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PRELIMINARY ECOLOGICAL APPRAISAL

At

Denbigh Road

Hendre

Mold

CH7 5QL

NGR: SJ 20215 67709

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EXECUTIVE SUMMARY

United Environmental Services Ltd (UES) was commissioned by Jamie Hogan, Hogan Holdings Ltd, to carry out a baseline ecological survey at Denbigh Road, Mold. A desk study and preliminary ecological appraisal (PEA) survey were undertaken on 8th August 2023 including searches using the Multi Agency Geographic Information Centre (MAGIC).

The PEA provides an assessment of potential ecological impacts associated with the development of the land parcel. No detailed development proposals have been submitted to UES, but the proposed plans involve the demolition of three buildings onsite.

The proposed development site has an area of approximately 0.8ha and is dominated by hardstanding with three buildings. There are an additional three buildings within the ownership boundary which will not be affected by the proposed development. The majority of the site is surrounded by a mixed, semi-natural woodland which is also present along the eastern boundary of the site. The western section of the site primarily comprises ephemeral / short perennial and tall ruderal vegetation. Whereas the eastern section of the site comprises hardstanding and bare ground, with scattered trees and a ditch which connects to an offsite pond.

The results of the survey combined with the results of the desk study have highlighted the requirement for further work in relation to the following habitats and species:

- **Amphibians** – a great crested newt (GCN) scoping survey and impact assessment of any ponds and ditches within 250m of the site is required to assess whether the proposed development will have an impact on GCN.
- **Bats** – Building 1 has been assessed as having negligible potential to support roosting bats and no further surveys or mitigation measures are required in relation to bats.

Building 2 has been assessed as having low potential to support roosting bats and one further presence / absence survey is required to determine whether bats are using the building for roosting purposes, and if so, to determine the number and species of bats present. This survey should be undertaken by an appropriately licenced ecologist during the peak bat survey season of May to August inclusive.

Building 3 has been assessed as a confirmed roost, due to the presence of a lesser horseshoe maternity roost, and will require two further roost characterisation surveys to characterise the roost and determine the number and species of bats using the building. These surveys should be undertaken by an appropriately licenced ecologist during the bat survey season, May to September inclusive. At least one of these surveys should be undertaken during the peak bat survey season of May to August inclusive.

In addition, Buildings 2 and 3 have been assessed as having hibernation potential. As such, hibernation surveys should also be carried out on these buildings. Hibernation surveys should comprise at least two survey visits spread four weeks apart between December and February and should be undertaken by a licenced bat ecologist. This hibernation survey should also include the use of static detector surveys with data collected between November to March where possible and depending on ambient environmental conditions.

Due to the presence of roosting bats within the Building 3, the development will need to be completed under a European Protected Species Licence issued by Natural Resources Wales. This can only be applied for once planning permission has been granted. Natural Resources Wales aim to process applications within 30 working days of receipt.

It should be noted that there will be timing restrictions for the works to the buildings, as works which affect a maternity roost can only be conducted between 1st October – 31st April. In addition to this, any required compensation or replacement roosts must be completed and fit for use prior to the works taking place. Similarly, if presence of a hibernation roost is confirmed within Building 2, timing restrictions will also constrain the works to this structure so as to avoid impacting hibernating bats.

A bat method statement will also need to be produced for submission with the planning application. This document outlines the mitigation and compensation measures required in order to safeguard protected species throughout the duration of development.

Three lesser horseshoe bats were also identified within the eastern section of the northernmost building (Building 4). At present this building is not included within the development boundary, but if the proposals change to include works to these buildings (Buildings 4-6), additional bat surveys will be required.

If any trees will be felled or subject to arboricultural works, including the dead pedunculate oak tree in the eastern section of the site, then UES will need to review the tree removal plan as a ground-level tree assessment may be required to determine the suitability of the trees to support roosting bats. If any potential roosting features are found to still be suitable following the inspections, further surveys may be required including aerial tree inspections or bat presence / absence surveys (May to September inclusive).

- **Breeding birds** – demolition of the buildings, site clearance, tree felling, arboricultural works and vegetation clearance are to take place outside of the breeding bird season and should not be undertaken from March to August inclusive. If not possible and works need to take place during this period, a targeted nest survey is to be undertaken immediately prior to the works by a suitably qualified ecologist or an ecological clerk of works appointed to oversee the works.
- **Reptiles** – Reasonable avoidance measures (RAMs) to be implemented during the construction phase of the development.
- **Trees** – to be retained where possible, or replaced as part of a detailed landscaping scheme. Generic issues relating to root protection areas.
- **Watercourse** – specific procedures and control measures to be implemented to ensure that there is no risk of input into the watercourse, including the retention of a buffer zone. The measures should be set out by the contractors prior to commencement and agreed with the LPA and other statutory consultees.
- **Woodland** – to be retained where possible, or replaced two-fold in terms of area in an appropriate location.



Mitigation measures, as detailed in section 4, should be adhered to, which may in some cases negate the need for further survey work.

The development also presents an opportunity to improve the habitats on site for wildlife, such as bats and birds. The inclusion of nest boxes and bat boxes will provide suitable nesting and roosting features in the long term.

This report should be read with appendices 1 to 7, which include results of the desk study, GIS phase 1 habitat mapping, photographs of site and relevant statutory guidance.

1 INTRODUCTION

1.1 Author, surveyors, qualifications and scope of study area

This report is written by Ysobella Cox BSc MBIol and UES Graduate Ecologist. Other surveyors include:

- Toby Hart BSc MCIEEM PIEMA, UES Managing Director. Toby holds a level 6 Botanical Society for Britain and Ireland (BSBI) field identification skills certificate (FISC). Level 6 is only awarded in exceptional circumstances where the surveyor is a very competent professional field botanist and is of national status. Toby is licensed by Natural Resources Wales to disturb, take and handle all species other than greater or lesser horseshoe under licence number S086508/01. Toby is licensed by Natural Resources Wales to disturb, take and handle great crested newts under licence number S086784/1

The report provides an assessment of the potential ecological impacts associated with the proposed development at Denbigh Road, Mold.

The zone of influence considered within the scope of the survey includes all land within the red line boundary. Where relevant, other ecological resources, receptors and important habitats which are spatially separate from the site are considered.

1.2 Survey objectives

UES was commissioned in July 2023 to conduct a PEA of the proposed development site. This was completed in order to:

- Establish baseline conditions and determine the importance of ecological features present or potentially present within the survey area
- Identify key ecological constraints to the project
- Make recommendations for design options to avoid significant effects on important ecological resources at an early stage of development planning
- Identify potential requirement for further surveys for nationally or internationally protected species which may be present on site
- Identify potential requirement for mitigation or compensation, including measures that may be required based on further surveys

1.3 Proposed development

No detailed proposals have been submitted to UES, but the proposed plans involve the demolition of three buildings onsite (Buildings 1-3). There are an additional three buildings within the ownership boundary (Buildings 4-6), however, these will not be affected by the proposed development. In addition, the woodland located to the north of the site will not be directly impacted by the proposed development.



1.4 Structure of the report

This report is a baseline appraisal that forms the basis for further ecological surveys and Environmental Impact Assessments (EIA) if required. In the majority of cases the preliminary ecological assessment will not provide all the ecological data required by the Local Planning Authority to determine an application, especially in the event that protected habitat or species issues are present or likely.

This report should be read with appendices 1 to 7, which include results of the desk study, GIS phase 1 habitat mapping, photographs of site and relevant statutory guidance.

2 METHODOLOGY

This PEA comprises a desk study and a field survey. The desk study is conducted in order to collate ecological information on species and / or habitats of interest that may be present. The field survey is conducted in order to assess the habitats and their importance, both on site and in the context of their wider surroundings.

2.1 Desk study

The following resources were used to inform the desk study:

- National – Using the UK government’s MAGIC website, statutorily protected sites were scoped to a distance of 10km from the application site.
- Local – A search for protected species or otherwise notable species and local designated sites was undertaken within a 2km radius of the proposed development site by Cofnod – North Wales Environmental Information Service.

2.2 Field survey

An ecological walkover survey was carried out on 8th August 2023 by Toby Hart and Ysobella Cox. The purpose of the survey was to identify, record and map dominant habitats types within the development area and highlight any further species surveys that may be required based on the quality of those habitats. When conducting the surveys particular focus was concentrated on the following species and habitat features:

- | | |
|------------------|-------------------------|
| • Amphibians | • Hedgerows |
| • Reptiles | • Plant communities |
| • Badger | • Invasive species |
| • Bats | • Otter |
| • Hazel dormouse | • Water vole |
| • Birds | • White-clawed crayfish |
| • Trees | |

The habitats were assessed by using the phase 1 habitat survey technique, which is a system for environmental audit widely used within the environmental consultancy field. The survey was undertaken in accordance with the methodology in the ‘Handbook for phase 1 habitat survey - A technique for environmental audit’ (JNCC, 2010) and in the “Guidelines for Preliminary Ecological Appraisal” (CIEEM, 2017).

The survey area encompasses all of the land within the development footprint and the land to a distance of 30m outside it where accessible. In line with recognised guidelines, ponds were also scoped to a distance of 500m (250m radius from the survey area).

The phase 1 habitat survey methodology was extended to record any signs of habitats suitable to support protected / invasive species and any incidental observations of other noteworthy species.



2.3 Survey limitations

The survey was conducted at an appropriate time of year in August when most plants are readily identifiable. Sufficient vegetative identification was possible, allowing a robust assessment of habitats to be undertaken.

The northern section of the ownership boundary was not assessed during the walkover survey as it is located on a scree slope. However, this area will not be affected by the proposed development.

3 RESULTS

3.1 Desk study

A desk study was conducted for the proposed development site and surrounding area. Statutorily protected sites were scoped to a distance of 10km. Further results of the desk study can be found at Appendix 1 – Desk study.

3.1.1 Protected sites

There are seven statutorily protected sites within 2km of the proposed development site:

- Alyn Valley Woods / Coedwigoedd Dyffryn Alun SAC¹

*Alyn Valley Woods / Coedwigoedd Dyffryn Alun is located approximately 1.27km south of the proposed development site. Annex 1 habitats that are a primary reason for selection of this site include 9180 Tilio-Acerion forests of slopes, screes and ravines. Alyn Valley Woods holds one of the largest continuous areas of Tilio-Acerion forest in Wales, and is one of three sites selected to represent the geographic range and variation of the habitat on the Carboniferous limestone of north Wales. The canopy is predominantly of ash *Fraxinus excelsior* and sycamore *Acer pseudoplatanus*, with an understorey and ground flora typical of Tilio-Acerion in the UK. Rare or distinctive species include herb Paris *Paris quadrifolia*, stinking hellebore *Helleborus foetidus*, green-flowered helleborine *Epipactis phyllanthes*, toothwort *Lathraea squamaria* and spurge laurel *Daphne laureola*. The site also holds the region's largest population of wayfaring tree *Viburnum lantana*.*

*Annex 1 habitats present as a qualifying feature, but not a primary reason for selection of this site include: 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*)(*important orchid sites); and 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-padion*, *Alnion incanae*, *Salicion albae*).*

- Alyn Valley Woods and Alyn Gorge Caves SSSI²

*Alyn Valley Woods and Alyn Gorge Caves is located approximately 1.27km to the south of the proposed development site. It is of special interest for its geomorphology, the Alyn Gorge Caves and its semi-natural broadleaved woodlands including their size and specific types of woodland vegetation, its calcareous and mesotrophic grasslands, its scarce plant assemblage, its population of wayfaring tree *Viburnum lantana* and its population of the grizzled skipper butterfly.*

*Areas of species-rich calcicolous grassland of several types occur particularly in and around Loggerheads Country Park including stands of the unusual bloody cranesbill *Geranium sanguineum* and lesser meadow-rue *Thalictrum minus* grassland. Uncommon plants associated with this grassland include frog orchid *Coeloglossum viride*, fragrant orchid *Gymnadenia conopsea* and pale St. John's-wort *Hypericum montanum*. Species-rich mesotrophic grassland occurs at the northern end of the site. In addition, further habitats are present including secondary limestone grasslands, scrub, bracken and*

¹ SAC – Special Area of Conservation

² SSSI – Site of Special Scientific Interest

running water including the Afon Alyn which add diversity to the site and provide further opportunities for invertebrates. Small areas of limestone pavement also occur. Associated with the scrub are uncommon shrubs such as purging buckthorn *Rhamnus cathartica* and spurge laurel *Daphne laureola*.

The site supports an important colony of the nationally scarce grizzled skipper butterfly *Pyrgus malvae* that is associated with the open grassland and scrub. Other butterflies present include the nationally scarce pearl-bordered fritillary *Boloria euphrosyne*, only recorded in small numbers recently and white letter hairstreak *Satyrus w-album*, and the locally rare green hairstreak *Callophrys rubi*, brown argus *Aricia agestis* and brimstone *Gonepteryx rhamni*. The brimstone is a very local butterfly in North East Wales. A number of other nationally scarce invertebrates have also been recorded on the site.

The site has been extensively studied for its mycological flora. A large number of species have been recorded including national, regional and local uncommon species. 10 species are on the British Red Data List. This large diversity reflects the variety and continuity of habitats found throughout the site and their management history.

Lesser horseshoe bats *Rhinolophus hipposideros* together with other species of Myotis bats have been recorded from several caves and mines throughout the site. Numbers tend to be small at individual localities. Otters *Lutra lutra* and water voles *Arvicola terrestris* have been recorded from the Afon Alyn.

The following priority biodiversity species have been recorded including otter *L. lutra*, brown hare *Lepus europaeus*, lesser horseshoe bat *R. hipposideros*, pipistrelle bat *Pipistrellus pipistrellus*, water vole *A. terrestris*, song thrush *Turdus philomelos*, linnet *Carduelis cannabina*, tree sparrow *Passer montanus*, bullfinch *Pyrrhula pyrrhula* and pearl-bordered fritillary *B. euphrosyne*.

- Cefn Meadow SSSI

Cefn Meadow is located approximately 1.92km to the southwest of the proposed development site. It is a small, enclosed meadow, developed on the Carboniferous Limestone, with a particularly rich flora, and represented a habitat declining rapidly in the county as a result of agricultural improvement. The site is outstanding in containing seven species of orchid two of which, green-winged orchid *Orchis morio* and lesser butterfly orchid *Platanthera bifolia* have a very restricted distribution in Clwyd. Others include fragrant orchid *Gymnadenia conopsea* and frog orchid *Coeloglossum viride*. There is a wide variety of grassland plant species including quaking grass *Briza media*, common agrimony *Agrimonia eupatoria*, common centaury *Centaurea erythraea*, common milkwort *Polygala vulgaris*, burnet saxifrage *Pimpinella saxifraga* and devil's-bit scabious *Succisa pratensis*, kidney vetch *Anthyllis vulneraria* and felwort *Gentianella amarella* are particularly well represented. There also are some small areas of calcareous scrub, which add diversity to the habitat, together with rock spoil from former lead/zinc workings.

- Comin Helygain a Glaswelltiroedd Treffynnon / Halkyn Common and Holywell Grasslands SSSI

Halkyn Common and Holywell Grasslands is located approximately 853m to the north of the proposed development site. It is of special interest for the mineralisation associated with the Carboniferous Limestone and cherts which is found in spoil tips and in situ

exposures; open vegetation on soils rich in heavy metals; calcareous grassland; dry heath; fen-meadow; base-rich flush; populations of spring sandwort *Minuartia verna*, stemless thistle *Cirsium acaule*, and great crested newt *Triturus cristatus*; and assemblage of widespread amphibian species.

The majority of the site lies on an elongated plateau formed of Lower Carboniferous Limestone which trends north-south, lying parallel to and above the Dee Estuary to its east and with the Clwydian Hills to its west. Parts of the site consist of former and current mineral workings including metalliferous mine spoil tips and chert and limestone quarries. Little of the soil material is derived from the bedrock and the most extensive soil parent material is glaciofluvial drift of variable thickness that overlies the jointed Carboniferous Limestone. Soils are predominantly well-drained brown earths that are highly calcareous where in proximity to the limestone. These support calcareous grasslands, bracken and dry heath with localised heavy metal tolerant open vegetation on skeletal calcareous ranker-type soils developed on old metal mine spoil. The eastern edges of the plateau have acidic soils derived from bands of sandstone and chert. Cambic stagno-gley soils have formed in places where surface drainage is impeded over the more acidic grits. These give rise to small areas of rush pasture, wet heath, marshy grasslands and fen communities. The disused quarries and pits throughout the site contain numerous small pools, which support amphibian populations. At the northern end of the plateau, along the west facing slope, a series of base-rich springs feed a small base-rich flush and associated fen-meadow.

Water bodies at Halkyn Common and Holywell Grasslands support a large population of great crested newt *Triturus cristatus*. Torch night counts undertaken during the spring have regularly revealed over 100 adult and sub-adult animals. Great Britain is considered to be one of the strongholds for this species in Western Europe. These water bodies also support significant populations of other amphibian species including smooth newt *Triturus vulgaris*, palmate newt *T. helveticus*, common frog *Rana temporaria* and common toad *Bufo bufo*. Many of these water bodies have formed in pits and depressions created by past mineral exploitation. Surrounding areas of land support a mosaic of scrub, wet and dry grasslands, heath and bracken. This mosaic of habitats together with semi-improved and improved grasslands form important foraging, sheltering and over wintering areas for adult and juvenile amphibians.

The faunal interest of the site includes breeding birds such as skylark *Alauda arvensis*, lapwing *Vanellus vanellus*, stonechat *Saxicola torquata*, linnet *Carduelis cannabina*, song thrush *Turdus philomelos* and curlew *Numenius arquata*, along with raven *Corvus corax* and peregrine *Falco peregrinus* and mammals such as brown hare *Lepus europaeus*. Common lizard *Lacerta vivipara* are occasionally seen within the heathland communities. Invertebrate species of interest include the butterflies, dark green fritillary *Agynnis aglaja* and small pearl-bordered fritillary *Boloria selene*, the nationally scarce species of scavenger beetle *Helophorus fulgidicollis* and *H. granularis* and the locally important lesser water boatman *Corixa dentipes* and diving beetle *Hydroporus memnonius*.

- Halkyn Mountain / Mynydd Helygain SAC

Halkyn Mountain / Mynydd Helygain is located approximately 855m to the north of the proposed development site.

Annex 1 habitats that are the primary reason for selection of this site include 6130 Calaminarian grasslands of the *Violetalia calaminariae*. Halkyn Mountain has the most extensive recorded area of the metalliferous NVC type OV37 *Festuca ovina* – *Minuartia verna* grassland community in Wales. Stands of this vegetation type are associated with a number of old lead and zinc ore mines, which date back to Roman times and were intensively worked during the 19th century. They include relatively open, lichen-rich swards, as well as more closed examples with abundant wild thyme *Thymus polytrichus*. The stands are scattered over an extensive undulating plateau of Carboniferous limestone, most of which is unenclosed common land. They are associated with more extensive areas of open and closed calcareous and acidic grassland and dwarf shrub heath vegetation, some of which is upland in character.

Annex 1 habitats present as a qualifying feature, but not a primary reason for selection of this site include 4030 European dry heaths, 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*)(* important orchid sites), and 6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*).

Annex 2 species that are a primary reason for selection of this site include 1166 Great crested newt *Triturus cristatus*. Halkyn Mountain is a large area of mostly common land in north-east Wales. The landscape is much modified by human activities, with abandoned metalliferous mining and rock quarries a prominent feature of the site. The large great crested newt *Triturus cristatus* population breeds in abandoned quarry workings and various other waterbodies across the site. The terrestrial habitat is very varied, with calcareous grassland, heathland and scrub prominent throughout. The site is grazed mostly by sheep.

- Pen-y-Cefn Pasture SSSI

Pen-y-Cefn is located approximately 1.54km to the southwest of the proposed development site. It is an area of species-rich calcareous grassland situated on the ridge of Carboniferous limestone between the valleys of the River Alyn and the River Wheeler. It represents one of the best known surviving examples of a type of enclosed pasture now much reduced in area elsewhere as a result of agricultural improvement. Additional interest is provided by calcareous scrub communities that have developed on part of the site.

The areas of open pasture have a varied flora including Sweet vernal-grass *Anthoxanthum odoratum*, Meadow Oat *Avenula pratensis*, Quaking Grass *Briza media*, Crested Hair-grass *Koeleria macrantha*, Common Agrimony *Agrimonia eupatoria*, Common Spotted Orchid *Dactylorhiza fuchsii*, Crosswort *Galium cruciata*, Fragrant Orchid *Gymnadenia conopsea*, Burnet Saxifrage *Pimpinella saxifraga*, Yellow-rattle *Rhinanthus minor* and Betony *Stachys officinalis*. There is a large colony of the uncommon Green-winged Orchid *Orchis morio*. Burnet Rose *Rosa pimpinellifolia* is extensive. Silver Birch *Betula pendula* is colonising the open grassland areas. The calcareous scrub, which dominates the southern part of the site, consists largely of Hazel *Corylus avellana* and Ash *Fraxinus excelsior*. The scrub margins support a variety of rose species including Downy Rose *Rosa tomentosa*, *R. mollis* and *R. sherardii*. The herb layer in the scrub includes Hairy Brome *Bromus*

ramosus, Goldilocks *Ranunculus auricomus* and the uncommon Columbine *Aquilegia vulgaris* and Herb Paris *Paris quadrifolia*.

- Tyddyn-y-barcut SSSI

Tyddyn-y-barcut is located approximately 858m to the west of the site, and is a series of enclosed pastures close to the village of Hendre, approximately 7km west of Mold. The site is located on the north facing side of the valley and occurs on glacial drift over Carboniferous Limestone.

*It is of special interest for its stands of unimproved neutral grassland, which occur in association with broadleaved woodland, scrub and bracken. The neutral grassland is of high floristic quality with common bent *Agrostis capillaris*, sweet vernal-grass *Anthoxanthum odoratum*, red fescue *Festuca rubra*, Yorkshire fog *Holcus lanatus*, cock's-foot *Dactylis glomerata* and quaking-grass *Briza media* as the main grasses in the sward. Herbs are prominent, with abundant devil's-bit scabious *Succisa pratensis* and common knapweed *Centaurea nigra* with frequent common bird's-foot-trefoil *Lotus corniculatus*, meadow vetchling *Lathyrus pratensis*, meadow buttercup *Ranunculus acris*, betony *Stachys officinalis*, cowslip *Primula veris*, common spotted-orchid *Dactylorhiza fuchsii* and tormentil *Potentilla erecta*.*

*Hawthorn *Crataegus monogyna* bushes are scattered across parts of the site and there are several areas of dense bracken *Pteridium aquilinum*. Ash *Fraxinus excelsior* woodland and blackthorn *Prunus spinosa* scrub occur in one enclosure. Within this enclosure toothwort *Lathraea squamaria* and herb-paris *Paris quadrifolia* are found, and small glades harbour meadow saxifrage *Saxifraga granulata*. All three species are uncommon in the Clwyd Area of Search.*

There are also twenty-four non-statutorily protected sites within 2km of the proposed development site:

- Coed Lygan-uchaf and Coed Nant Figillt – Ruby Quarry, Wildlife Site – A section of this wildlife site is located within the ownership boundary and directly adjacent to the site

*Semi-natural broad-leaved woodland, mixed coniferous and broad-leaved plantation on a south facing hillside with wooded steep stream valleys. Around the disused mine there is a secondary grassland. In the woodland canopy, ash *Fraxinus excelsior* and sycamore *Acer pseudoplatanus* are common throughout with patches of conifers. Oak *Quercus* sp., birch *Betula* sp., and willow *Salix* sp., are occasional. There is a shrub layer of elm *Ulmus procera*, ash, hawthorn *Crataegus monogyna*, sycamore, holly *Ilex aquifolium*, hazel *Corylus avellana*, and birch, although the shrub layer is absent under conifers. The rich ground flora is predominantly tufted hair grass *Deschampsia cespitosa*, wood sorrel *Oxalis acetosella*, yellow archangel *Lamium galeobdolon*, dog's mercury *Mercurialis perennis*, bluebell *Hyacinthoides* sp., wood avens *Geum urbanum*, mosses and ferns. At the stream margins, opposite-leaved golden saxifrage *Chrysosplenium oppositifolium* is abundant. The grassland on the disused mine is herb rich with black knapweed *Centaurea nigra*, centuary *Centaureum erythraea*, eyebright *Euphrasia officinalis*, barren strawberry *Potentilla fragariastrum*, blue fleabane *Erigeron acer*, goldenrod *Solidago* sp., spring sandwort *Minuartia verna* and hairy and perforate St John's wort *Hypericum perforatum*. Near the centre of the site is a marshy grassland with scattered gorse *Ulex europaeus*,*

devil's-bit scabious Succisa pratensis, angelica Angelica sp., tall fescue Schedonorus arundinaceus, rushes and lesser spearwort Ranunculus flammula.

- Big Wood and Round Wood, Wildlife Site – Located approximately 827m southwest of the site.
- Bryn Gwiog, Wildlife Site – Located approximately 1.62km northwest of the site.
- Coed Bryn-celyn, Wildlife Site – Located approximately 862m south of the site.
- Coed Bryn-eithin and Coed Cae-crwn, Wildlife Site – Located approximately 1.73km southeast of the site.
- Coed Cefn, Wildlife Site – Located approximately 1.56km southwest of the site.
- Coed Fron, Wildlife Site – Located approximately 1.3km to the south of the site.
- Coed Graig, Wildlife Site – Located approximately 734m south of the site.
- Coed Mwnbwill, Wildlife Site – Located approximately 1.35km to the southwest of the site.
- Coed Pentre-Gwysaney, Wildlife Site – Located approximately 1.86km southeast of the site.
- Coed y Felin, NWWT – Located approximately 283m to the west of the site.
- Coed-y-felin, Wildlife Site – Located approximately 291m west of the site.
- Coed-y-Pistyll, Wildlife Site – Located approximately 760m southeast of the site.
- Cwt Coed, Wildlife Site – Located approximately 1.17km west of the site.
- Dolfechlas Wood, Wildlife Site – Located approximately 48m south of the site.
- Hersedd Meadows, Wildlife Site – Located approximately 1.76km northwest of the site.
- Plas Wilkin, Wildlife Site – Located approximately 600m southwest of the site.
- Rhosesmor Quarry, Wildlife Site – Located approximately 1.17km southeast of the site.
- Rhosesmor Verges, Wildlife Site – Located approximately 978m northeast of the site.
- Rhydymwym Valley Factory, Wildlife Site – Located approximately 880m south of the site.
- Trimm Rock Quarry Wood, Wildlife Site – Located approximately 1.75km to the southwest of the site.
- Twmpath Lead Working, Wildlife Site – Located approximately 1.18km south of the site.
- Tyddyn Ucha Meadow, Wildlife Site – Located approximately 1.44km to the northwest of the site.
- Ty-isaf Meadow, Wildlife Site – Located approximately 1.89km to the west of the site.

The proposed development site lies within a SSSI Impact Risk Zone (IRZ) within which Natural England request that they are consulted on:

- Airports, helipads and other aviation proposals.
- Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 4000m²
- General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

There are twenty-two statutorily protected sites (designated for ecological reasons) within 2 – 10km of site:

- Afon Dyfrdwy (River Dee) SSSI
- Bryn Alyn SSSI
- Buckley Claypits and Commons SSSI

- Caerwys Tufa SSSI
- Cefn Meadow SSSI
- Chwarel Cambrian / Cambrian Quarry, Gwernymynydd SSSI
- Coed Trefraith SSSI
- Connah's Quay Ponds and Woodland SSSI
- Ddol Uchaf SSSI
- Dee Estuary / Aber Afon Dyfrdwy SSSI
- Dee Estuary / Aber Dyfrdwy SAC
- Deeside and Buckley Newt Sites SAC
- Glaswelltiroedd Eryrys (Eryrys Grasslands) SSSI
- Herward Smithy SSSI
- Maes y Grug SSSI
- Mynydd Y Fflint / Flint Mountain SSSI
- Parc Bodlondeb and Gwenallt-parc, Lixwm SSSI
- Parc Linden, Lixwm SSSI
- River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC
- Shotton Lagoons and Reedbeds SSSI
- The Dee Estuary, Ramsar
- The Dee Estuary SPA³

3.1.2 Protected species

The following records of protected or otherwise notable species were highlighted by the environmental records search:

- Amphibians: numerous records of GCNs were returned from within 2km of the proposed development site, the closest of which is approximately 1.04km to the south of the site. Other amphibian records returned are of common frog *Rana temporaria*, common toad *Bufo bufo*, palmate newt *Lissotriton helveticus*, and smooth newt *Lissotriton vulgaris*.
- Badgers: records of badger *Meles meles* were returned from within 2km of the proposed development site. The closest record is beyond 195m of the site.
- Bats: records of brown-long eared bat *Plecotus auritus*, Brandt's bat *Myotis brandtii*, Daubenton's bat *Myotis daubentonii*, lesser horseshoe *Rhinolophus hipposideros*, *Myotis sp.* bat, natterer's bat *Myotis nattereri*, noctule *Nyctalus noctula*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, serotine *Eptesicus serotinus*, and whiskered bat *Myotis mystacinus*, were returned from within 2km. The closest record is approximately 100m from the proposed development site.
- Birds: various species, including several NERC section 41, Wildlife and Countryside Act 1981 Schedule 1 species, and Birds of Conservation Concern Red and Amber lists.
- Hazel dormouse: no records of hazel dormouse *Muscardinus avellanarius* were returned from within 2km of the proposed development site.
- Hedgehog: records of hedgehog *Erinaceus europaeus* were returned from within 2km of the proposed development site. The closest record is approximately 215m to the northeast of the site.

³ SPA – Special Protection Area

- Otter: several records of otter *Lutra lutra* were returned from within 2km of the proposed development site. The closest record is approximately 665m to the west of the site.
- Reptiles: numerous records of common lizard *Zootoca vivipara*, grass snake *Natrix Helvetica*, and slow-worm *Anguis fragilis*, were returned from within 2km of the proposed development site. A large number of the records are associated with Rhydymwyn Valley located to the southeast of the site. The closest record details a slow-worm approximately 272m to the west of the proposed development site in 2006.
- Water vole: no records of water vole *Arvicola amphibius* were returned from within 2km of the proposed development site.
- White clawed-crayfish: no records of white-clawed crayfish *Austropotamobius pallipes* were returned from within 2km of the proposed development site.

3.2 Baseline conditions – Habitats

The results of the PEA are also shown on the accompanying map at Appendix 2 – Phase 1 habitat plan. Habitats are colour-coded in accordance with the phase 1 standard. A full botanical species list for each habitat is provided at Appendix 5.

The local area predominantly consists of arable fields, woodland and residential buildings, with a quarry located to the west of the site. The following principal habitat types were characterised on site:

- A1.3.1 Mixed, semi-natural woodland
- A2.2 Scattered scrub
- A3.1 Broad-leaved scattered trees
- A3.2 Coniferous scattered trees
- C3.1 Tall ruderal
- G1 Standing water
- J1.3 Ephemeral / short perennial
- J2.4 Fence
- J2.5 Wall
- J3.6 Building
- J4 Bare ground
- J5 Hardstanding

3.2.1 A1.3.1 Mixed, semi-natural woodland

The northern boundary of the proposed development site is directly adjacent to a mixed, semi-natural woodland which is located within the ownership boundary (see Appendix 4 – Photographs, Photograph 1). It is also located on a scree slope which was formed when the site was previously part of a mine (Photograph 2). The woodland extends to the eastern and western sections of the site, with an additional extension along the southern boundary of the entrance road.

The woodland contains frequent Scots pine *Pinus sylvestris*, silver birch *Betula pendula*, sycamore *Acer pseudoplatanus*, and a non-native spruce *Picea sp.*, with occasional rowan *Sorbus aucuparia*, and wych elm *Ulmus glabra*.

The understory consists of hazel *Corylus avellana*, butterfly bush *Buddleja sp.*, goat willow *Salix caprea* and bracken *Pteridium aquilinum*.

The ground flora contains smooth hawksbeard *Crepis capillaris*, tutsan *Hypericum androsaemum*, wood sedge *Carex sylvatica*, yellow pimpernel *Taenidia integerrima*, broad buckler fern *Dryopteris dilatata*, field rose *Rosa arvensis*, broad-leaved helleborine *Epipactis helleborine*, wood melick *Melica uniflora*, bramble *Rubus fruticosus agg.*, ivy *Hedera helix*, and dog's mercury *Mercurialis perennis*. Additional species from the ephemeral and tall ruderal habitats are also present.

The separated section of the woodland located along the eastern boundary has not been affected by manipulating soils and contains additional species such as woodruff *Galium odoratum*, goldenrod *Solidago sp.*, cock's foot grass *Dactylis glomerata*, wych elm, holly *Ilex aquifolium*, pedunculate oak *Quercus robur*, violet *Viola sp.*, dog rose *Rosa canina*, hairy brome *Bromus ramosus*, and red fescue *Festuca rubra*.

There is a dead pedunculate oak tree located within the woodland along the eastern boundary which contains potential roosting features (PRFs) for bats (see Appendix 2 – Phase 1 Habitat Plan, Target note 2).

3.2.2 A2.2 Scattered scrub

There are small areas of scattered scrub within the western section of the site, within the ephemeral and tall ruderal habitats (Photograph 3). Species present include butterfly bush, black pine *Pinus nigra*, silver birch saplings, ash saplings *Fraxinus excelsior*, grey willow *Salix cinerea*, and hawthorn *Crataegus monogyna*.

3.2.3 A3.1 Broad-leaved scattered trees

There is a combination of broad-leaved scattered trees along the southern boundary of the onsite ditch. Coniferous trees are also present within this treeline (see section 3.2.4 below). The only broadleaved species present within this treeline is silver birch.

3.2.4 A3.2 Coniferous scattered trees

There are several coniferous scattered trees within the eastern section of the site in an area surrounded by hardstanding (Photograph 4). In addition, there is a combination of broad-leaved and coniferous scattered trees along the southern boundary of the onsite ditch.

Species present include Scots pine, non-native spruce, and northern white cedar *Thuja occidentalis*.

3.2.5 C3.1 Tall ruderal

The western section of the site contains a strip of tall ruderal vegetation along the southern boundary and directly adjacent to Building 3 (Photograph 5). The area adjacent to the southern boundary is heavily shaded by the surrounding woodland.

The tall ruderal vegetation has succeeded on bare ground and a bund. The sward height varies throughout as there is a variety of grasses, forbs and shrubs. Features of the tall ruderal vegetation are beginning to form a mosaic over bare ground habitat with transitional communities. Although areas resemble open mosaic habitats on previously developed land, to classify as an open mosaic the area must be >0.25ha. In this particular case, the mosaic covers a localised area of 0.0306ha and therefore does not qualify as open mosaic habitat on previously developed land.

Species present include hemp agrimony *Eupatorium cannabinum*, creeping jenny *Lysimachia nummularia*, herb Robert *Geranium robertianum*, raspberry *Vinum raspeys*, common sorrel *Rumex acetosa*, common male fern *Dryopteris filix-mas*, hoary willowherb *Epilobium parviflorum*, rough hawksbit *Leontodon hispidus*, rosebay willowherb *Chamaenerion angustifolium*, common mouse-ear *Cerastium fontanum*, wild angelica *Angelica sylvestris*, square stalked willowherb *Epilobium tetragonum*, hart's tongue fern *Asplenium scolopendrium*, stinging nettle *Urtica dioica*, wood sage *Teucrium scorodonia*, American willowherb *Epilobium ciliatum*, broadleaved willowherb *Epilobium montanum*, creeping bent *Agrostis stolonifera*, wall lettuce *Lactuca muralis*, hedge woundwort *Stachys sylvatica*, common figwort *Scrophularia nodosa*, common ragwort *Senecio jacobaea*, prickly sowthistle *Sonchus asper*, tufted hair grass *Deschampsia cespitosa*, butterfly bush, common centaury *Centaurea erythraea*, upright hedge parsley *Torilis japonica*, black knapweed *Centaurea nigra*, petty spurge *Euphorbia peplus*, scarlet pimpernel *Anagallis arvensis*, germander speedwell *Veronica chamaedrys*, oregano *Origanum vulgare*, wild strawberry *Fragaria vesca*, nipplewort *Lapsana communis*, perforate St John's wort *Hypericum perforatum*, imperforate St John's wort *Hypericum maculatum*, burdock species *Arctium sp.*, broadleaved dock *Rumex obtusifolius*, spear thistle *Cirsium vulgare*, wood false brome *Brachypodium sylvaticum*, bugle *Ajuga reptans*, bush vetch *Vicia sepium*, creeping cinquefoil *Potentilla reptans*, ivy, hawkweed *Hieracium sp.*, ground elder *Aegopodium podagraria*, large bindweed *Calystegia sylvatica*, enchanter's nightshade *Circaea lutetiana*, great mullein *Verbascum thapsus*, and rose *Rosa spp.*

3.2.6 G1 Standing water

There is a ditch located along the northern boundary of the entrance road in the western section of the site. The ditch is approximately 1.5m wide and contains approximately 50cm of standing water with some aquatic and submerged species including creeping buttercup, and marsh horsetail *Equisetum palustre* (Photograph 6).

It is surrounded by sloping banks within the northern section and slightly steeper banks within the southern section, which are sparsely vegetated with edge species including devil's-bit scabious *Succisa pratensis*, common polypody *Polypodium vulgare*, wild angelica, bugle, meadow sweet *Filipendula ulmaria*, and mouse-eared hawkweed. The ditch is also shaded by an offsite hedgerow and scattered trees.

The ditch connects to an offsite pond which is located directly adjacent to the northeastern corner of the entrance road (Photograph 7). The pond is shaded by trees and contains aquatic vegetation including broadleaved pondweed *Potamogeton natans*, floating sweetgrass *Glyceria fluitans*, water starwort *Callitriche spp.*, and marsh horsetail.

3.2.7 J1.3 Ephemeral / short perennial

The western section of the site mainly comprises ephemeral / short perennial which has grown over an area of bare ground (Photograph 8). In addition, the base of the scree slope has been encroached by ephemeral vegetation.

Species present include hemp agrimony, dandelion *Taraxacum officinale* agg., bramble, tufted vetch *Vicia cracca*, yellow-wort *Blackstonia perfoliata*, mouse-eared hawkweed *Pilosella officinarum*, creeping bent, remote sedge *Carex remota*, colt's foot *Tussilago farfara*, yarrow *Achillea millefolium*, greater plantain *Plantago major*, creeping buttercup *Ranunculus repens*, fairy flax *Linum catharticum*, common bird's-foot trefoil *Lotus corniculatus*, ribwort plantain *Plantago lanceolata*, carnation sedge *Carex panicea*, sheep's fescue *Festuca ovina*, common polypody fern, false oat grass *Arrhenatherum elatius*, and barren strawberry *Potentilla sterilis*.

There is an area of impeded water within the centre of the northern section of the site (Target note 1; Photograph 9), which includes additional species such as great horsetail *Equisetum telmateia*, soft rush *Juncus effusus*, tufted hair grass, creeping bent and broadleaved willowherb.

3.2.8 J2.4 Fence

The southern boundary of the site is demarcated by metal mesh fencing with wooden posts. There is also a metal fenced gate at the eastern boundary of the site, where the entrance road to the site is located.

3.2.9 J2.5 Wall

There are several walls located within the proposed development site, which are constructed from a combination of stone, brick and breezeblock (Photograph 10).

3.2.10 J3.6 Building

There are three buildings located within the proposed development site (Buildings 1-3) which are set to be demolished under the proposed plans. These buildings have been subject to a detailed bat scoping survey and are discussed in more detail within the written report (reference UES04134/03).

Building 1 is an extension attached to the southern aspect of Building 2, which varies in height (Photograph 11). It has a pitched roof structure constructed from corrugated metal with a metal lip which extends to the eaves of the building. The base of the external walls are constructed from breezeblock, whilst the upper sections of the walls are constructed from corrugated metal.

Building 2 has previously been used as an old sorting building for a mine and more recently, a wire manufacturing building (Photograph 12). The building has a hipped roof structure which is constructed from corrugated metal and the external walls are constructed from a combination of brick and stone, with smaller areas of concrete. The southern aspect of the building is directly attached to Building 1, which forms an extension.

Building 3 is a single storey, detached building located within the western section of the site (Photograph 13). The building has a pitched roof constructed from slate roof and ridge tiles, which are raised, damaged and missing in some areas. The eaves of the building consist of a timber capping above the walls which are constructed from a combination of brick and stone. The building also has glass windows surrounded by wooden frames. There is a single storey extension on the western aspect of the building which has the same roof structure as the main section of the building, but the external walls are constructed from redbrick. Wooden cladding is present on the northern and southern aspects of the extension, but these areas are covered in ivy.

There are three additional buildings within the ownership boundary (Buildings 4-6) that consist of a tower, corrugated metal structure and an old storage building which is separated into several sections. A detailed inspection of these buildings was not undertaken as they will not be affected by the proposed development, although evidence of roosting activity was confirmed within Building 4 due to the presence of three lesser horseshoe bats.

3.2.11 J4 Bare ground

There is an area of bare ground within the western and northern sections of the site, which consist of rubble, stone and gravel (Photograph 8). In addition, there is a gravel pile at the western most point of the site. Areas of bare ground have been encroached by ephemeral / short perennial vegetation.

3.2.12 J5 Hardstanding

The central area of the site is comprised of hardstanding concrete (Photograph 14). Some sections of hardstanding have been encroached by ephemeral / short perennial vegetation.

3.3 Baseline conditions – Protected species or resources

As part of the PEA, specific observations of wildlife were also recorded. Wildlife observations focused on protected species, invasive species or species of conservation concern. Habitats with potential to support protected species were noted with a view to follow up surveys if required.

3.3.1 Amphibians

Numerous records of GCNs were returned from within 2km of the proposed development site, the closest of which is approximately 1.04km to the south of the site.

The ditch located along the northern boundary of the entrance road within the eastern section of the site, connects to an offsite pond which may be suitable for GCN. In addition, the areas of woodland may provide commuting opportunities for GCN.

There are three offsite ponds located within 250m of the proposed development site, one of which directly connects to the onsite ditch.

3.3.2 Reptiles

There are numerous records of common lizard, grass snake and slow-worm within 2km of the proposed development site. A large number of the records are associated with Rhydymwyn Valley located to the southeast of the site.

The woodland edge habitats are broadly suitable for slow-worm *Anguis fragilis* and common lizard *Zootoca vivipara*. The tall ruderal vegetation could also be used by commuting and foraging common reptile species.

3.3.3 Badger

Records of badger were returned from within 2km of the proposed development site. The closest record is beyond 195m of the site.

The woodland which surrounds the northern, eastern and western boundaries of the site may be suitable for foraging and commuting badger. Although the woodland could not be assessed as it is located on a scree slope, no evidence of badger activity such as setts, hairs, footprints or latrines were identified onsite during the walkover survey.

3.3.4 Bats

There are six buildings onsite and three of these buildings will be demolished to facilitate the proposed development. A bat scoping survey was carried out by UES of the three buildings on 8th August 2023 by Toby Hart and Ysobella Cox (see corresponding bat scoping report UES04134/03).

Building 1 is an extension attached to the southern aspect of Building 2, which varies in height. It has a pitched roof structure constructed from corrugated metal with a metal lip which extends to the eaves of the building. The base of the external walls are constructed from breezeblock, whilst the upper sections of the walls are constructed from corrugated metal. No suitable potential roosting features (PRFs) or evidence of roosting bats was identified during the external and internal inspections of Building 1. Building 1 has been assessed as having negligible potential to support roosting bats.

Building 2 has previously been used as an old sorting building for a mine and more recently, a wire manufacturing building. The building has a hipped roof structure which is constructed from corrugated metal and the external walls are constructed from a combination of brick and stone, with smaller areas of concrete. The walls contain cavities which may be suitable as day roost locations and have hibernation potential (Photograph 15). Gaps were also identified between the wall and timber planks which may provide PRFs for bats. The internal PRFs identified within Building 2 include cavities within the brickwork, cavities between the wall and timber, and where the metal beams connect to the wall (Photograph 16). Although the features do provide potential for day roosting locations, it is a cold internal wall not exposed to high light levels due to its location. Therefore, the internal conditions indicate that the features may provide more suitable hibernating locations.

Potential access points are also provided through holes in the brickwork, gaps above the door and damaged windows.

Suspected brown long-eared bat *Plecotus auritus* feeding remains were identified on the concrete floor, concentrated in the eastern section of the building (Photograph 17). Species

present include small tortoise shell *Aglaia urticae*, orange underwing *Archiearis parthenias*, and dark arches moth *Apamea monoglypha*. The feeding remains within the eastern section of the building were also associated with bat droppings located underneath a ridge beam (Target note 3). More feeding remains were identified within the building, scattered along the length of the floor towards the western section. Therefore, the building may be used as a feeding perch by suspected brown long-eared bat. Building 2 has been assessed as having low and hibernation potential to support roosting bats.

Building 3 is a single storey, detached building located within the western section of the site. The building has a pitched roof constructed from slate roof and ridge tiles, which are raised, damaged and missing in some areas. The eaves of the building consist of a timber capping above the walls which are constructed from a combination of brick and stone. Numerous cavities were identified within the stonework which may provide PRFs for bats and gaps were identified between the timber capping and the stonework. The building also has glass windows surrounded by wooden frames. There is a single storey extension on the western aspect of the building which has the same roof structure as the main section of the building, but the external walls are constructed from redbrick. Wooden cladding is present on the northern and southern aspects of the extension, but these areas are covered in ivy. No evidence of roosting bats was identified during the external building inspection of Building 3.

The interior of Building 3 consists of multiple rooms which differ in structure. The northern room has a timber roof lining with wooden beams, and the roof area extends above the internal flat roofed section within the center of the building. A lesser horseshoe *Rhinolophus hipposideros*, maternity roost was identified within the northern room, on the ceiling adjacent to the wooden beams (Target note 4; Photograph 18). The roost contained 60 lesser horseshoe bats including some young individuals which were attached to females. There is a large number of concentrated bat droppings directly underneath the roost and in the toilets which are located within the flat roof section (Photograph 19).

The southern room contains some damage to the ceiling which provides a viewpoint of the internal roof structure. This area of the building does not have a loft space but there is a gap between the ceiling and the roof. The roof is lined with bitumen felt. The western room has a badly damaged ceiling which prevented the loft space from being accessed during the scoping survey (Photograph 20). However, the loft space was visible from the ground level due to the amount of damage to the ceiling. The loft has a bitumen roof lining and mineral wool floor insulation. A single lesser horseshoe bat was identified within the loft space.

Building 3 is a been assessed as moderate - confirmed roost.

There are three additional buildings within the ownership boundary (Buildings 4-6) which were not fully inspected during the survey as they will not be demolished as part of the current development proposals, but three additional lesser horseshoe bats were identified within the eastern section of the northern-most building (Building 4) during the survey (Target note 5).

A dead pedunculate oak tree was identified at the edge of the woodland in the eastern section of the site. The tree contains PRFs which may be suitable for roosting bats (Target note 2).

3.3.5 Hazel dormouse

The habitats on site are relatively unsuitable for dormice *Muscardinus avellanarius*. Although there is woodland within the vicinity of the site, hazel dormice are known to have a limited

distribution and face difficulties in expanding beyond their known range. Given the absence of hazel dormice records from within 2km of the site, hazel dormice are not considered to be present onsite or in the immediate surrounding area.

3.3.6 Birds

Although a targeted bird survey was not conducted during the site visit, the following bird species were recorded whilst on site: a pair of spotted flycatcher *Muscicapa striata*, swallow *Hirundo rustica*, treecreeper *Certhia familiaris*, great tit *Parus major*, robin *Erithacus rubecula*, siskin *Spinus spinus*, and goldcrest *Regulus regulus*.

Of these species mentioned above, the spotted flycatcher is listed under NERC section 41 and is listed on the most recent birds of conservation concern “red list”.

Areas of woodland, trees, scattered scrub and buildings all provide suitable nesting opportunities for breeding birds in the summer. Evidence of nesting birds was identified within the buildings onsite (Photograph 21).

3.3.7 Trees

Trees on site may be protected by a Tree Preservation Order (TPO), for which a check has not been undertaken.

3.3.8 Hedgerows

There are no hedgerows located within the proposed development site.

3.3.9 Plant communities

No plant communities or individual species were recorded on site which are afforded statutory protection in their own right.

Features of the tall ruderal vegetation are beginning to form a mosaic over bare ground habitat with transitional communities. Although areas resemble open mosaic habitats on previously developed land, to classify as an open mosaic the area must be >0.25ha. In this particular case, the total area of the tall ruderal vegetation is 0.0306ha and therefore does not qualify as open mosaic habitat on previously developed land.

3.3.10 Invasive species

No invasive species were identified onsite during the walkover survey.

3.3.11 Otter, water vole and white-clawed crayfish

The only waterbody present onsite is a ditch located along the northern boundary of the entrance road within the eastern section of the site. No evidence of otter or water vole was found onsite during the walkover survey. In addition, no records of white-clawed crayfish were



returned within 2km of the proposed development site. Therefore, otter, water vole and white-clawed crayfish are not considered to be present onsite.

3.3.12 Hedgehog

Records of hedgehog were returned from within 2km of the proposed development site. The closest record is approximately 215m to the northeast of the site. The area of woodland may provide foraging opportunities for hedgehog, but the majority of the site is comprised of hardstanding and buildings, with some areas of ephemeral / short perennial and tall ruderal vegetation.

4 EVALUATION AND RECOMMENDATIONS

This section provides a brief assessment of the likely impacts associated with the proposed development on the receptors identified during the walkover survey and desk study. It also includes any mitigation and compensation measures which may be required for the proposed development to proceed.

4.1 Habitats

4.1.1 Designated sites

The sites identified during the desk study were cross-referenced with the survey area relevant to this report. The closest statutorily protected site is Comin Helygain a Glaswelltiroedd Treffynnon / Halkyn Common and Holywell Grasslands SSSI, which lies approximately 853m to the north of the proposed development site.

Coed Lygan-uchaf and Coed Nant Figillt – Ruby Quarry, Wildlife Site is located within the ownership boundary, and directly adjacent to the development site. This wildlife site should be subject to protection measures to ensure it is not degraded by the current proposals.

Impacts on the neighbouring wildlife sites should be reviewed following receipt of detailed development proposals. However, a detailed mitigation strategy should be produced to reduce dust deposition and dispersal, and other direct or indirect impacts on the local wildlife site.

4.1.2 Trees

There are a number of trees on the site, which vary in condition and maturity.

Construction impacts

Site clearance and setting out may involve the direct loss of trees on site as an ecological resource, or may result in damage to any trees which are to be retained. Construction activities too close to the RPAs of retained trees could cause permanent damage.

Mitigation

Trees, in particular those forming a linear feature across the site, should be retained where possible. RPAs should be established and implemented around the trees which are to be retained. These areas should be adequately protected by appropriately designed protective barriers and ground protection throughout the entire development process.

Compensation

If any trees are to be removed, they should be replaced accordingly as part of a detailed landscaping scheme, with only native species to be planted.

Operational impacts

No operational impacts are envisaged.



4.1.3 Woodland

The site is surrounded by a mixed, semi-natural woodland, which extends into the eastern section of the site and surrounds the western section.

Construction impacts

The woodland could be permanently damaged, altered and / or disturbed by the construction activities.

Mitigation

The woodland should be adequately protected during the construction activities on site. It should be fenced off to protect the root systems of the trees within, and no contractors should access the woodland unless authorised to do so or for reasons related to working within the woodland (e.g. protecting it from construction activities). No materials should be stored in the woodland and no temporary or permanent external lighting should be directed onto the woodland.

Compensation

If the woodland on site is to be removed, it should be replaced two-fold in terms of area in an appropriate location. A detailed woodland management plan should be prepared for the newly created woodland and agreed with the local planning authority.

Operational impacts

No operational impacts are envisaged.

4.1.4 Ditch

There is a ditch located along the northern boundary of the entrance road located within the eastern section of the site.

Construction impacts

Construction works adjacent to the ditch could result in disturbance and / or pollution.

Mitigation

Specific procedures and control measures will need to be implemented to ensure that there is no risk of input into the ditch. These measures should be set out by the contractors prior to the commencement of works and will need to be agreed with the Local Planning Authority (LPA) and other statutory consultees. These measures should conform to best practice guidance and include the cleaning of all machinery and equipment before use on site to prevent contamination of the ditch with foreign abiotic and biotic materials.

A minimum 5m buffer zone should also be retained along the length of the ditch to protect it from disturbance. The buffer zone should be adequately fenced off and no vegetation clearance or other construction activities should take place within it.

Operational impacts

No operational impacts are envisaged.

4.2 Species

4.2.1 Amphibians

There is a ditch located along the northern boundary of the entrance road within the eastern section of the site, which connects to an offsite pond. The terrestrial habitats onsite and adjacent to the proposed development site – including tall ruderal vegetation and the woodland – may provide suitable foraging and commuting opportunities.

Construction impacts

Potential impacts include direct harm, injury and / or death to individuals.

Mitigation

There are three offsite ponds located within 250m of the proposed development site, one of which directly connects to the onsite ditch.

A GCN impact assessment and environmental DNA (eDNA) analysis should be undertaken to assess all accessible ponds and ditches within 250m of the site for their suitability to support GCN. This impact assessment can be undertaken at any time of year, although eDNA analysis can only be undertaken from mid-April to June inclusive.

If GCNs are found to be present onsite or within the immediate vicinity of the site, a European Protected Species (EPS) mitigation licence may need to be applied for depending on the impacts of the works on nearby GCN populations.

Operational impacts

To be determined following the further surveys.

4.2.2 Reptiles

The woodland edge and tall ruderal habitats are relatively suitable for foraging, sheltering and commuting common reptile species.

Construction impacts

If reptiles are present during the construction activities, they could be directly harmed. Detailed development plans have not been provided to UES at present; however, the buildings onsite will be demolished which is considered unlikely to present any indirect impacts to reptiles.

Mitigation

The following reasonable avoidance measures (RAMs) should be implemented on site during the construction phase of the development:

- Any areas of grassland within the proposed working area are to be mown to have a sward length below 10cm and is to be mown to this height at least 24 hours prior to the start of development works. This is to give any reptiles present time to move off site of their own accord. The mown / cleared area will then be maintained with a short sward until the works on site have been completed.
- No excavations are to be left open overnight. If this is not feasible a plank should be left within the excavation at a 45-degree angle to allow trapped wildlife to escape. Any open excavations should be checked for trapped wildlife in the morning prior to start of works on site.
- Where possible, materials will be stored on pallets off the ground in order to reduce the risk of reptiles sheltering underneath them.
- UES will remain on-call throughout the development and if any reptiles are encountered, work on site is to stop immediately and ecological advice is to be sought. UES can be contacted directly on **01565 757788**.

The trees along the site boundaries and tall ruderal vegetation located on a bund in the western section of the site should remain, where feasible, to continue to provide shelter and connectivity across site for reptiles and other fauna.

If the proposed development plans change and include removal of suitable vegetation and habitats including tall ruderal or woodland, then further surveys may be required.

Operational impacts

If the proposed development plans change and include removal of suitable vegetation and habitats including the tall ruderal or woodland, then further surveys may be required.

4.2.3 Bats

Building 2 has been assessed as having low potential to support roosting bats due to the presence of feeding remains and droppings within the building. It has also been assessed as having hibernation potential. Building 3 has been assessed as a confirmed roost due to the presence of a lesser horseshoe maternity roost within the northern room, an additional lesser horseshoe bat in the loft space of the western room, and a large number of droppings. Although the additional buildings (Buildings 4-6) were not subject to a detailed assessment, three lesser horseshoes were identified in the eastern section of the northern-most building (Building 4).

There is also a dead pedunculate oak tree onsite which contains PRFs.

Construction impacts

If bats are roosting within the buildings or trees during site clearance and demolition, they are at risk of direct harm and disturbance and the roosts will be lost permanently. Inappropriate landscaping could also result in the severing of commuting corridors used by bats as well as the loss of foraging habitats.

Mitigation

Building 1 has been assessed as having negligible potential to support roosting bats and no further surveys or mitigation measures are required in relation to bats.

Building 2 has been assessed as having low potential to support roosting bats and one further presence / absence survey is required to determine whether bats are using the building for roosting purposes, and if so, to determine the number and species of bats present. This survey should be undertaken by an appropriately licenced ecologist during the peak bat survey season of May to August inclusive.

Building 3 has been assessed as moderate – confirmed roost, due to the presence of a lesser horseshoe maternity roost, and will require roost characterisation surveys to characterise the roost and determine the number and species of bats using the building. The remaining structure has been assessed as having moderate suitability to support roosting bats and therefore two further surveys should be conducted in order to characterise the maternity roost, and confirm presence or likely absence of other bat species and roosts. These surveys should be undertaken by an appropriately licenced ecologist during the bat survey season, May to September inclusive. At least one of these surveys should be undertaken during the peak bat survey season of May to August inclusive.

In addition, Buildings 2 and 3 have been assessed as having hibernation potential. As such, hibernation surveys should also be carried out on these buildings. Hibernation surveys should comprise at least two survey visits spread four weeks apart between December and February and should be undertaken by a licenced bat ecologist. This hibernation survey should also include the use of static detector surveys with data collected between November to March where possible and depending on ambient environmental conditions

Due to the presence of roosting bats within the Building 3, the development will need to be completed under a European Protected Species Licence issued by Natural Resources Wales. This can only be applied for once planning permission has been granted. Natural Resources Wales aim to process applications within 30 working days of receipt.

It should be noted that there will be timing restrictions for the works to the building, as works which affect a maternity roost can only be conducted between 1st October – 31st April. In addition to this, any required compensation or replacement roosts must be completed and fit for use prior to the works taking place. Additional timing restrictions relating to the hibernating bats may be required, but these will be stipulated elsewhere.

A bat method statement will also need to be produced for submission with the planning application. This document outlines the mitigation and compensation measures required in order to safeguard protected species throughout the duration of development.

Three lesser horseshoe bats were also identified within the eastern section of the northernmost building (Building 4). If the proposed development changes to include works to Buildings 4-6, additional bat surveys will be required.

If any trees will be felled or subject to arboricultural works, including the dead pedunculate oak tree in the eastern section of the site, then UES will need to review the tree removal plan as a ground-level tree assessment may be required to determine the suitability of the trees to support roosting bats. If any potential roosting features are found to still be suitable following the inspections, further surveys may be required including aerial tree inspections or bat presence / absence surveys (May to September inclusive).

Enhancements

The provision of bat boxes as part of the development proposals would increase the roosting opportunities for bats on site but would also increase the ecological value of the site. At the time of writing this report no detailed plans are available, but bat boxes that could be used on site include:

- Schwegler 1FF box (affixed to trees or buildings)
- Schwegler 2F box (affixed to trees or buildings)
- Schwegler 1FW hibernation box (affixed to trees)
- Schwegler 2FR bat tube (installed in connected pairs or threes into the external walls of buildings)

Bat boxes affixed to trees should be fitted at a height of between 5 and 6m metres on a southerly aspect.

The bat boxes affixed to, or installed into the external walls of buildings should be installed just below the eaves / roof height. No detailed lighting proposals are as yet available to UES, however care must be taken when installing any new lighting to ensure that light spillage onto the bat boxes is minimised. This may require the use of cowling or relocation of the bat box or lighting.

It should be noted that once bat inhabits a bat box, they may only be disturbed by a licensed bat worker.

Operational impacts

To be assessed following the further surveys.

4.2.4 Birds

There are a number of habitats, such as woodland, scattered scrub, trees and buildings which could support breeding birds.

Construction impacts

Building demolition, tree felling, arboricultural works and vegetation removal could result in the direct loss of nests, any individuals within the nests and of available nesting territories if conducted during the breeding season.

Mitigation

Site clearance, building demolition, tree felling, arboricultural works and vegetation removal (including enabling works) are to take place outside of the breeding bird season and should not be undertaken from March to August inclusive. If this is not possible and works need to take place between this period, a targeted breeding bird nest scoping survey should be conducted by a suitably qualified ecologist immediately prior to the works, or an ecological clerk of works appointed to oversee the works.

Compensation and enhancement



If extensive areas of vegetation are to be removed, consideration should be given to providing replacement habitat for foraging and nesting birds by incorporating tree, shrub or scrub planting as part of the landscaping proposals.

Landscaping can also be used to promote biodiversity through the appropriate design of habitats and creating habitat mosaics, which promote natural linkages and hence the dispersal of target species. Principles and landscaping ideas beneficial to wildlife and relevant to this site include:

- Planting and management of hedgerows
- Planting of berry and nut bearing shrub species to encourage winter birds
- Planting and management of shrubs which develop a mosaic of structures to support breeding birds
- Use of nectar bearing flowers to encourage invertebrates (such as bees, flies, beetles and butterflies)

Species are to be native, of local provenance or to have a proven benefit to biodiversity. Further information can be found at Appendix 6 – Landscape design for birds.

Compensation for the loss of nesting habitat and the enhancing of the nesting habitat on site can also be provided through the provision of bird nest boxes. At the time of writing this report no detailed plans are available, but bird boxes that could be used on site include:

- Schwegler 1B nest box (affixed to trees)
- Schwegler 1SP sparrow terrace (affixed to building below the eaves)
- Schwegler 2H robin nest box (affixed to trees)
- Schwegler 3S starling nest box (affixed to trees or buildings)
- Schwegler 1MR Avianex box (affixed to trees or buildings)
- Manthorpe swift nest brick (incorporated into the external walls of buildings)

The bird boxes should be sited at a minimum height of three metres. Unless there are trees which shade the box during the day, the boxes should be oriented between north and east, thus avoiding strong sunlight and the wettest winds.

Operational impacts

Inappropriate management of the habitats on site could degrade them and render them unsuitable for wildlife.

Mitigation

It is important to implement good horticultural practice in any landscaping scheme, including the use of peat-free composts, mulches and soil conditioners. The use of pesticides (herbicides, insecticides, fungicides and slug pellets) should be discouraged to prevent fatal effects on the food chain. Any pesticides used should be non-residual.

Excessive removal or pruning of trees and hedgerows should be avoided to maximise the growth and plant matter available to wildlife. Pruning should be left until late winter to leave seeds and berries for wintering wildlife and to ensure no impact on breeding and nesting birds.



5 CONCLUSION

The proposed development site has an area of approximately 0.8ha and is dominated by hardstanding with six buildings. The majority of the site is surrounded by a mixed, semi-natural woodland which is also present along the eastern boundary of the site. The western section of the site is mainly comprised of ephemeral / short perennial and tall ruderal vegetation. Whereas the eastern section of the site is comprised of hardstanding and bare ground, with scattered trees and a ditch which connects to an offsite pond.

The preliminary ecological appraisal has highlighted potential issues with the following ecological receptors on or adjacent to site: amphibians, bats, birds, reptiles, trees, watercourse and woodland. Provided these issues are addressed in accordance with the recommendations detailed in this report, the development may proceed without adversely impacting the aforementioned ecological receptors.

The development also presents an opportunity to enhance the habitats available to wildlife on site. The provisioning of bat and bird nest boxes on site will provide improved roosting and nesting opportunities into the long-term future of the site.



6 REFERENCES

CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal* (Second Edition).

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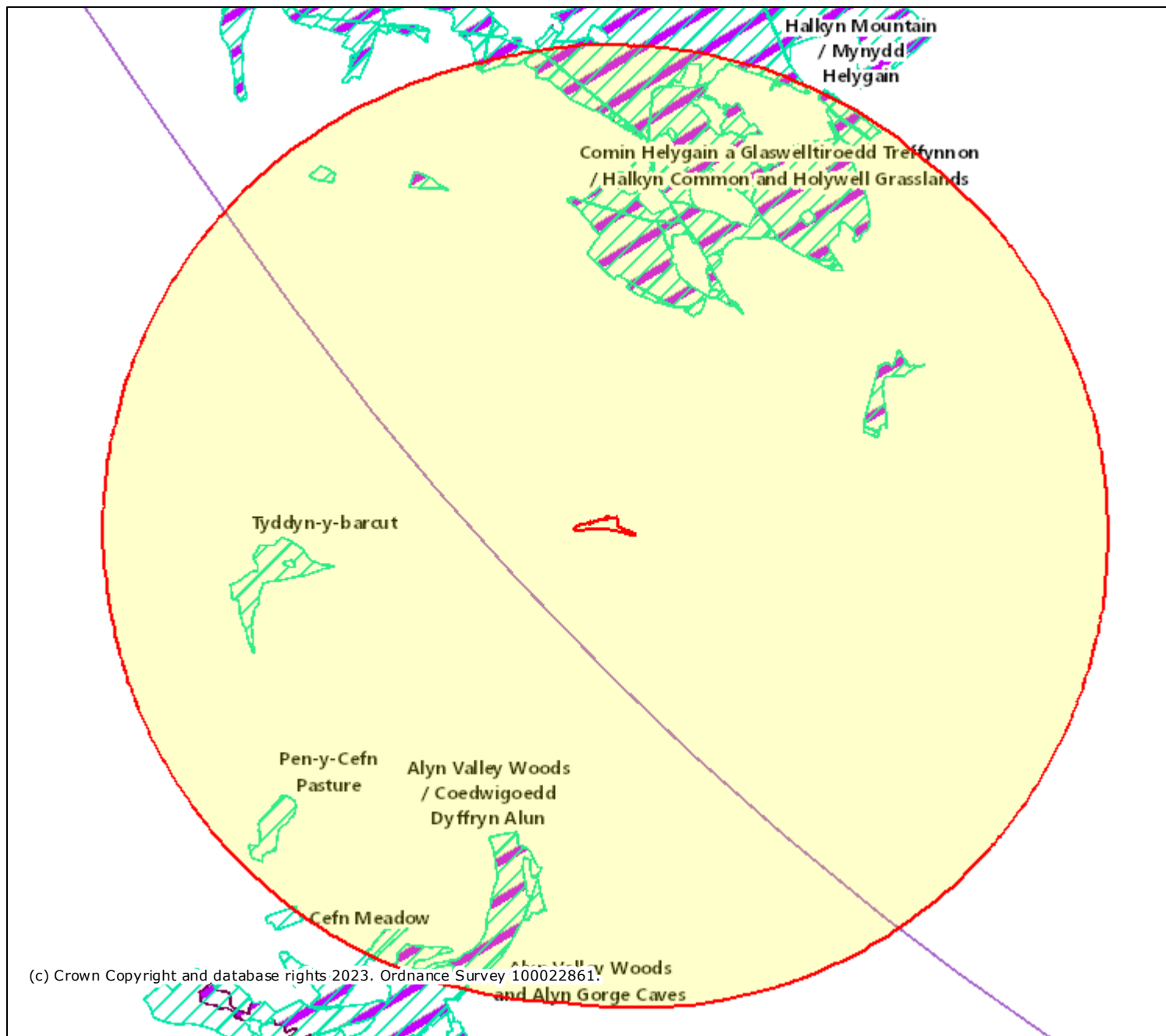
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APPENDICES

Appendix 1 – Desk study



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Legend

-  National Nature Reserves (Wales)
-  Ramsar Sites (Wales)
-  SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)
-  Sites of Special Scientific Interest (Wales)
-  Special Areas of Conservation (Wales)
-  Special Protection Areas (Wales)

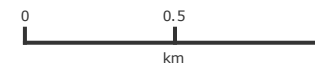
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xmax = 325100

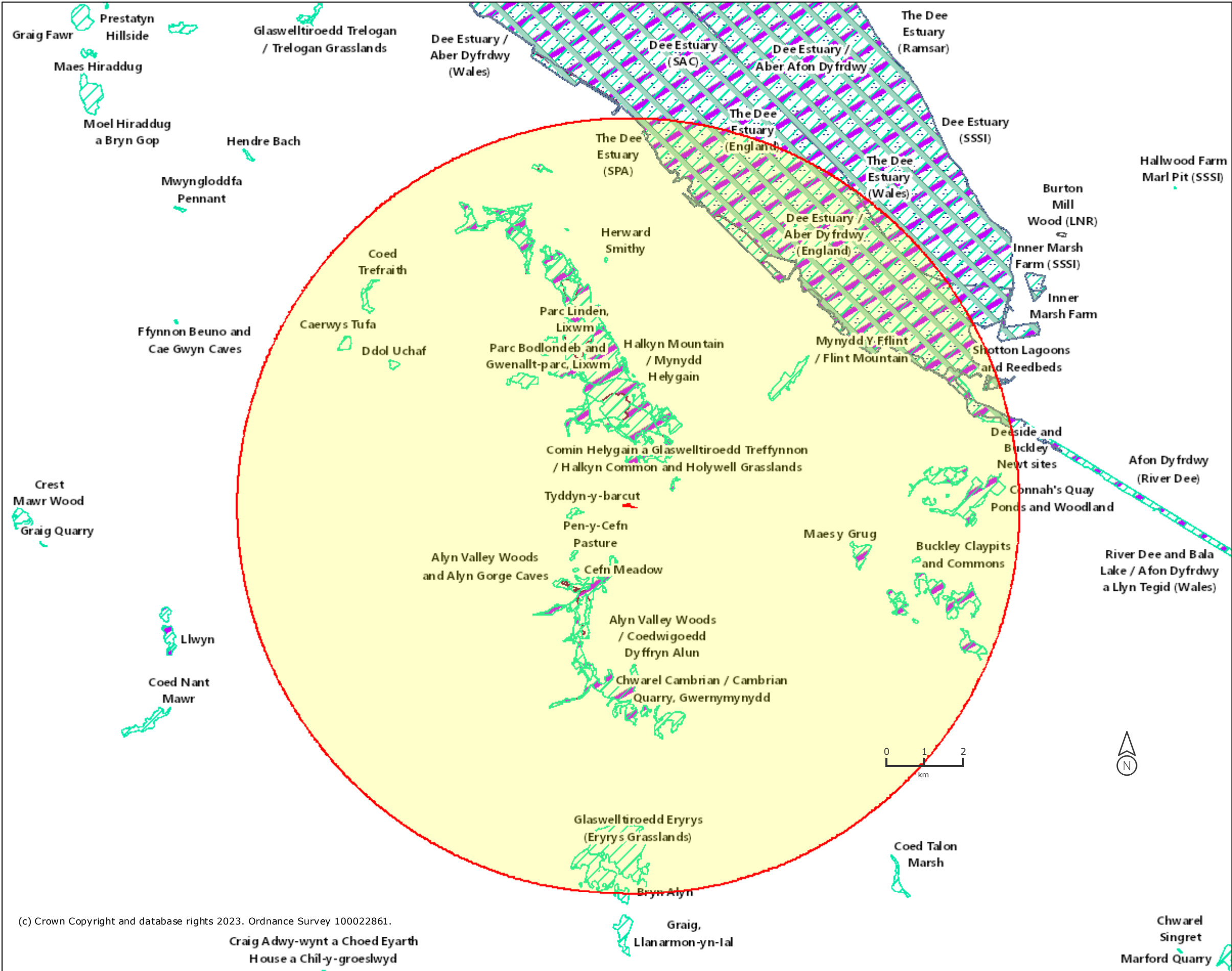
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Map produced by MAGiC on 23 August, 2023.

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Statutorily Designated Sites (10km Buffer)



- Legend**
- Local Nature Reserves (England)
 - National Nature Reserves (England)
 - National Nature Reserves (Wales)
 - Ramsar Sites (England)
 - Ramsar Sites (Wales)
 - Sites of Special Scientific Interest (England)
 - Sites of Special Scientific Interest (Wales)
 - Special Areas of Conservation (England)
 - Special Areas of Conservation (Wales)
 - Special Protection Areas (England)
 - Special Protection Areas (Wales)

Projection = OSGB36
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ymax = 378100
Map produced by MAGIC on 23 August, 2023.
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Appendix 2 – Phase 1 habitat plan

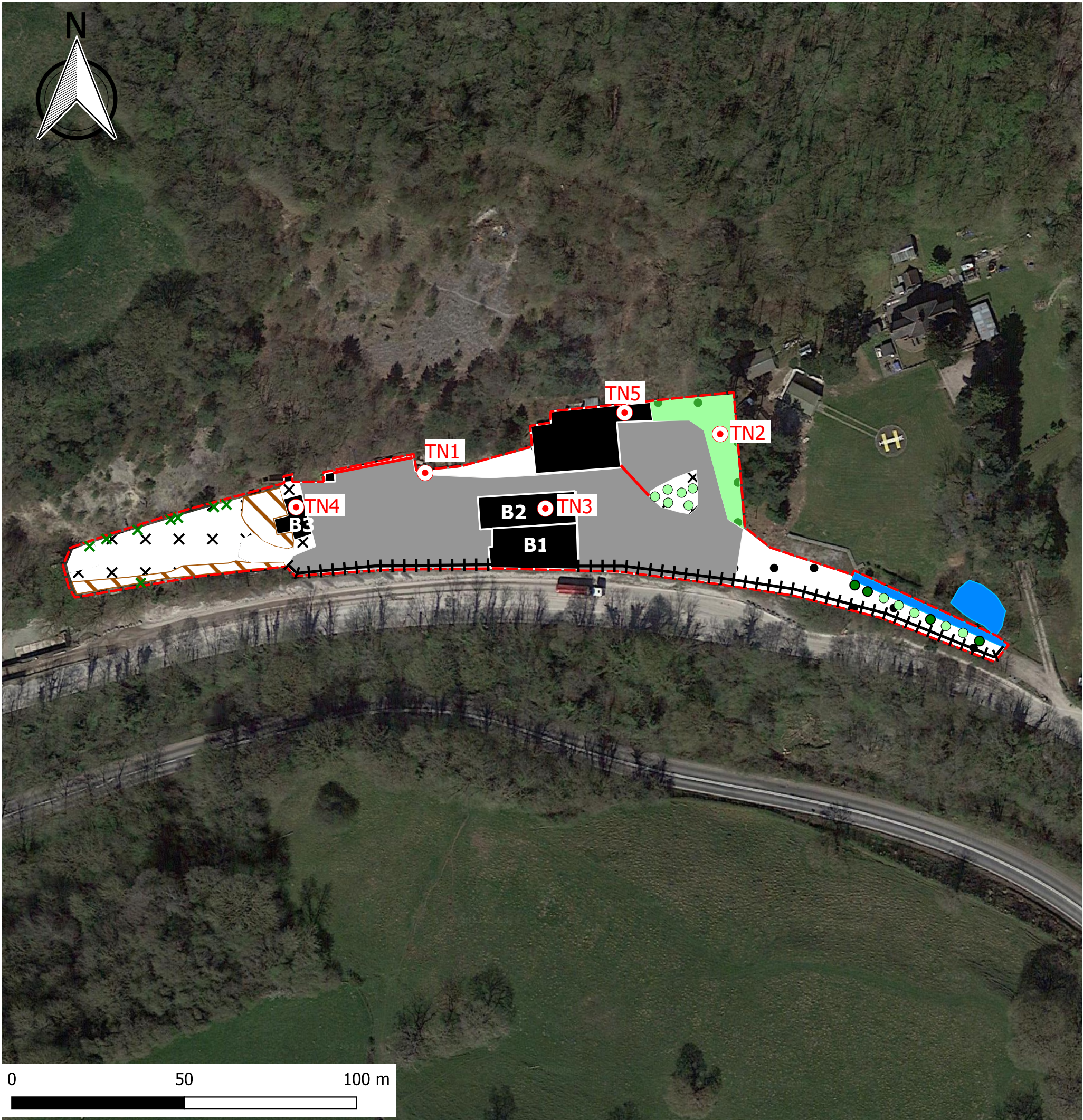
Target note 1 – Area of impeded water.

Target note 2 – A dead pedunculate oak tree with PRFs.

Target note 3 – Low / hibernation potential building with bat feeding remains and bat droppings.

Target note 4 – Confirmed lesser horseshoe maternity roost and large number of bat droppings.

Target note 5 – three lesser horseshoe bats within the northern most building.



Preliminary Ecological Appraisal

Site: Denbigh Road, Mold
NGR: SJ 20215 67709
Author: Ysobella Cox
Date: 22/08/2023



Key

- | | |
|--|----------------------------------|
| A1.3.1 - Mixed woodland - semi-natural | J1.3 - Ephemeral/short perennial |
| A2.2 - Scrub - scattered | J2.4 - Fence |
| A3.1 - Broadleaved scattered trees | J2.5 - Wall |
| A3.2 - Coniferous scattered trees | J3.6 - Buildings |
| C3.1 - Tall ruderal | J4 - Bare ground |
| G1 - Standing water | J5 - Hardstanding |
| | Target Notes |
| | Survey boundary |

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Appendix 3 – Aerial photographs



Denbigh Road, Mold

Close aerial photograph

 Survey Boundary

 Ownership Boundary





Denbigh Road, Mold

Wide aerial photograph



Site location



Appendix 4 – Photographs



Photograph 1. The mixed, semi-natural woodland adjacent to the northern boundary.



Photograph 2. The scree slope adjacent to the northern boundary.



Photograph 3. Scattered *Buddleja* sp. scrub adjacent to the scree slope.



Photograph 4. A group of coniferous trees in the eastern section of the site.



Photograph 5. Tall ruderal vegetation in the western section of the site.



Photograph 6. A ditch located along the northern boundary of the entrance road in the eastern section of the site.



Photograph 7. The offsite pond that the onsite ditch is directly connected to.



Photograph 8. Areas of bare ground and ephemeral / short perennial.



Photograph 9. Area of impeded water within the centre of the northern section of the site.



Photograph 10. A stone and brick wall along the northern boundary.



Photograph 11. The western aspect of Building 1.



Photograph 12. The northern aspect of Building 2.



Photograph 13. The northern aspect of Building 3.



Photograph 14. Hardstanding within the centre of the site.



Photograph 15. Cavities within the external walls of Building 2.



Photograph 16. Cavities between the timber and brickwork in Building 2.



Photograph 17. Bat feeding remains within Building 2.



Photograph 18. A lesser horseshoe maternity roost in Building 3.



Photograph 19. Bat droppings underneath the lesser horseshoe maternity roost.



Photograph 20. Damage to the ceiling in the western extension of Building 3.



Photograph 21. A bird's nest in Building 2.



Appendix 5 – Botanical species list

Scientific name	Common name
<i>Acer pseudoplatanus</i>	Sycamore
<i>Achillea millefolium</i>	Yarrow
<i>Actium</i> sp.	Burdock species
<i>Aegopodium podagraria</i>	Ground elder
<i>Agrostis stolonifera</i>	Creeping bent
<i>Ajuga reptans</i>	Bugle
<i>Anagallis arvensis</i>	Scarlett pimpernel
<i>Angelica sylvestris</i>	Wild angelica
<i>Arrhenatherum elatius</i>	False oat grass
<i>Asplenium scolopendrium</i>	Hart's tongue fern
<i>Betula pendula</i>	Silver birch
<i>Blackstonia perfoliata</i>	Yellow-wort
<i>Brachypodium sylvaticum</i>	Wood false brome
<i>Bromus ramosus</i>	Hairy brome
<i>Buddleja</i> sp.	Butterfly bush
<i>Callitriche</i> spp.	Water starwort
<i>Calystegia sylvatica</i>	Large bindweed
<i>Carex panicea</i>	Carnation sedge
<i>Carex remota</i>	Remote sedge
<i>Carex sylvatica</i>	Wood sedge
<i>Centaurea nigra</i>	Black knapweed
<i>Centaureum erythraea</i>	Commono centaury
<i>Cerastium fontanum</i>	Common mouse ear
<i>Chamaenerion angustifolium</i>	Rosebay willowherb
<i>Circaea lutetiana</i>	Enchanter's nightshade
<i>Cirsium vulgare</i>	Spear thistle
<i>Corylus avellana</i>	Hazel
<i>Crataegus monogyna</i>	Hawthorn
<i>Crepis capillaris</i>	Smooth hawksbeard
<i>Dactylis glomerata</i>	Cock's foot grass
<i>Deschampsia cespitosa</i>	Tufted hair grass
<i>Dryopteris dilatata</i>	Broad buckler fern
<i>Dryopteris filix-mas</i>	Common male fern
<i>Epilobium ciliatum</i>	American willowherb
<i>Epilobium montanum</i>	Broadleaved willowherb
<i>Epilobium parviflorum</i>	Hoary willowherb
<i>Epilobium tetragonum</i>	Square stalked willowherb
<i>Epipactis helleborine</i>	Broadleaved helleborine
<i>Equisetum palustre</i>	Marsh horsetail
<i>Equisetum telmateia</i>	Great horsetail
<i>Eupatorium cannabinum</i>	Hemp agrimony
<i>Euphorbia peplus</i>	Petty spurge
<i>Festuca ovina</i>	Sheep's fescue
<i>Festuca rubra</i>	Red fescue
<i>Filipendula ulmaria</i>	Meadow sweet
<i>Fragaria vesca</i>	Wild strawberry
<i>Fraxinus excelsior</i>	Ash
<i>Galium odoratum</i>	Woodruff
<i>Geranium robertianum</i>	Herb robert
<i>Glyceria fluitans</i>	Floating sweetgrass
<i>Hedera helix</i>	Ivy
<i>Hieracium</i> sp.	Hawkweed sp.
<i>Hypericum androsaemum</i>	Tutsan
<i>Hypericum maculatum</i>	Imperforate St John's wort
<i>Hypericum perforatum</i>	Perforate St John's wort
<i>Ilex aquifolium</i>	Holly
<i>Juncus effusus</i>	Soft rush
<i>Lactuca muralis</i>	Wall lettuce
<i>Lapsana communis</i>	Nipplewort
<i>Leontodon hispidus</i>	Rough hawksbit
<i>Linum catharticum</i>	Fairy flax
<i>Lotus corniculatus</i>	Common bird's foot trefoil
<i>Lysimachia nummularia</i>	Creeping jenny
<i>Melica uniflora</i>	Wood melick
<i>Mercurialis perennis</i>	Dog's mercury
<i>Origanum vulgare</i>	Oregano
<i>Picea</i> sp.	Spruce
<i>Pilosella officinarum</i>	Mouse-eared hawkweed
<i>Pinus nigra</i>	Black pine



Appendix 6 – Landscape design for birds

SPECIES	F	SIZE				LOCATION			SOIL MOISTURE	BENEFITS TO WILDLIFE
		T	S	M	L	H	W	Su/Sh		
TREES										
Alder*	D				Y			Su	M	Seed food for birds
Beech*	D			Y	Y	Y		Su	D	Seed food for birds
Birch*	D		Y	Y	Y			Su	D	Seed food for birds
Bird cherry *	D			Y	Y			Su	D	Food for birds, flowers attract insects
Crab apple*	D		Y	Y	Y			Su	D	Food for birds, flowers attract insects
English oak*	D				Y			Su	D	Food for birds, insects and mammals, nesting sites
European larch*	D				Y			Su	M	Seed food for birds
Holly*	E		Y	Y	Y	Y		Su	D	Fruits eaten by birds, food plant of holly blue butterfly
Juniper*	E							Su	D	Shelter and nest sites, fruits eaten by thrushes
Lime*	D				Y	Y		Su	D	Seed food for birds
Rowan*	D			Y	Y			Su	D	Fruits eaten by birds
Scot's pine*	E				Y			Su	D	Seed food for birds
Swedish whitebeam	D		Y	Y	Y			Su	D	Food for birds, flowers attract insects
Wild cherry*	D			Y	Y			Su	D	Food for birds, flowers attract insects
Yew*	E		Y	Y	Y	Y		Su	D	Food for birds, nesting sites
SHRUBS										
Barberry	B	Y	Y	Y	Y	Y		Su	D	Good shelter and nest cover for birds, berries may provide food
Blackthorn*	D			Y	Y	Y		Su	M	Attracts insects, food for birds, nesting sites
Buckthorn*	D			Y	Y	Y		Su/Sh	D	Food plant of brimstone butterfly, fruits eaten by birds
Butterfly bush	E	Y	Y	Y	Y	Y		Su	D	Attracts insects
Californian lilac	E			Y	Y	Y	Y	Su	D	Flowers attractive to various insects
Dogwood*	D			Y	Y	Y		Su	D	Food for birds, winter stem colour
Elder*	D		Y	Y	Y	Y		Su	D	Food for birds
Escallonia	E			Y	Y	Y		Su	M	Flowers attractive to various insects, tolerant of salt - good in coastal areas
Field maple*	D		Y	Y	Y	Y		Su	D	Good source of insect food for birds
Firethorn	E	Y	Y	Y	Y	Y	Y	Su	D	Berries popular with many bird species
Flowering current	D		Y	Y	Y			Su	D	Early flowers attractive to insects
Forsythia	D		Y	Y	Y	Y	Y	Su	D	Early flowers attractive to insects
Garria	E	Y	Y	Y	Y		Y	Su	D	Winter catkins, early cover for nesting birds
Goat willow*	D	Y	Y	Y	Y			Su	D	Catkins attractive to bees, good source of insect food for birds
Gorse*	E			Y	Y	Y		Su	D	Early flowers attractive to insects, good protection for birds
Rhytismatales	E			Y	Y	Y		Su	D	Good cover, tolerant of salt - good in coastal areas
Guelder-rose*	D			Y	Y	Y		Su	D	Food for birds & insects
Hawthorn*	D		Y	Y	Y	Y		Su	D	Flowers attractive to insects, fruits eaten by birds, good shelter and nesting site
Hazel*	D	Y		Y	Y	Y		Su	D	Food for birds, insects and mammals, nesting sites
Laurel-leaved vibumum	E		Y	Y	Y			Su	D	Early flowers good for insects, good cover for birds

Lavender	E	Y	Y	Y	Y	Su	D	Flowers attract many insects, seeds popular with finches		
Lilac	D		Y	Y	Y	Su	D	Flowers attractive to insects		
Oregon grape	E		Y	Y	Y	Su/Sh	M	Early flowers good for insects		
Pheasant berry	E			Y	Y	Su	D	Berries popular with many bird species		
Privet*	E			Y	Y	Y	Su	D	Flowers attract butterflies, produces berries	
Rose	D	Y	Y	Y	Y	Y	Su	D	Fruits of some varieties attractive to birds	
Rosemary	E	Y	Y	Y	Y	Y	Su	D	Flower attract many insects	
Shad bush	D		Y	Y			Su	M	Flowers attract insects, early forming berries good for thrushes	
Snowberry	D			Y	Y	Y	Su/Sh	D	Flowers attractive to bees, fruits attractive to birds, dense stems provide cover	
Spindle*	D		Y	Y	Y		Su	D	Berries eaten by birds, but poisonous to mammals	
Tamarix	D			Y	Y	Y	Su	D	Flowers attractive to various insects, tolerant of salt - good in coastal areas	
CLIMBERS & RAMBLERS										
Bramble*	D		Y	Y	Y	Y	Y	Su/Sh	D	Food for birds, insects and mammals, nesting sites
Clematis	D	Y	Y	Y	Y			Su	D	Nesting sites
Honeysuckle*	D	Y	Y	Y	Y	Y	Y	Su/Sh	D	Attractive to insects, good nesting site, food for birds
Ivy*	E	Y	Y	Y	Y	Y	Y	Su/Sh	D	Attractive to insects, good nesting site, food for birds
Rose	D	Y	Y	Y	Y	Y	Y	Su	D	Fruits of some varieties attractive to birds
Winter jasmin	E	Y	Y	Y	Y	Y	Y	Su	D	Early flowers attractive to insects
Wisteria	D	Y	Y	Y	Y		Y	Su	D	Attractive to insects, good nesting site

KEY			
*	Native (NB: some varieties are cultivars or non-native)	Location	H = may be used as a hedge plant
F	D = Deciduous		W = may be used as a wall shrub
Foliage type	E = Evergreen		Su = Sunny borders
	B = Both		Sh = Shade tolerant
Size	T = Terraces & balconies		Su/Sh = Grows in partial shade
Suitable for garden sizes	S = Small garden (<= 6m x 4m)	Soil mositure	D = Well drained
	M = Medium gardens (<= 12m x 6m)		M = Moist
	L = Large gardens (> 12m x 6m)		W = Wet soil



Appendix 7 – Planning and statutory context

STATUTORY AND PLANNING CONTEXT

Ecological assessments

Ecological assessments play an important part within the planning context; they include an initial assessment which highlights any specific interests of a site. From the initial site assessment, the surveyor assesses the suitability of habitats within the site to support protected species and makes recommendations for further survey works if required. The following paragraphs provide a brief interpretation of the legislative protection that is relevant to the findings of this report.

Habitats

Section 7 of the Environment Act (Wales) places a duty on Welsh Ministers to publish, review and revise lists of types of habitats and species in Wales which they consider are of key significance to sustain and improve biodiversity. The Welsh Ministers must also take all reasonable steps to maintain and enhance the habitats published in these lists, and encourage others to take such steps.

Amphibians

Great crested newts

Great crested newts (GCN) *Triturus cristatus* and their habitat (aquatic and terrestrial) are afforded full protection by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. If both national and international legislation are taken together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture GCN
- Deliberately, intentionally or recklessly disturb GCN in such a way to be likely to significantly affect:
 - their ability to survive, breed, reproduce, rear or nurture their young
 - their ability to hibernate or migrate
 - their local distribution or abundance
- Deliberately, intentionally or recklessly take or destroy the eggs of GCN
- Damage or destroy breeding sites or resting places of GCN
- Intentionally or recklessly disturb sheltering GCN, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead GCN, any part of GCN or anything derived from GCN

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

GCN are also protected by the Protection of Animals Act 1911, which prohibits cruelty and mistreatment. Releasing a GCN in such a way as to cause undue suffering may be an offence under the Abandonment of Animals Act 1960.

In addition to the above, there are various statutory provisions relating to the transport of animals, designed to ensure their welfare. GCN are also listed under Section 7 of the Environment (Wales) Act 2016.

It is important to identify the presence of GCN individuals and also to identify suitable habitat on sites so that legal obligations regarding this species can be observed. If a survey identifies the presence of GCN on the site, an assessment of the population size class is required. This can then inform a mitigation scheme, which would need to be developed in liaison with the local Natural Resources Wales (NRW) team, and which minimises direct threats to newts and compensates for any loss of habitat. A licence issued by NRW is required for the legal implementation of a mitigation scheme.

An NRW mitigation licence application requires a Mitigation Method Statement and a Reasoned Statement of Application. The Mitigation Method Statement contains details of the proposed mitigation works. The Reasoned Statement needs to provide a rational and reasoned justification as to why the proposed development meets the requirements of the Conservation (National Habitats & c.) regulations 1994, namely Regulations 44(2)(e), (f) or (g), and 44(3)(a).

Other amphibians

More common British amphibians, such as common frog *Rana temporaria*, common toad *Bufo bufo*, smooth newt *Triturus vulgaris* and palmate newt *Triturus helveticus* are protected only by Section 9(5) of the Wildlife and Countryside Act 1981 (as amended). This section prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy.

The above named species are also listed as UK Species of Conservation Concern. Due to general declines in most British amphibian species in recent years, many local authorities require amphibian surveys as a planning condition, or as part of environmental information submitted as part of a planning application, even where the presence of GCN is ruled out.

Natterjack toad *Bufo calamita* and pool frog *Pelophylax lessonae* are also offered the same level of protection as GCN, through the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017.

Natterjack and common toad are also listed under Section 7 of the Environment (Wales) Act 2016.

Water bodies that support all five (more common) species of British amphibians in high numbers, may be afforded protection in local plans, as Sites of Importance for Nature Conservation (SINC), or a similar equivalent, for sites of local importance. A site may require statutory protection as a Site of Special Scientific Interest (SSSI).

Reptiles

Common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix natrix* and adder *Vipera berus* are protected under the Wildlife and Countryside Act 1981 (as amended). They are listed as a Schedule 5 species therefore part of Section 9(1) and section 9(5) apply. The Countryside and Rights of Way Act 2000 also strengthens their protection. It is offence to:

- Intentionally or recklessly kill or injure any of the species listed above
- Sell, offer, advertise or transport for sale a live or dead animal of the species listed above

If a proposed development is likely to have an impact on these reptiles the local statutory nature conservation organisation must be consulted.

Sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* receive full protection under the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species Regulations 2017. Read together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture any sand lizards or smooth snakes
- Deliberately, intentionally or recklessly disturb sand lizards or smooth snakes in such a way to be likely to significantly affect:
 - their ability to survive, breed, reproduce, rear or nurture their young
 - their ability to hibernate or migrate
 - their local distribution or abundance
- Deliberately, intentionally or recklessly take or destroy the eggs of such an animal
- Damage or destroy breeding sites or resting places of such animals
- Intentionally or recklessly disturb sheltering sand lizards or smooth snakes, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead sand lizards or smooth snakes, any part of such an animal or anything derived from such an animal

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

All reptile species (except for smooth snake) are also listed under Section 7 of the Environment (Wales) Act 2016.

Badger

European badgers *Meles meles* and their habitat are protected under The Protection of Badgers Act 1992 and are also included on Schedule 6 of the Wildlife and Countryside Act 1981, and Appendix III of the Bern Convention. The legislation affords badgers protection against deliberate harm or injury making it an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat a badger (or attempt to do so)
- To interfere with a sett by damaging or destroying it
- To obstruct access to, or entrance of, a badger sett
- To disturb a badger whilst it is occupying a sett

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Works that disturb badgers whilst they are occupying a sett are illegal without a licence. Disturbance can occur even without direct interference or damage to the sett in question. In general, the following activities are likely to require a licence:

- Use of heavy machinery or significant earth moving within 30m of a sett
- Use of lighter machinery (usually any wheeled vehicles) within 20m of a sett
- Any digging, chain saw use or scrub clearance within 10m of a sett

Hazel dormouse

Hazel dormice *Muscardinus avellanarius* are offered full protection through the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. If both national and international legislation are taken together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture dormice
- Deliberately, intentionally or recklessly disturb dormice in such a way to be likely to significantly affect:
 - their ability to survive, breed, reproduce, rear or nurture their young
 - their ability to hibernate or migrate
 - their local distribution or abundance
- Damage or destroy breeding sites or resting places of dormice
- Intentionally or recklessly disturb sheltering dormice, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead dormouse, any part of a dormouse or anything derived from a dormouse

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Dormice are also listed under Section 7 of the Environment (Wales) Act 2016.

Bats

In the United Kingdom, all species of bat and their roosts are afforded full protection under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (known as the “Habitats Regulations”). The Wildlife and Countryside Act is the domestic implementation of the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) and was amended by the Countryside and Rights of Way Act 2000. This makes it an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture a bat
- Deliberately, intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection
- Deliberately, intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection (even if the bat is not present at the time)
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead bat, any part of a bat or anything derived from a bat

Under UK law, a bat roost is *any structure or place which any wild [bat] ... uses for shelter or protection*. As bats often reuse the same roosts, legal opinion is that a roost is protected whether or not the bats are present at the time of the activity taking place.

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

If an activity is likely to result in any of the above offences, a licence can be applied for to derogate from the protection afforded. These licences must provide appropriate mitigation and are issued by NRW.

The Environment (Wales) Act 2016 also lists the following bat species as species of principle importance under Section 7:

- Barbastelle *Barbastella barbastellus*
- Bechstein's bat *Myotis bechsteinii*
- Noctule *Nyctalus noctula*
- Common pipistrelle *Pipistrellus pipistrellus*
- Soprano pipistrelle *Pipistrellus pygmaeus*
- Brown long-eared bat *Plecotus auritus*
- Greater horseshoe *Rhinolophus ferrumequinum*
- Lesser horseshoe *Rhinolophus hipposideros*

Birds

All wild birds, their nests and young are protected throughout England and Wales by the Wildlife & Countryside Act 1981 (as amended). It is illegal to kill, injure or take any wild bird, or damage or destroy the nest or eggs of breeding birds. The legislation applies to all bird species, common and rare.

In addition to the protection afforded to all wild birds, more vulnerable species listed on Schedule 1 of the Act receive enhanced protection when breeding. Schedule 1 species, including their dependent young, are protected from intentional or reckless disturbance whilst at or near the nest, in addition to the protection afforded the more common species.

The Environment (Wales) Act 2016 offers further protection to the nests of some species that regularly re-use their nests, even when the nests are not in use.

The leading governmental and non-governmental conservation organisations in the UK have reviewed the population status' of 244 UK bird species. "Birds of Conservation Concern 4: the Red List for Birds" is the most recent publication summarising their findings. Three lists, Red, Amber and Green, have been produced based on the most up-to-date evidence available and criteria include conservation status at global and European levels and, within the UK: historical decline, trends in population and range, rarity, localised distribution and international importance. These lists are a valuable resource when considering conservation priorities.

Trees

Trees may be protected on an individual or group level through a Tree Preservation Order (TPO). In order to carry out works to trees with a TPO, prior written consent must be obtained from the Local Planning Authority. Trees may also be protected through a condition of planning consent or designated conservation areas.

Hedgerows

The Hedgerow Regulations are made under Section 97 of the Environment Act 1995 and came into operation on 1st of June 1997. They aim to protect important hedgerows in the countryside by controlling their removal through a system of notification to the Local Planning Authority.

A hedgerow can only be considered for classification as "important" if it, or the hedgerow of which the section belongs to is over 20m in length (or which meets a hedgerow at either end) and has existed for 30 years or more.

Plants

Schedule 8 of the Wildlife & Countryside Act 1981 (as amended) lists a number of plant species which are protected under Section 13 of the same legislation. As such, it is an offence to:

- Intentionally or recklessly pick, uproot or destroy a plant, or any seeds or spores attached to it, which is listed on Schedule 8
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead wild plant on Schedule 8, any part of the plant or anything derived from the plant

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

The Conservation of Habitats and Species Regulations 2017 extends European legislative protection to a further subset of plants. It is therefore an offence to pick, collect, cut, uproot, destroy or trade any plant listed in Schedule 4 of these Regulations, unless the appropriate licence is first obtained.

A large number of species of vascular plants, lichens, algae, fungi, mosses, stoneworts and liverworts are also protected through planning policy as species of principal importance, as required under Section 7 of the Environment Act (Wales) 2016.

Invasive Plant Species

A number of invasive, non-native plant species are listed under Schedule 9 (Part II) of the Wildlife and Countryside Act 1981 (as amended). The most commonly encountered listed species in ecological surveys are Japanese knotweed *Fallopia japonica*, Montbretia *Crocosmia x crocosmiiflora* and variegated yellow archangel *Lamiastrum galeobdolon subsp. argentatum*. Section 14(2) of this Act makes it an offence to *plant or otherwise cause to grow in the wild* any plant listed on Schedule 9 (Part II). These provisions are necessary to prevent the establishment of non-native species which may be detrimental to our native wildlife.

A number of invasive, non-native plants species are listed under Schedule 2 (Part II) of the Invasive Alien Species (Enforcement and Permitting) Order 2019. The most commonly encountered listed species in ecological surveys are Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum*. Section 3 of this Act make it an offence to *plant or otherwise causes to grow in the wild* any plant which is listed on Schedule 2 (Part II). These provisions are necessary to prevent the establishment of non-native species which may be detrimental to our native wildlife.

Soil or plant material contaminated with non-native and invasive plants can cause ecological damage and may be classified as controlled waste. It is an offence to keep, treat or dispose of waste that could harm the environment or human health. If there is any doubt, contact the local authority or Environment Agency.

Japanese knotweed has an extensive root system and new plants can regenerate rapidly from the smallest fragments of rhizomes. Material containing this species is classed as “controlled waste” under the Environmental Protection Act (Duty of Care) Regulations 1991. The disposal of such waste requires all involved parties to follow a strict code of practice and maintain adequate records regarding their conduct.

Otter

European otter *Lutra lutra* are offered full protection through the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. If both national and international legislation are taken together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture otters
- Deliberately, intentionally or recklessly disturb otters in such a way to be likely to significantly affect:
 - their ability to survive, breed, reproduce, rear or nurture their young
 - their ability to migrate
 - their local distribution or abundance
- Damage or destroy breeding sites or resting places of otters
- Intentionally or recklessly disturb sheltering otters, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead otter, any part of an otter or anything derived from otter

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Otters are also listed under Section 7 of the Environment (Wales) Act 2016.

Water vole

Water voles *Arvicola amphibius* are protected by the provisions of Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- Intentionally kill, injure or take water vole
- Possess or control live or dead water vole or any part of a water vole
- Intentionally or recklessly damage destroy or obstruct access to any structure or place which a water vole uses for shelter or protection, or disturb water vole using such a place
- Sell, offer, advertise or transport live or dead water voles for sale

Licences are available from NRW to allow activities that would otherwise be an offence, including:

- Scientific or educational purposes
- For the purposes of ringing or marking
- Conserving wild animals or introducing them into particular areas
- Preserving public health or public safety
- Preventing the spread of disease
- Preventing serious damage to any form of property or to fisheries

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Water voles are also listed under Section 7 of the Environment (Wales) Act 2016.

White-clawed crayfish

White-clawed crayfish *Austropotomobius pallipes* are protected under the Wildlife and Countryside Act 1981 (as amended). They are listed as a Schedule 5 species therefore part of Section 9(1) and section 9(5) apply. The Countryside and Rights of Way Act 2000 also strengthens their protection. It is offence to:

- Intentionally or recklessly kill or injure white-clawed crayfish
- Sell, offer, advertise or transport for sale a live or dead white-clawed crayfish

If a proposed development is likely to have an impact on white-clawed crayfish then the local statutory nature conservation organisation must be consulted.

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Their inclusion on the EC Habitats Directive allows areas to be designated as Special Areas of Conservation (SAC) for the presence of white-clawed crayfish. Such a designation brings legal protection under the Conservation of Habitats Regulations 2017, this includes how the site is managed and what development can occur on and in proximity to these sites.

White-clawed crayfish are also listed under Section 7 of the Environment (Wales) Act 2016.

Planning Policy

National planning guidance is issued in the form of Planning Policy Wales (PPW - 2018). The most relevant sections are included in Chapter 6: Distinctive and Natural Places. This chapter details the policies on issues such as the protection of trees, woodlands, species, and designated sites. The document is free and available to view online.