woodland blocks and the wider landscape. The mosaic of habitats (scrub, semi-improved grassland, woodland, hedgerows, and pond) likely provides a valuable prey-rich foraging resource and commuting corridor for several bat species.

**Hazel dormouse**

4.41 Hazel dormouse *Muscardinus avellanarius* is protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and under Schedule 5 of the WCA 1981 (as amended).

4.42 SEWBReC returned two records of hazel dormouse within the 2 km search radius. The closest record is of a nest 2.5 km southeast of the Site in 2017. Case Hill Wood SINC supports a hazel dormouse population and is located approximately 500 m west of the Site, beyond Pen-Y-Turnpike Road.

4.43 The Site contains valuable habitat for nesting, foraging and commuting hazel dormice in the form of woodland, dense scrub, and hedgerows which have good connectivity across the Site and to the wider landscape. Hazel is infrequent on the Site, but there is a good range of woody species (such as bramble) that are unmanaged and left to fruit.

**Otter**

4.44 Otter *Lutra lutra* is protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and under Schedules 5 & 6 of the WCA 1981 (as amended).

4.45 SEWBReC returned four records of otter within the 2 km search radius. The closest record is a live sighting approximately 700 m from the Site. Other notable records include three juveniles observed foraging 1.7 km north-east of the Site associated with the River Ely.

4.46 At the time of the survey, the waterbodies (pond and East Brook) on Site were dry but may offer suitable aquatic habitat in the wetter seasons. East Brook is connected to the River Cadoxton through culverted streams. Otter may move along East Brook, but the dry ditches within the Site are unlikely to provide opportunities for foraging or creating holts.

**Water vole**

4.47 Water vole *Arvicola amphibius* is afforded protection under Schedule 5 of the WCA 1981 (as amended).

4.48 SEWBReC did not return any records for water vole within the 2 km search radius.

4.49 No evidence of water vole activity (such as burrows, latrines, feeding remains) were observed during the field survey.

4.50 The on-Site waterbodies (a pond and ditches associated with East Brook) were dry at the time of the survey and are unlikely to support water vole.

**Badger**

4.51 Badgers *Meles meles* are protected under the Protection of Badgers Act (1992) and Schedule 6 of the WCA 1981 (as amended).

4.52 SEWBReC returned seven records of badger within the search radius, of which six records are historic (1970-1980's). The closest record is for a sett and field signs observed approximately 700 m from the Site. The most recent record is of a road casualty 1.7 km from the Site.

4.53 No badger setts or field evidence indicating badger activity (e.g., hair, footprints, latrines, snuffle holes etc.) was observed during the survey. However, the Site offers suitable habitat for setts, foraging and commuting in the form of broadleaved woodland, hedgerows, tree lines and semi-improved grassland.

**Other mammals**

4.54 Other mammals of principal importance listed in Section 7 of Environment (Wales) Act 2016 include West European hedgehog *Erinaceus europaeus*, brown hare *Lepus europaeus*, harvest mouse *Micromys minutus*, and polecat *Mustela putorius.*

4.55 SEWBReC retuned two records of polecat, with the closest record approximately 1.5 km north from the Site. Polecat may be present in low numbers within areas of woodland within and surrounding the Site and may disperse through the Site on occasion.

4.56 SEWBReC returned 83 records of hedgehog within the 2 km search radius, with the closest record approximately 300 m south of the Site. The Site offers suitable foraging and commuting habitat (woodland edge, hedgerows, scrub and semi-improved grassland) for hedgehog.

4.57 SEWBReC returned one historic record of harvest mouse, 2.5 km north-west of the Site in 1973. A review of the harvest mouse distribution[10] shows that harvest mice are largely absent in the east of the county. Therefore, it is unlikely that harvest mice will be present on Site.

4.58 SEWBReC did not return any records of brown hare within the 2 km search radius. A review of the National Biodiversity Network (NBN) Atlas shows a record for brown hare approximately 1.2 km west of the Site. Brown hare may be present in low numbers within areas of grassland within and surrounding the Site and may disperse through the Site on occasion.

**Birds**

4.59 All nesting birds are protected under Section 1 of the WCA 1981 (as amended). Greater protection is afforded to species listed on Schedule 1 of the WCA 1981 (as amended).

4.60 SEWBReC returned records for 146 species, of which 188 records were for 46 Schedule 1 bird species. The closest record is a fieldfare *Turdus pilaris* approximately 500 m from the Site, followed by brambling *Fringilla montifringilla,* redwing *Turdus iliacus* (all winter passage records), and red kite *Milvus milvus* approximately 600 m from the Site. Other notable species include a male goshawk *Accipiter gentilis* and kingfisher *Alecedo atthis* recorded approximately 800 m from the Site (associated with the River Cadoxton). The closest record for barn owl *Tyto alba* is 1.3 km from the Site.

4.61 Bird species listed on Section 7 of the Environment (Wales) Act 2016 recorded within 1 km of the Site include bullfinch *Pyrrhula pyrrhula*, dunnock *Prunella modularis*, house sparrow *Passer domesticus*, kestrel *Falco tinniunculus* marsh tit *Poecile palustris*, song thrush *Turdus* philomelos, spotted flycatcher *Muscicapa striata*, starling *Sturnus vulgaris*, tree pipit *Anthus trivialis*, and willow tit *Poecile montanus*.

4.62 The Site is beyond the breeding range of fieldfare, redwing and brambling, and does not support suitable nesting habitat for goshawk (such as mature coniferous forest).

4.63 The woodland, scrub and hedgerow habitats on Site are likely a valuable nesting and foraging resource to small, widespread passerine species.

4.64 The stable block buildings and corrugated iron farm buildings provide suitable nesting opportunities for barn owl. However, no evidence of use by this species was recorded during the Phase 1 survey work.

**Amphibians**

4.65 Great crested newts (GCN) *Triturus cristatus* are protected under the Conservation of Habitats and Species 2017 (as amended) and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (WCA). Common toad *Bufo bufo* is a species of principal importance for the conservation of biodiversity in Wales and is listed in Section 7 of the Environment (Wales) Act 2016.

4.66 SEWBReC returned nine records of GCN within the search radius. The closest record is approximately 300 m northwest of the Site. Other amphibian records returned included common frog *Rana temporaria*, common toad, palmate newt *Lissotriton helveticus*, and smooth newt *Lissotriton vulgaris*.

4.67 The on-Site pond was dry at the time of the survey, however, the survey was undertaken following a prolonged period of dry weather, and it is possible that the pond holds water during the breeding season for great crested newt.

4.68 The nearest pond to the Site is within an adjacent garden along the northwest Site boundary. No other ponds are present within 250 m of the Site.

[10] Britain's Mammals 2018: The Mammal Society's Guide to their Population and Conservation Status.

4.69 The hedgerows and field margins on Site and in the surrounding landscape provide suitable foraging and connective habitat for GCN and other amphibians to disperse through the landscape.

**Reptiles**

4.70 All reptiles are afforded protection under Schedule 5 of the WCA 1981 (as amended).

4.71 SEWBReC returned five records of grass snake *Natrix helvetica* and five of slow-worm *Anguis fragilis*. The closest grass snake record is 540 m north of the Site, and the closest slow worm record is 773 m northeast from the Site.

4.72 The Site offers good foraging and commuting habitat for reptiles in the form of woodland edges, hedgerows, scrub and semi-improved grassland. The grassland sward is long and likely provides sheltering opportunities.

**Invertebrates**

4.73 Protection is afforded to species listed on Schedule 5 of the WCA 1981 (as amended).

4.74 There are no records of WCA species of invertebrate within the desk study search area. However, 2108 records of 65 Section 7 (Environment (Wales) Act 2016) species were provided in the data search. The majority of species are butterflies and moths. The closest record is of a blood-vein *Timandra comae* and small heath *Coenonympha pamphilus* 522 m northwest of the Site. Other notable species include dingy skipper *Erynnis tages* approximately 850 m north of the Site in 2021, cramp-ball fungus weevil *Platyrhinus resinosus* recorded 1.7 km from the Site in 2020, and the beetle *Polydrusus formosus* recorded 1.8 km from the Site in 2015.

4.75 The Site offers a good mosaic of habitats to support a diverse range of common and ubiquitous invertebrate species and may support more specialised invertebrate species associated with ancient woodland. The semi-improved grassland offers a valuable nectar source for pollinating invertebrates.

**Protected plants**

4.76 SEWBReC returned records for bluebell *Hyacinthoides non-scripta* in Case Hill Wood approximately 700 m west of the Site.

4.77 No protected flora species / species listed on Section 7 of the Environment (Wales) Act 2016 were recorded during the survey.

4.78 The two ancient woodland blocks on Site have the potential to support bluebell.

**Fungi**

4.79 Waxcap grassland fungi is a group of fungi for which the UK, particularly Wales and Scotland, is globally important (Plantlife, 2014). Waxcaps are generally found in unimproved pasture and haymeadows.

4.80 SEWBReC returned eight records of three waxcap species including blackening waxcap *Hygrocybe conica*, oily waxcap *Hygrocybe quieta*, and parrot waxcap *Gliophorus psittacinus*. The closest records are approximately 800 m north of the Site, east of Pen y Turnpike Road.

4.81 Waxcap fungi were not observed during the field survey; however, the survey was undertaken outside of the peak fruiting period for waxcaps (which is typically between late August and late November).

4.82 The Site has suitability to support waxcap fungi within the semi-improved grassland, especially in the drier fields.

**Non-native invasive species**

4.83 Japanese knotweed *Reynoutria japonica* and Himalayan balsam *Impatiens glandulifera* are listed on Schedule 9 of the WCA 1981 (as amended). Himalayan balsam is also covered under the Invasive Alien Species (Enforcement and Permitting) Order 2019.

4.84 SEWBReC returned 53 records of 20 invasive non-native plant species within the 2 km search radius.

4.85 Japanese knotweed and Himalayan balsam were not observed within the Site or immediate surrounding land during the survey. However, it is worth noting that these species can establish quickly near to watercourses.

# 5 Potential Impacts and Recommendations

5.1 This section presents an assessment of the potential impacts resulting from development on features identified in **Section 4.** Recommendations for further survey, options for mitigation and compensation opportunities are presented below. Proposed habitat enhancement opportunities are also outlined in this section.

5.2 The following advice is provided with reference to Planning Policy Wales 11 (2021) and Vale of Glamorgan County Borough Councils adopted Local Development Plan (LDP).

**Statutory Designated Sites**

5.3 The closest statutory designated site is Cwm Cydfin, Leckwith SSSI 1.8 km north, adjacent to the River Ely. It is designated / notified for its mixed deciduous woodland and diverse ground flora.

5.4 Cwm Cydfin, Leckwith SSSI is upstream of the Site and hydrologically connected via East Brook and the River Ely. Indirect impacts (such as pollution and contamination) on the SSSI may occur as a result of the development.

5.5 Standard pollution controls must be set out in a Construction Environmental Management Plan (CEMP) and followed.

**Non – Statutory Designated Sites**

5.6 The closest non-statutory designated site is Case Hill Wood SINC approximately 500 m west of the Site, separated from the Site by Pen-Y-Turnpike Road. It is designated for its planted ancient woodland and the species supported, including bats, hazel dormouse, kestrel, and several moth species that rely entirely on small-leaved lime.

5.7 Direct impacts (i.e., removal or modification) on SINC habitats will not occur because of development of the Site. However, in the absence of mitigation, the development could result in indirect impacts such as an increase in light and noise pollution. Depending on the design of the development, an assessment of the effects of recreation may need to be undertaken.

5.1 Standard measures to control the risk of pollution, excessive noise and light spill will be incorporated into a CEMP.

5.2 A lighting design showing consideration of bats through maintenance of darkened corridors and avoidance of light spill onto boundary habitats is recommended.

**Habitats**

5.3 The proposed development will result in significant loss of semi-improved grassland. Whilst this habitat does not meet any criteria that would qualify it as a priority habitat (Maddock, 2011), or locally designated site (Gwent Wildlife Trust, 2004), it may support protected species. The grassland provides suitable terrestrial habitat for amphibians, including GCN. It also provides a valuable foraging resource for bats, badger, hedgehog, and other small mammals.

5.4 Hedgerows, mature trees, and woodland within and adjacent to the Site are of inherent ecological interest due to their age and character. These habitats also have the potential to support protected species (including birds, mammals and invertebrates) and to provide ecological corridors for their dispersal through the landscape.

5.5 Hedgerows and lowland mixed deciduous woodland are 'Priority Habitats' under Section 7 of the Environment (Wales) Act 2016[11]. The network of hedgerows and woodland provide biodiversity value for the wider area.

5.6 In the absence of mitigation, the development could result in the following impacts on habitats on Site during construction and operation:

- Direct loss / modification of Priority Habitat (hedgerow and woodland) and habitats with potential to meet local designation guidelines (ancient semi-natural woodland).
- Damage / degradation of retained habitats by accidental damage by contractors or compaction of root protection zones by heavy plant or material laydown.
- Pollution events leading to local loss of condition of any ecologically valuable habitat affected.
- Loss of extent or condition of Priority Habitat and habitats with potential to meet local designation guidelines though changing use / management.

5.7 The following actions are recommended:

- Priority and locally designated habitats should be retained (including appropriate buffers and root protection areas), and any loss compensated for by creation or enhancement of habitats elsewhere within the Site.
- The production of a Habitat Management Plan detailing the management measures required to maintain habitats at a favourable condition.
- Areas designated to nature conservation should be secured to prevent disturbance to protected species though increased recreational pressure. Such enhancement would benefit foraging bats, breeding birds, hazel dormouse, protected mammal species, reptiles, and invertebrates.

**Protected Species**

5.8 The potential for impacts on protected species (in the absence of mitigation), recommendations for further survey, mitigation and consultation are presented within **Table 3**. Detail on legislative protection for each species is provided within **Appendix 1**.

**Table 3 -** Further survey, potential impacts, and mitigation recommendations for protected species.

| Species | Further Survey | Potential Impacts | Avoidance / Mitigation Actions |
|---|---|---|---|
| **Bats** | If impacts to hedgerow and woodland are likely, then bat activity transect survey and deployment of static detectors is recommended to determine the use of the Site by commuting and foraging bats, inform Site design and a lighting plan. Surveys to be conducted in accordance with industry standard guidance (Collins, 2016). | Loss and/or fragmentation of moderate foraging and commuting habitat.<br>Killing/injury (if present in trees / buildings that are removed).<br>Loss/destruction of potential roosting features in trees and buildings.<br>Disturbance or abandonment of off- | Boundary / linear features should be retained as far as practicable.<br>If trees with low potential for roosting bats require felling or pruning, works should be completed in line with a working method statement. Where possible, features should be retained.<br>Sensitive lighting scheme to be incorporated during site design for construction and operational phases to |

[11] This act requires the Welsh Government to take all reasonable steps to maintain and enhance them, and to encourage others to take such steps.

| Species | Further Survey | Potential Impacts | Avoidance / Mitigation Actions |
|---|---|---|---|
| | | site roosts through lighting impacts. | avoid light spill onto retained habitats and potential off-Site features (i.e., mature trees).<br>Enhance boundary features through additional planting and appropriate management providing additional foraging resource. |
| **Hazel dormouse** | Early consultation with the LPA ecologist on the scope of further survey for dormouse is recommended.<br>If hedgerows, woodland, and dense scrub habitat are to be lost / fragmented, a presence / likely absence survey may be required to inform appropriate mitigation measures[12].<br>Surveys to be conducted in accordance with industry standard guidance (English Nature, 2006) and include deployment of dormouse tubes within all suitable habitat, to be checked on a regular basis between April and November. | Killing/injury (if present).<br>Loss / reduction, damage, destruction and/or fragmentation of habitats available nesting and foraging. | Retain hedgerows, scrub and connectivity across the Site. including an appropriate buffer.<br>Sensitive lighting scheme to be incorporated during Site design for construction and operational phases to avoid light spill onto retained habitats. |
| **Otter** | No further survey recommended. | Killing/injury if present.<br>Damage, destruction and/or fragmentation of habitats. | Retain and enhance watercourses and woodland connectivity across the Site.<br>Sensitive working practices during construction (i.e., no uncovered excavations, appropriately stored chemicals and capping exposed piping) should be adopted. |
| **Badger** | Badgers are a highly mobile species and readily occupy new territories and build setts.<br>Pre-works inspection for signs of badger is recommended to identify any setts on Site or within the | Killing / injury (if present)<br>Loss of suitable terrestrial habitat on Site.<br>Indirect impacts through | Retain on Site habitat (i.e., woodland, grassland, scrub, hedgerows) and maintain connectivity to off Site habitats.<br>Enhance retained features and incorporate |

[12] An NRW protected species development licence to permit otherwise unlawful works may be needed if dormice are found to be present and likely to be adversely affected.

| Species | Further Survey | Potential Impacts | Avoidance / Mitigation Actions |
|---|---|---|---|
| | immediate surrounding habitat, and to confirm if a licence is required. | fragmentation, light and noise pollution | new features suitable for badger within the Site design.<br>Sensitive working practices during construction (i.e., no uncovered excavations, appropriately stored chemicals and capping exposed piping) should be adopted. |
| **Other protected / notable species**<br>(Hedgehog and polecat) | No further survey recommended. | Killing/injury if present.<br>Damage, destruction and/or fragmentation of habitats. | Retain and enhance hedgerows and connectivity across the Site. |
| **Breeding birds** | A site walkover and building check should be carried out prior to works commencing.<br>Early consultation with the LPA ecologist on the scope of further survey for breeding birds is also recommended (given the size of the site and the potential for the community to change). | Loss of nesting and foraging habitat.<br>Damage or destruction of active nests. | Retain boundary habitats including scrub, hedgerow, and mature trees.<br>Removal of any woody vegetation including dense scrub, if required, should be conducted outside of the breeding season (March to August as a guide) or following a pre-works check for nesting birds and under supervision of a suitably qualified Ecological Clerk of Works (ECoW). |
| **Amphibians** | An assessment of the pond during the breeding season for GCN is recommended. If the pond is found to be dry during the spring, then an assessment will be based on its condition at that time. | Killing / injury (if present)<br>Loss of suitable terrestrial and aquatic habitat on Site.<br>Indirect impacts through fragmentation | Retain on Site habitat (i.e., grassland, scrub, hedgerows, and pond) and maintain connectivity to off Site habitats.<br>Enhance retained features and incorporate new features suitable for GCN within the Site design. |
| **Reptiles** | Depending on the development design and whether the majority of suitable habitats can be retained, a reptile presence / (likely) absence survey may be required. | Killing/injury if present.<br>Damage, destruction and/or fragmentation of habitats. | Retain and enhance grassland and hedgerows and maintain connectivity across the Site. |

**Enhancement**

5.9 Section 6 of the Environment (Wales) Act 2016 places a duty on public authorities to '*seek to maintain and enhance biodiversity*' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to '*promote the resilience of ecosystems*'.

5.10 Recommendations to be incorporated into a development at the Site include:

- Enhancement of retained habitats (such as hedgerows, woodland, mature trees, and pond) by "gapping" defunct hedgerows using native species of local provenance, adopting a sensitive management of retained habitats to improve habitat condition and species diversity (i.e., reduce grazing pressure).
- New habitat creation within drainage schemes to benefit a range of aquatic and wetland communities.
- Incorporating native species of local provenance into landscape design.
- Incorporation of habitat enhancement such as log piles, hibernacula, areas of wildflower planting, and the creation of new ponds to benefit reptiles, amphibians, invertebrates, and small mammals.
- Inclusion of bat and bird boxes within the building design to provide additional roost / nesting resources.

# 6 References

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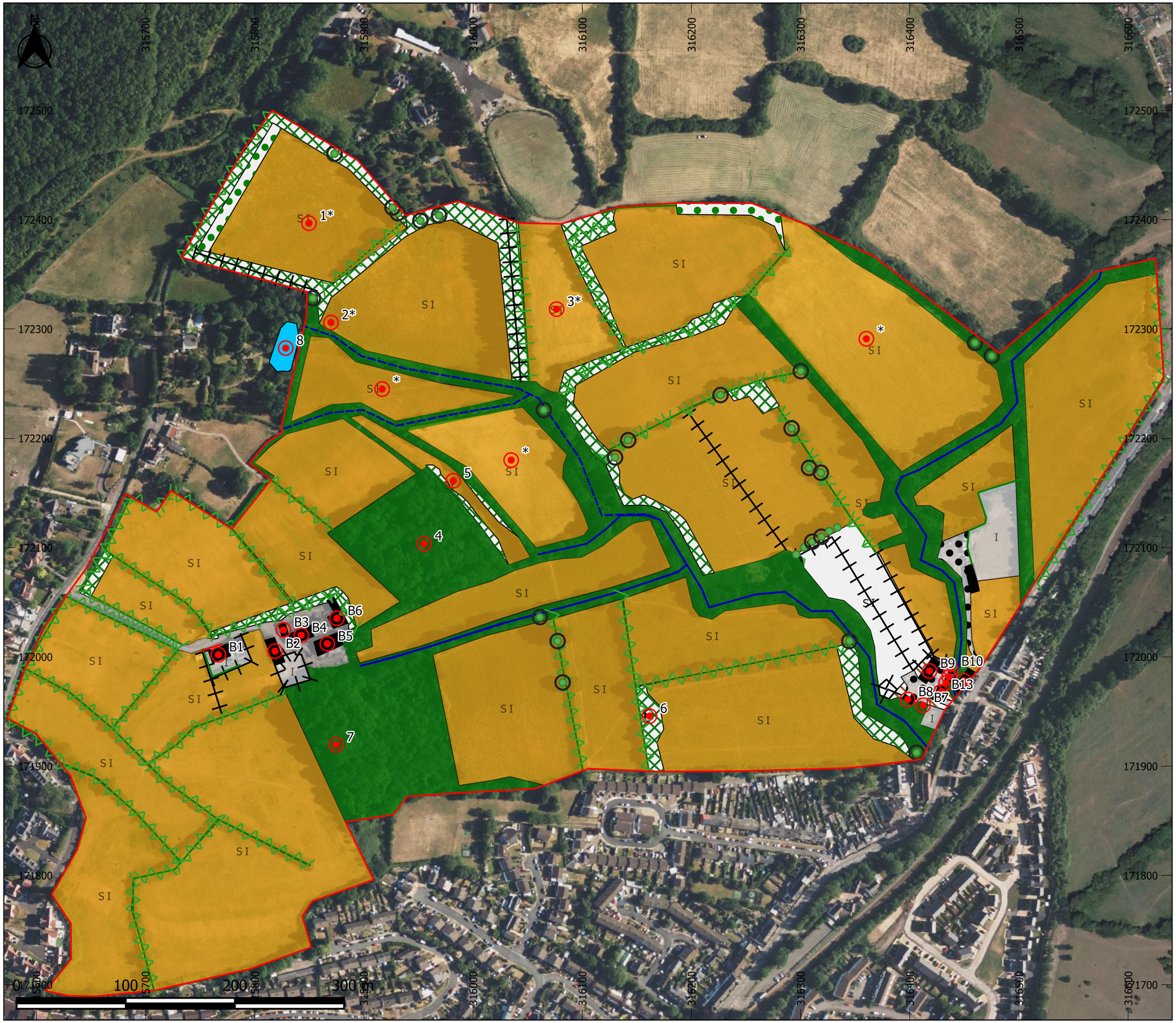
# 7 Figures

(overleaf)




Legend

Site Boundary

Site boundary

Baseline Survey Data

Target note

Trees - Existing

Existing large tree

Existing small tree

Boundaries inc. Hedgerows

Intact hedge - native species-rich

Intact hedge - species-poor

Defunct hedge - native species-rich

Hedge with trees - native species-rich

Hedge with trees - species-poor

Fence

Wall

Dry ditch

Rivers

Running water

Habitats Surveyed

Broadleaved woodland - semi-natural

Scrub - dense/continuous

Broadleaved Parkland/scattered trees

Neutral grassland - semi-improved

Improved grassland

Poor semi-improved grassland

Other tall herb and fern - ruderal

Standing water

Built up areas inc. hardstanding

Buildings

Bare ground

Bing Aerial

BSG ecology

OFFICE: NEWPORT
T: 01633 509000

JOB REF: P22-244

PROJECT TITLE

LAND NORTH OF DINAS POWYS

DRAWING TITLE

Figure 1: Extended Phase 1 Habitat Survey Results

DATE: 09/09/2022 CHECKED: GL SCALE: 1:3,300

DRAWN: BG APPROVED: GL VERSION:1.0



Projection: OSGB 1936/British National Grid - EPSG 27700

Sources: BSG Ecology survey data

Graphics Ref. No.: 01427


Legend

Site Boundary

Site boundary

Baseline Survey Data

Target note

Trees - Existing

Existing large tree

Boundaries inc. Hedgerows

Intact hedge - native species-rich

Intact hedge - species-poor

Defunct hedge - native species-rich

Hedge with trees - native species-rich

Fence

Wall

Dry ditch

Rivers

Running water

Habitats Surveyed

Broadleaved woodland - semi-natural

Scrub - dense/continuous

Neutral grassland - semi-improved

Improved grassland

Built up areas inc. hardstanding

Buildings

Bare ground

graphics multipoint

Bing Aerial

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PROJECT TITLE

LAND NORTH OF DINAS POWYS

DRAWING TITLE

Figure 1a: Extended Phase 1 Habitat Survey Results - South-west

DATE: 12/09/2022 CHECKED: GL SCALE: 1:2,000

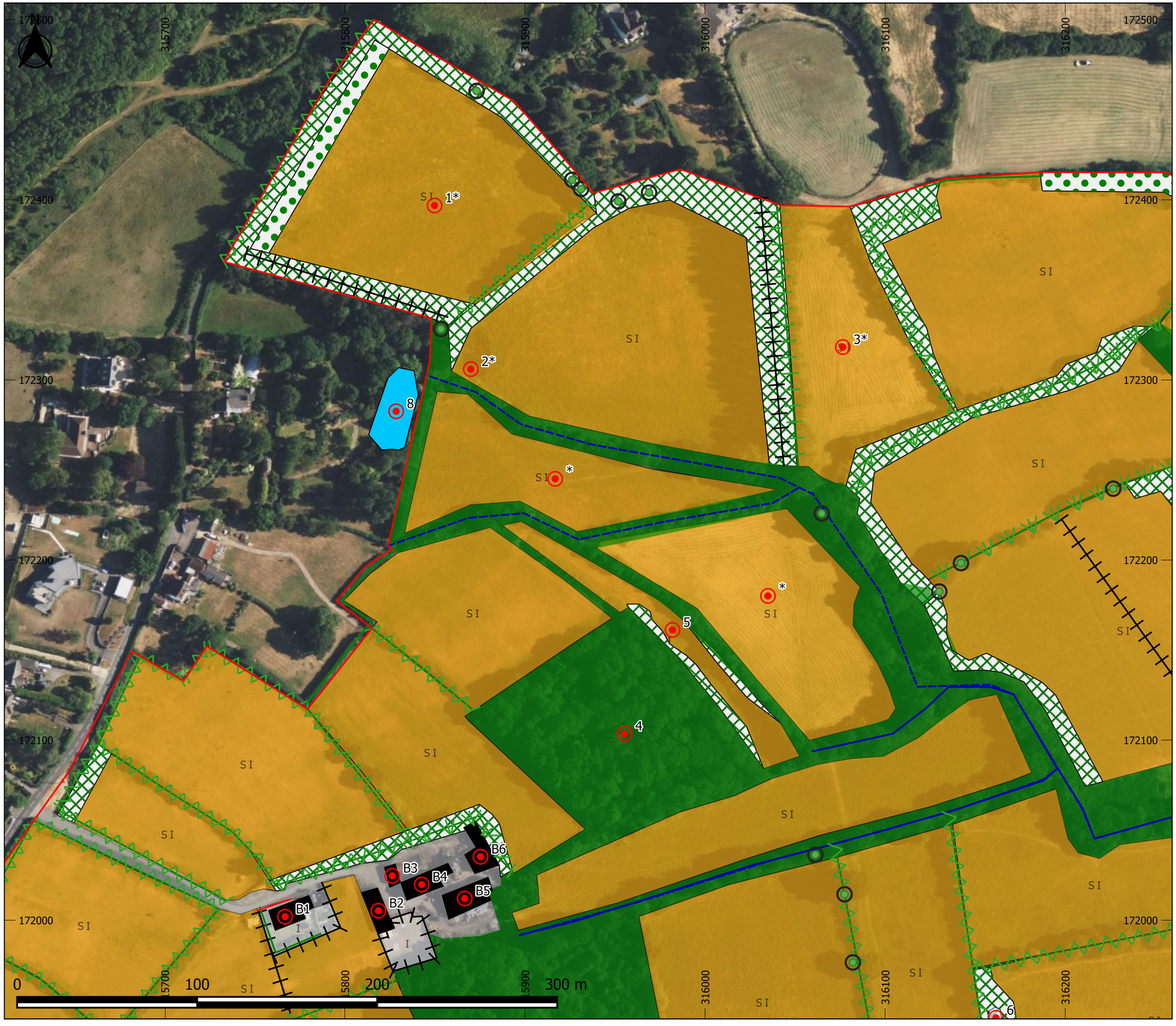
DRAWN: BG APPROVED: VERSION:1.0



Projection: OSGB 1936/British National Grid - EPSG 27700

Sources: BSG Ecology survey data

Graphics Ref. No.: 01431




Legend

Site Boundary

Site boundary

Baseline Survey Data

Target note

Trees - Existing

Existing large tree

Boundaries inc. Hedgerows

Intact hedge - native species-rich

Intact hedge - species-poor

Defunct hedge - native species-rich

Hedge with trees - native species-rich

Hedge with trees - species-poor

Fence

Wall

Dry ditch

Rivers

Running water

Habitats Surveyed

Broadleaved woodland - semi-natural

Scrub - dense/continuous

Broadleaved Parkland/scattered trees

Neutral grassland - semi-improved

Improved grassland

Standing water

Built up areas inc. hardstanding

Buildings

Bare ground

Bing Aerial

BSG | ecology

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JOB REF: P22-244

PROJECT TITLE

LAND NORTH OF DINAS POWYS

DRAWING TITLE

Figure 1b: Extended Phase 1 Habitat Survey Results - North-west

DATE: 09/09/2022 CHECKED: GL SCALE: 1:2,000

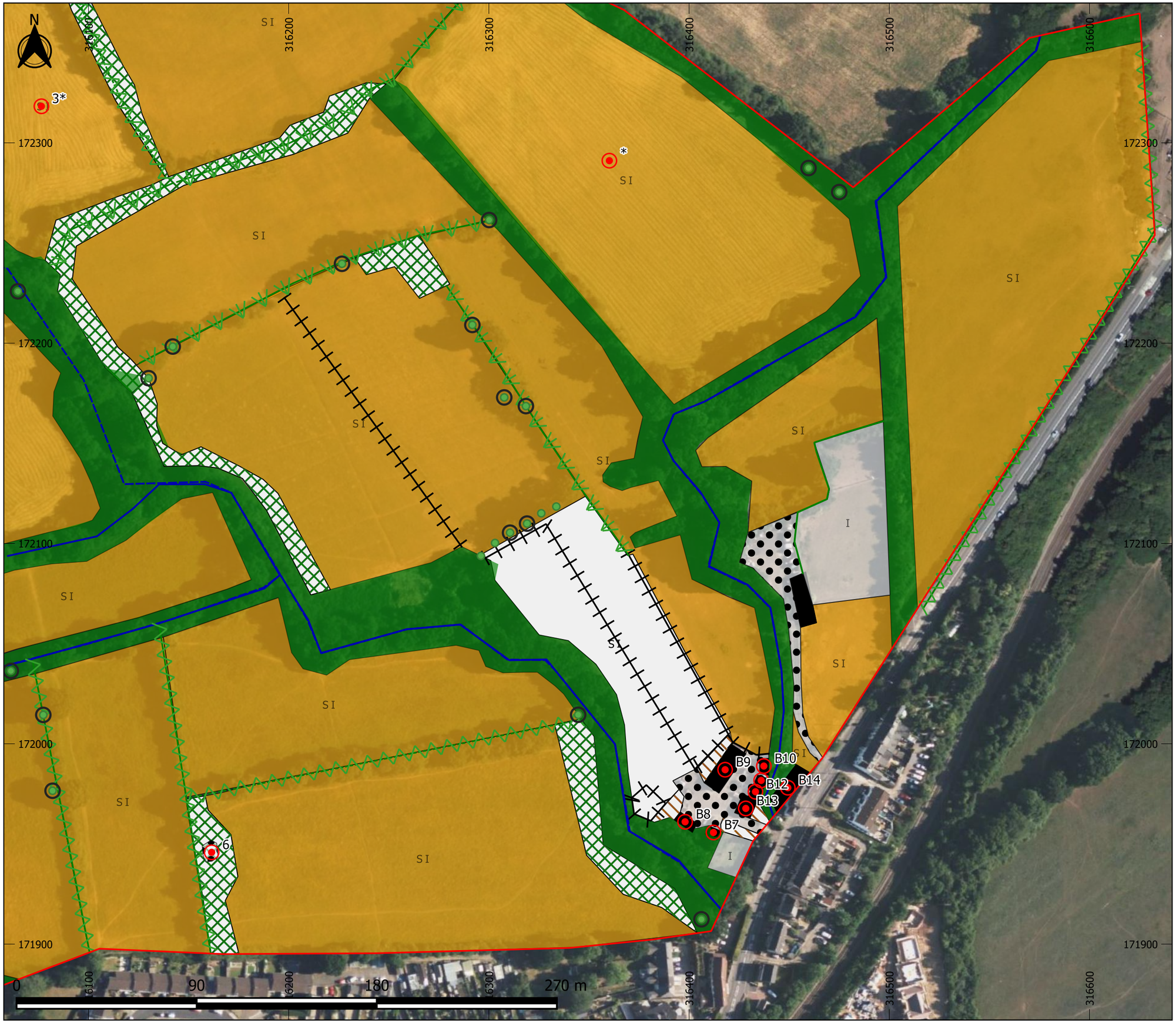
DRAWN: BG APPROVED: VERSION:1.0



Projection: OSGB 1936/British National Grid - EPSG 27700

Sources: BSG Ecology survey data

Graphics Ref. No.: 01432




Legend

Site Boundary

Site boundary

Baseline Survey Data

Target note

Trees - Existing

Existing large tree

Existing small tree

Boundaries inc. Hedgerows

Intact hedge - native species-rich

Intact hedge - species-poor

Defunct hedge - native species-rich

Hedge with trees - native species-rich

Fence

Dry ditch

Rivers

Running water

Habitats Surveyed

Broadleaved woodland - semi-natural

Scrub - dense/continuous

Neutral grassland - semi-improved

Improved grassland

Poor semi-improved grassland

Other tall herb and fern - ruderal

Buildings

Bare ground

Bing Aerial

BSG ecology

OFFICE: NEWPORT
T: 01633 509000

JOB REF: P22-244

PROJECT TITLE

LAND NORTH OF DINAS POWYS

DRAWING TITLE

Figure 1c: Extended Phase 1 Habitat Survey Results - East

DATE: 12/09/2022 CHECKED: GL SCALE: 1:1,800

DRAWN: BG APPROVED: GL VERSION:1.0



Projection: OSGB 1936/British National Grid - EPSG 27700

Sources: BSG Ecology survey data

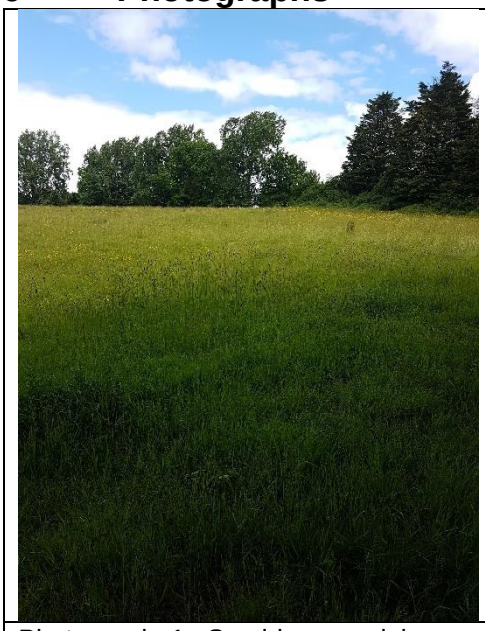
Graphics Ref. No.: 01433

# 8 Target Notes

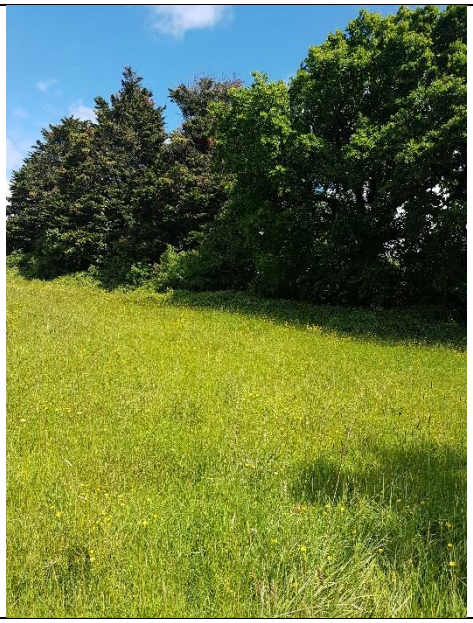
| Target Note number (on Figure 1) | Description | Photograph(s) |
|---|---|---|
| 1*[13] | Semi-improved hay meadow which is grass-dominated with occasional hard rush tussock. The northeast and southeast boundaries are defined by adjacent off-site woodland with a bank of bramble growing into the field. Several mature oaks are present and a row of tall black poplar (non-native) trees along the northwest boundary. | 1 & 2 |
| 2* | Semi-improved pasture with a relatively short sward height compared to the hay meadow fields. No current grazing management at the time of survey. There is a damp corner with stand of sweet grass *Glyceria sp*. and occasional *Veronica beccabunga*. A fenced off corner dominated by hard rush. Given the dampness there is a possibility that there is standing water in this area during wet times. Eastern boundary is a shelterbelt of tall black poplars and a dry ditch. Blackthorn and bramble are growing into the field. A dry stream, lined with outgrown hedge and mature oak trees runs along the southern boundary. | 3 - 6 |
| 3* | Semi-improved hay meadow, which is similar to TN1, but with a drier composition. Indicators of this include higher abundance of red fescue, absence of rushes and presence of pale flax. | 7 & 8 |
| 4 | Broadleaved woodland (possibly plantation) with mature ash and oak canopy and bramble understorey. | 9 |
| 5 | An unmanaged field dominated by Yorkshire fog. There is a major scrub incursion from the boundaries into the field. Glaucous sedge plant noted. | 10 |
| 6 | Pond that was completely dry at the time of the survey, evidenced by an area (c. 5 x 5 m) of bare damp mud suggesting that it holds water occasionally. The pond is completely shaded by adjacent overgrown and tall boundary scrub. | 31 |
| 7 | Broadleaved woodland where the eastern section has been relatively newly replanted. The canopy is dominated by ash and slim, close-grown sycamore, with a field maple and sycamore understorey. Ground flora comprises ivy and wild garlic in damper areas. No significant large trees were noted. | 11 & 12 |
| 8 | Off-Site pond in adjacent garden along the west Site boundary. | Unable to photograph. |

[13] * Indicates hay meadows on **Figure 1**.

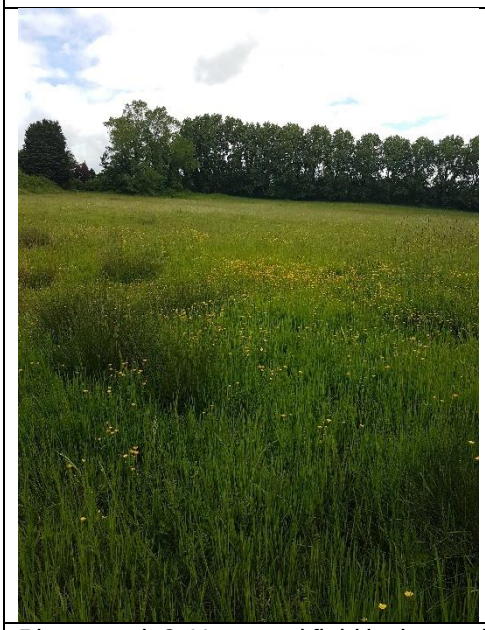
# 9 Photographs



Photograph 1: Semi-improved haymeadow in the north-west of the Site (TN1).

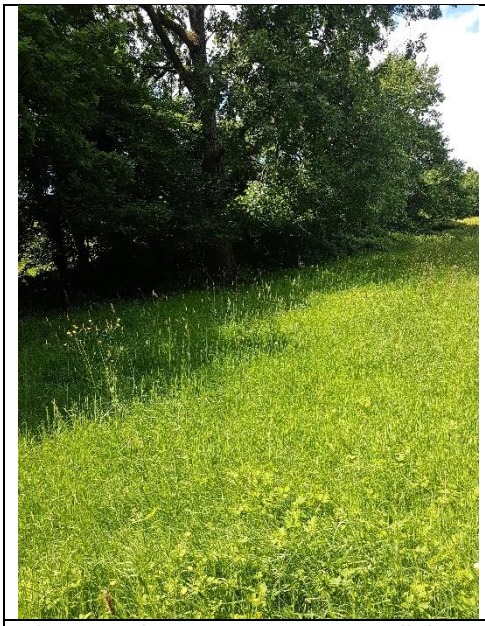


Photograph 2: The north-east field boundary is defined by adjacent off-site wooland with a dense bramble scrub understorey (TN1).



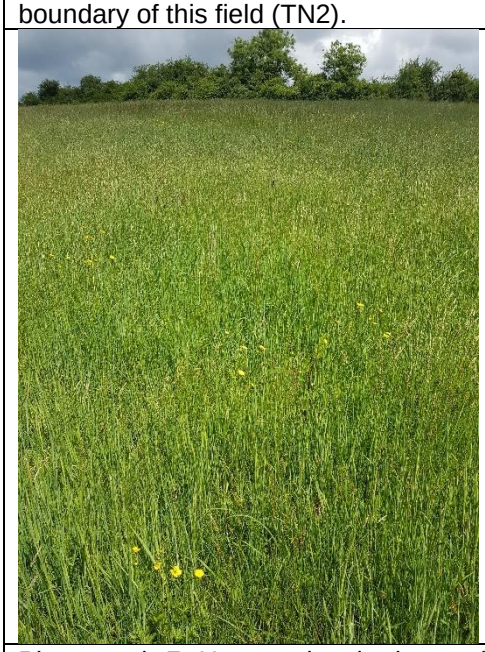
Photograph 3: Ungrazed field in the north-west of the Site. The eastern boundary is lined with a shelterbelt of tall black poplar trees (TN2).

Photograph 4: Defunct native species-rich hedgerow along the western field boundary (TN2).



Photograph 5: Mature trees lining a dry ditch associated with East Brook along the southern boundary of this field (TN2).

Photograph 6: The south-west corner of the Site has damper conditions evidenced by the increase in rushes (TN2).



Photograph 7: Haymeadow in the north of the Site (TN3). This field is similar to TN1 but has a drier composition with more red fescue and an absence of rushes. Pale flax was recorded.

Photograph 8: Haymeadow in the north of the Site (TN3). Eastern field boundary bound by intact native species-rich hedgerow.

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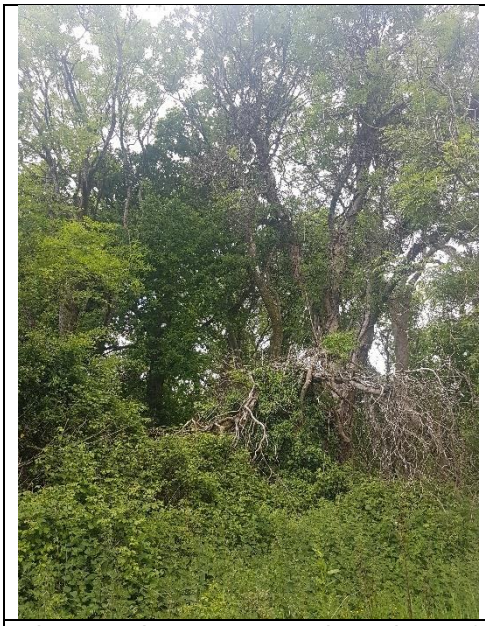
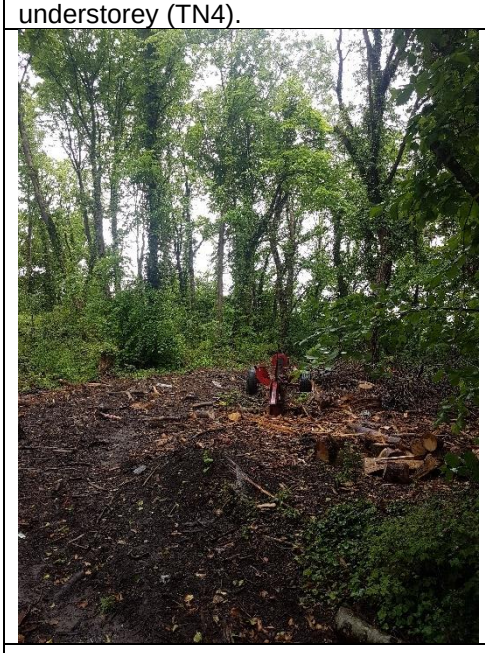
|  |  |
| Photograph 9: Eastern boundary of the central broadleaved woodland block, comprising mature oak and ash canopy and a dense bramble understorey (TN4). | Photograph 10: Unmanaged field in the west of the Site (TN5). Major scrub incursion from the boundaries. |
|  |  |
| Photograph 11: Recent felling within the ancient semi-natural woodland block (TN7). | Photograph 12: Stacked timber from recent felling in the ancient semi-natural broadleaved woodland (TN7). |

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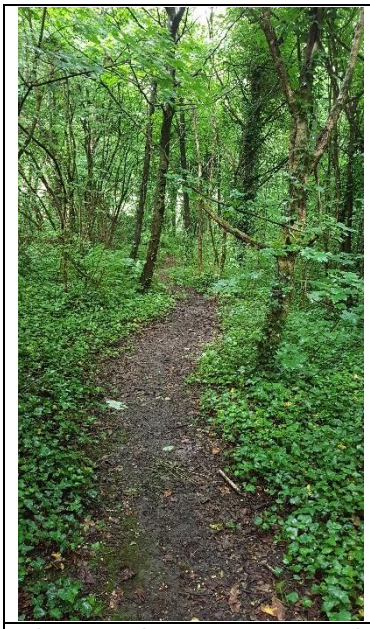
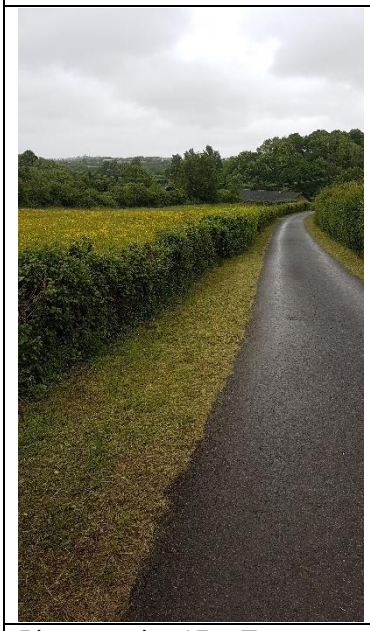
|  |  |
| Photograph 13: Eastern half of the southern woodland block. Young, close-growing sycamore and ash are dominant in the canopy. | Photograph 14: Modern bungalow (B1) in the west of the Site. View is of the western gable. |
|  |  |
| Photograph 15: Tarmac track leading to the bungalow (B1) and the farm buildings (B2-B6). | Photograph 16: Stable block (B2) located on the western boundary of the yard. |

Photograph 17: Stable block (B3) in the centre of the yard.

Photogtaph 18: Stable block (B4) located on the western boundary of the yard.

Photograph 19: Open fronted corrugated iron farm building (B5) in the centre of the yard.

Photograph 20: Open fronted corrugated iron farm building (B6) in the east of the yard.

Photograph 21: Eastern aspect of Buildings 7 & 8.

Photograph 22: Interior of Building 8.

Photograph 23: Open-sided farm building with wooden cladding and corrugated roofing (Building 9).

Photograph 24: North aspect of the stable block (B10).

Photograph 25: Northern aspect of Building 11.

Photograph 26: Building 11, 12 & 13.

Photograph 27: Northern aspect of Building 13.

Photograph 28: Wet ditch in the centre of the Site.

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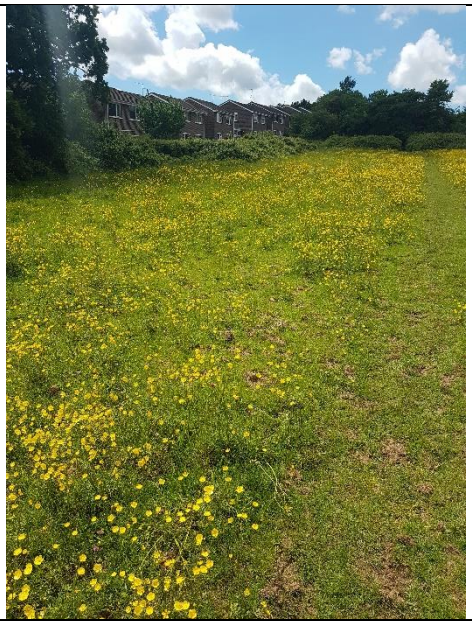
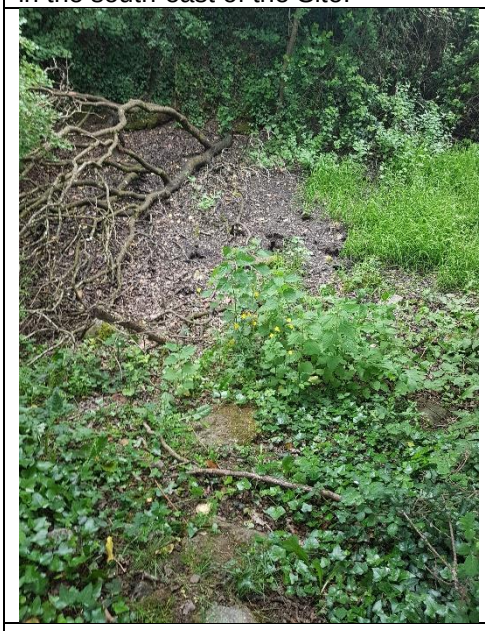
|  |  |
| Photograph 29: Broadleaved semi-natural woodland in the south-east of the Site. | Photograph 30: Semi-impoved neutral grassland in the south of the Site. |
|  |  |
| Photograph 31: Dried pond (TN6). | Photograph 32: Hedgerow along the eastern Site boundary. |

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| Photograph 33: Hedgerow along the western Site boundary and Pen-Y-Turnpike Road. | |

# Appendix 1: Summaries of Relevant Policy, Legislation and Other Instruments

9.1 This section briefly summarises the legislation, policy and related issues that are relevant to the main text of the report. The following text does not constitute legal or planning advice.

**Planning Policy Wales 11**

9.1 PPW 11 seeks to sustain and create places in which…

- the role which landscapes, the historic environment, habitats and biodiversity, the characteristics of coastal, rural or urban environments play in contributing to Distinctive and Natural places are identified, understood, valued, protected and enhanced;
- further fragmentation of habitats is avoided, wherever possible, and green networks, corridors and connecting habitat within developed areas is protected, and enhanced;
- sites designated for their landscape or nature conservation importance are fully considered and their special characteristics and features protected and enhanced, whilst the network of sites should be recognised as being at the heart of improving the resilience of ecosystems;

9.2 Paragraph 6.4.4 states that

"It is important that biodiversity and resilience considerations are taken into account at an early stage in both development plan preparation and when proposing or considering development proposals. [……] All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission."

9.3 Paragraph 6.4.5 states that

"Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity. In doing so planning authorities must also take account of and promote the resilience of ecosystems……

**TAN 5 Nature Conservation and Planning (Wales only)**

9.4 Technical Advice Note (TAN) 5 supplements Planning Policy Wales and provides advice about how the land use planning system in Wales 'should contribute to protecting and enhancing biodiversity and geological conservation.'

9.5 The TAN provides guidance to local planning authorities on: 'the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and, development affecting protected and priority habitats and species.'

9.6 In section 2.4 when deciding planning applications that may affect nature conservation, 'local authorities should:

- contribute to the protection and improvement of the environment…seeking to avoid irreversible harmful effects on the natural environment;
- ensure that appropriate weight is attached to designated sites of international, national and local importance;
- protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;

- ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of a development on nature conservation;
- ensure that the range and population of protected species is sustained;
- adopt a stepwise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered.'

9.7 At section 3.3.2 regarding Local Development Plans policies the guidance states that a policy should be included in respect of the application of the precautionary principle.

9.8 Section 4 includes specific and detailed guidance, expanding on the principles set out in 2.4, in respect of the development control process including pre-application discussions, preparing planning applications, requests for further information and ecology in respect of Environmental Impact Assessment (EIA). The broad principles of development control requirements are set out as follows:

- 'adopting the five-point approach to decision-making – information, avoidance, mitigation, compensation and new benefits;
- ensuring that planning applications are submitted with adequate information, using early negotiation, checklists, requiring ecological surveys and appropriate consultation;
- securing necessary measures to protect, enhance, mitigate and compensate through planning conditions and obligation;
- carrying out effective panning enforcement; and
- identifying ways to build nature conservation into the design of new development.'

**Environment (Wales) Act 2016**

9.9 The Environment (Wales) Act 2016 passed into law in March 2016. Part 1 of the Act sets out Wales' approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.

9.10 Section 6 of the Act places a duty on public authorities to '*seek to maintain and enhance biodiversity*' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to '*promote the resilience of ecosystems*'. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 in relation to Wales, and applies to those authorities that fell within the previous duty.

9.11 Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience. This is expanded on in sub-section (2):

9.12 In complying with subsection (1), a public authority must take account of the resilience of ecosystems, in particular the following aspects—

- diversity between and within ecosystems;
- the connections between and within ecosystems;
- the scale of ecosystems;
- the condition of ecosystems (including their structure and functioning);
- the adaptability of ecosystems.

9.13 Section 7 concerns biodiversity lists and the duty to take steps to maintain and enhance biodiversity. It replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.

9.14 The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.

9.15 The Conservation of Habitats and Species Regulations 2017 (amendment) (EU Exit) Regulations 2019 ) consolidates various amendments that have been made to the original (1994) Regulations which transposed the EC Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC) into national law.

9.16 "European protected species" (EPS) of animal are those which are shown on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). They are subject to the provisions of Regulation 43 of those Regulations. All EPS are also protected under the Wildlife and Countryside Act 1981 (as amended). Taken together, these pieces of legislation make it an offence to:

a. Intentionally or deliberately capture, injure or kill any wild animal included amongst these species

b. Possess or control any live or dead specimens or any part of, or anything derived from a these species

c. deliberately disturb wild animals of any such species

d. deliberately take or destroy the eggs of such an animal, or

e. intentionally, deliberately or recklessly damage or destroy a breeding site or resting place of such an animal, or obstruct access to such a place

9.17 For the purposes of paragraph (c), disturbance of animals includes in particular any disturbance which is likely—

a. to impair their ability—

i. to survive, to breed or reproduce, or to rear or nurture their young, or

ii. in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

b. to affect significantly the local distribution or abundance of the species to which they belong.

9.18 Although the law provides strict protection to these species, it also allows this protection to be set aside (derogated) through the issuing of licences. The licences in Wales are currently determined by Natural Resources Wales. In accordance with the requirements of the Regulations (2017, as amended), a licence can only be issued where the following requirements are satisfied:

a. The proposal is necessary 'to preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment'

b. 'There is no satisfactory alternative'

c. The proposals 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

***Definition of breeding sites and resting places***

9.19 Guidance for all European Protected Species of animal, including bats and great crested newt, regarding the definition of breeding and of breeding and resting places is provided by The European Council (EC) which has prepared specific guidance in respect of the interpretation of various Articles

of the EC Habitats Directive.[14] Section II.3.4.b) provides definitions and examples of both breeding and resting places at paragraphs 57 and 59 respectively. This guidance states that 'The provision in Article 12(1)(d) [of the EC Habitats Directive] should therefore be understood as aiming to safeguard the ecological functionality of breeding sites and resting places.' Further the guidance states: 'It thus follows from Article 12(1)(d) that such breeding sites and resting places also need to be protected when they are not being used, but where there is a reasonably high probability that the species concerned will return to these sites and places. If for example a certain cave is used every year by a number of bats for hibernation (because the species has the habit of returning to the same winter roost every year), the functionality of this cave as a hibernating site should be protected in summer as well so that the bats can re-use it in winter. On the other hand, if a certain cave is used only occasionally for breeding or resting purposes, it is very likely that the site does not qualify as a breeding site or resting place.'

**Birds**

9.20 All nesting birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to disturb them whilst they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

9.21 The Conservation of Habitats and Species Regulations 2017 (as amended) places duties on competent authorities (including Local Authorities and National Park Authorities) in relation to wild bird habitat. These provisions relate back to Articles 1, 2 and 3 of the EC Directive on the conservation of wild birds (2009/147/EC, 'Birds Directive'[15]) (Regulation 10 (3)) requires that the objective is the 'preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of the upkeep, management and creation of such habitat, as appropriate, having regard to the requirements of Article 2 of the new Wild Birds Directive…' Regulation 10 (7) states: 'In considering which measures may be appropriate for the purpose of security or contributing to the objective in [Regulation 10 (3)] Paragraph 3, appropriate account must be taken of economic and recreational requirements'.

9.22 In relation to the duties placed on competent authorities under the 2017 Regulations, Regulation 10 (8) states: 'So far as lies within their powers, a competent authority in exercising any function [including in relation to town and country planning] in or in relation to the United Kingdom must use all reasonable endeavours to avoid any pollution or deterioration of habitats of wild birds (except habitats beyond the outer limits of the area to which the new Wild Birds Directive applies).'

**Badger**

9.23 Badger is protected under the Protection of Badgers Act 1992. It is not permitted to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. A badger sett is defined in the legislation as "a structure or place, which displays signs indicating current use by a badger".

9.24 ODPM Circular 06/2005[16] provides further guidance on statutory obligations towards badger within the planning system. Of particular note is paragraph 124, which states that "The likelihood of disturbing a badger sett, or adversely affecting badgers' foraging territory, or links between them, or significantly increasing the likelihood of road or rail casualties amongst badger populations, are capable of being material considerations in planning decisions."

[14] Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. (February 2007), EC.
[15] 2009/147/EC Birds Directive (30 November 2009. European Parliament and the Council of the European Union.
[16] *ODPM Circular 06/2005. Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts within the Planning System* (2005). HMSO Norwich.

9.25 Natural England provides Standing Advice[17], which is capable of being a material consideration in planning decisions. Natural England recommends mitigation to avoid impacts on badger setts, which includes maintaining or creating new foraging areas and maintaining or creating access (commuting routes) between setts and foraging/watering areas.

**Reptiles**

9.26 All native reptile species receive legal protection in Great Britain under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Viviparous lizard, slow-worm, grass snake and adder are protected against killing, injuring and unlicensed trade only. Sand lizard and smooth snake receive additional protection as "European Protected species" under the provisions of the Conservation of Habitats and Species Regulations 2017 (as amended) and are fully protected under the Wildlife and Countryside Act 1981 (as amended).

9.27 All six native species of reptile are included as 'species of principal importance' for the purpose of conserving biodiversity under Section 41 (England) of the NERC Act 2006 and Section 7 of the Environment (Wales) Act 2016.

9.28 Current Natural England Guidelines for Developers[18] states that 'where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.' Further the guidance states: 'Normally prohibited activities may not be illegal if 'the act was the incidental result of a lawful operation and could not reasonably have been avoided'. Natural England 'would expect reasonable avoidance to include measures such as altering development layouts to avoid key areas, as well as capture and exclusion of reptiles.'

9.29 The Natural England Guidelines for Developers state that 'planning must incorporate two aims where reptiles are present:

- To protect reptiles from any harm that might arise during development work;
- To ensure that sufficient quality, quantity and connectivity of habitat is provided to accommodate the reptile population, either on-site or at an alternative site, with no net loss of local reptile conservation status.'

**Wild mammals in general**

9.30 The Wild Mammals (Protection) Act 1996 (as amended) makes provision for the protection of wild mammals from certain cruel acts, making it an offence for any person to intentionally cause suffering to any wild mammal. In the context of development sites, for example, this may apply to rabbits in their burrows.

**Hedgerows**

9.31 Article 10 of the Habitats Directive[19] requires that 'Member States shall endeavour…to encourage the management of features of the landscape which are of major importance for wild fauna and flora. Such features are those which, by virtue of their linear and continuous structure…or their function as stepping stones…are essential for the migration, dispersal and genetic exchange of wild species'. Examples given in the Directive include traditional field boundary systems (such as hedgerows).

9.32 The aim of the Hedgerow Regulations 1997[20], according to guidance produced by the Department of the Environment[21], is "to protect important hedgerows in the countryside by controlling their removal through a system of notification. In summary, the guidance states that the system is concerned with the removal of hedgerows, either in whole or in part, and covers any act which results in the destruction of a hedgerow. The procedure in the Regulations is triggered only when land

[17] http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/specieslinks.aspx
[18] English Nature, 2004. *Reptiles: guidelines for developers.* English Nature, Peterborough. https://webarchive.nationalarchives.gov.uk/20150303064706/http://publications.naturalengland.org.uk/publication/76006
[19] Council Directive 92/43/EEC of 2i May 1992 on the conservation of natural habitats and of wild fauna and flora.
[20] Statutory Instrument 1997 No. 1160 – The Hedgerow Regulations 1997. HMSO: London
[21] The Hedgerow Regulations 1997: a guide to the law and good practice, HMSO: London

managers or utility operators want to remove a hedgerow. The system is in favour of protecting and retaining ‘important’ hedgerows.

9.33 The Hedgerow Regulations set out criteria that must be used by the local planning authority in determining which hedgerows are ‘important’. The criteria relate to the value of hedgerows from an archaeological, historical, wildlife and landscape perspective.