

**Bryn Rodyn, Old Colwyn
Preliminary Ecological Appraisal**

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Bryn Rodyn, Old Colwyn Preliminary Ecological Appraisal

Introduction

Yorke Associates Ecological Consultants was instructed by Cadnant Planning Ltd, on behalf of Mr Max Jones, to undertake a Preliminary Ecological Appraisal of an area of land at Bryn Rodyn, Old Colwyn. The appraisal was commissioned in connection with a planning application for the residential development of the site.

The appraisal was based upon a desk study and an Extended Phase 1 Habitat Survey, including an assessment of the site for bat roosting potential and survey of the watercourse for water vole. The purpose of the assessment was to identify potential for the application site to contain important habitats or species, and consider if development would have a significant impact upon local biodiversity.

The appraisal was undertaken in accordance with guidelines set out by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017).

Part 1: Desk Study

A desk study was carried out to identify species or habitats that are considered important in a local context and to identify any species recorded locally that may be associated with the application site.

Data Search

Cofnod, the North Wales Environmental Information Service, was contacted for records of protected, priority and locally important species and habitats, international, national and local biodiversity sites within a 1km radius of the application site.

The following sites are located within the 1km search area:

Local Nature Reserves (LNR):

Fairy Glen LNR is located approximately 653m from the application site boundary.

Wildlife Sites (candidate WS):

Coed yr Odyn / Coed Mawr / Coed Bryn Lys candidate WS, an area of broadleaved woodland, is located approximately 134m from the application site boundary.

Nanty-yr-Ffynnon candidate WS, an area of broadleaved woodland, is located approximately 729m from the application site boundary.

Nanty-yr-Efail candidate WS, an area of broadleaved woodland, is located approximately 786m from the application site boundary.

Marion Canol candidate WS, an area of calcareous grassland, scrub and broadleaved woodland, is located approximately 801m from the application site boundary.

Ancient Woodland Sites (AWS)

There are several AWS located within the search area, the nearest 79m from the application site boundary.

The above sites are located at sufficient distance and / or are isolated from the application site as to be unaffected by the proposed development.

There are no records of protected or notable species within the application site or on its immediate boundary. The data search highlighted several records of badger activity within the search area, with nearest badger sett located 125m from the application site boundary and further setts located at a distance of approximately 350 – 650m from the site boundary, the records dating from 2002 - 2009. Badger activity recorded nearer the site included a dead badger on Dolwen Road, along the western boundary of the site and unspecified field signs between approximately 84 and 125m from the site boundary. No evidence of badger activity was recorded within the application site or outside its immediate boundary during the survey. There are several records of bat roosts within the search, the majority located in residential properties to the north. The nearest record is of an unknown bat at Pentre Isaf Farm approximately 73m from the site boundary and a large, probable pipistrelle roost (150 bats) in a house approximately 290m to the north west, both records dating from 1987 and 1989 respectively.

Aerial Photography and Detailed Map Study

Aerial images on the MAGIC (Multi-Agency Geographic Information for the Countryside) website and ordnance survey 1:25,000 scale maps were used to determine the presence of any features of ecological interest such as ponds in the surrounding landscape which would not be evident on the ground during the walkover survey.

The site is located in a rural setting, on the edge of existing housing located to the north west. The surrounding landscape is characterized by permanent pasture with hedgerows, standard trees, blocks of mature broadleaved woodland and a minor tree-lined watercourse, providing relatively good connectivity to the application site.

Part 2: Extended Phase 1 Habitat Survey

The extended Phase 1 survey is a description of habitats based upon the plant species present and also includes evidence of or potential for the presence of legally protected or notable faunal species/groups (e.g. invertebrates). The survey followed a Phase 1 habitat survey methodology (JNCC, 1990) and was extended to assess faunal potential. This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). Evidence of fauna and faunal habitat is also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995).

The survey was carried out on the 14th August 2019 and updated on the 7th June 2021 by Daniel Yorke BSc (Hons) MCIEEM.

Results

A Phase 1 habitat plan of the application site is shown in Appendix 1.

The application site is located at grid reference SH874768 on the southern edge of Old Colwyn, Conwy. The site consists of a relatively large, sloping field of approximately 4.5 hectares, characterized by poor semi-improved, horse grazed pasture with hedgerows and mature standard trees located along the field boundaries and two mature free-standing oak standards located within the centre of the field. A dwelling house, Bryn Rodyn, and associated outbuildings, together with a large industrial unit are located to the south of the site, whilst relatively recently constructed housing is present to the north west, with a small oak copse outside the northern boundary. At this point the land slopes steeply towards a

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more gently sloping plateau, characterized by marshy grassland on the edge of a minor watercourse, lined with trees and shrubs. The western boundary of the site is demarcated by Dolwen Road, whilst permanent pasture is located to the east of the site. Blocks of broadleaved woodland, connected by hedgerows, are located in the wider landscape. Habitats recorded in the application site are described below:

Poor Semi-Improved Pasture

This is characterized by a closely grazed sward of limited species richness, which in parts has been poached by horses. The sward includes dock (*Rumex* sp.), meadow fescue (*Festuca pratensis*), bent grass (*Agrostis* sp.), dandelion (*Taraxacum officinale* agg.), common mouse-ear (*Cerastium fontanum*), Yorkshire fog (*Holcus lanatus*), meadow buttercup (*Ranunculus acris*), cock's-foot (*Dactylis glomerata*), white clover (*Trifolium repens*), yarrow (*Achillea millefolium*) and creeping buttercup (*Ranunculus repens*) with occasional ribwort plantain (*Plantago lanceolata*), cuckoo flower (*Cardamine pratensis*), hogweed (*Heracleum sphondylium*), red bartsia (*Odontites vernus*) and ragwort (*Senecio jacobaea*).

Hedgerows

The site boundary is demarcated by hedgerows, with the exception of the north eastern, south eastern and south western corners. The hedgerows on the southern and western boundaries which border the site access road and the Dolwen Road respectively are characterized by relatively low, clipped canopies including holly (*Ilex aquifolium*), hawthorn (*Crataegus monogyna*), elder (*Sambucus nigra*), elm (*Ulmus* sp.), oak (*Quercus* sp.), hazel (*Corylus avellana*), blackthorn (*Prunus spinosa*) and ash (*Fraxinus excelsior*). The hedgerows along the northern and eastern boundaries, which consist of a similar assemblage of species, are unmanaged and as a result taller with some bushy outgrowths, principally on the eastern boundary.

Standard Trees

Mature broadleaved trees are present principally along the western boundary of the site, with isolated specimens at the northern end of the site, next to the watercourse and on the eastern boundary and two free-standing trees in the central part of the site. With the exception of the senescent ash tree at the northern end, all the other trees are oak. The trees are described in detail in the bat roosting potential section below.

Marshy Grassland

This habitat is found at the northern edge of the application site, where a proposed balancing pond would be located, and consists of a gently sloping area of lightly flushed, marshy grassland leading down towards a minor, tree-lined watercourse (Figure 21). The grassland has in the recent past been disturbed, with areas of partially re-colonised vegetation, together with locally abundant ruderals such as dock (*Rumex* sp.). Species typical of marshy grassland include occasional sedge plants (*Carex* spp.), greater bird's-foot trefoil (*Lotus pedunculatus*), marsh thistle (*Cirsium palustre*), occasional square-stemmed St. John's wort (*Hypericum tetrapterum*), yellow pimpernel (*Lysimachia nemorum*) and meadowsweet (*Filipendula ulmaria*), together with frequent stands of soft rush (*Juncus effusus*). Other species recorded include creeping and meadow buttercups (*Ranunculus repens* and *R. acris*), sweet vernal grass (*Anthoxanthum odoratum*), Yorkshire fog (*Holcus lanatus*), bent grass (*Agrostis* sp.), cock's-foot (*Dactylis glomerata*), white clover (*Trifolium repens*) and ribwort (*Plantago lanceolata*).

Disturbed semi-improved grassland/Cleared scrub

The steep bank leading down towards the area of marshy grassland appears to have been subject to some scrub clearance in the past with consequent areas of bare / disturbed ground (Figure 22). Species typical of scrub/woodland habitats recorded in this area include

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red campion (*Silene dioica*), bramble (*Rubus fruticosus*), foxglove (*Digitalis purpurea*), rarely encountered bluebell (*Hyacinthoides non-scripta*), pignut (*Conopodium majus*) and stitchwort (*Stellaria* sp.), together with ruderals such as rosebay willow-herb (*Chamerion angustifolium*) and creeping thistle (*Cirsium arvense*).

Watercourse

The minor, tree-lined watercourse is characterized by gently flowing riffles and shallow pools with sloping earth banks and fallen trees (Figures 23 & 24). The banks contain species typical of long established / ancient tree cover such as golden saxifrage (*Chrysosplenium* sp.), ramsons (*Allium ursinum*), wood anemone (*Anemone nemorosa*) and bluebell, together with marsh species such as hemlock water-dropwort (*Oenanthe crocata*), hairy willow-herb (*Epilobium hirsutum*) and flea sedge (*Carex pulicaris*) (Figure 25). The riparian trees and shrubs consist of mature hazel (*Corylus avellana*), ash (*Fraxinus excelsior*), including a senescent veteran specimen (Figure 26), sycamore (*Acer pseudoplatanus*) and willow (*Salix* sp.)

Broadleaved Woodland

A small broadleaved copse, composed exclusively of mature oak (*Quercus* sp.) is present between the main development site and the marshy grassland where the proposed balancing pond would be located. Whilst not strictly part of the application site and not directly affected by the proposed development this feature should be protected during the development phase and also longer term, post-development.

Fauna

Bats

Several of the mature trees, principally along the western boundary of the site support minor potential roosting features. The senescent veteran ash tree located on the south bank of the watercourse was assessed as having good potential for bats (The mature trees are described in Table 2 below). It is anticipated that none of the mature trees would be impacted by the proposed development and lighting on the site could be designed to avoid illumination of trees and hedgerows. Any felling or pruning works e.g. to remove dying trees which are unsafe, should be accompanied by measures to mitigate any potential impacts on bats.

All species of bats in the UK are afforded full protection under the Wildlife and Countryside Act (1981) (as amended) and under the Conservation of Habitats and Species Regulations (2017). Under these Acts it is an offence among others, to intentionally or recklessly kill, injure or disturb bats. It is also an offence to destroy or obstruct a roost even if bats are not in occupancy at the time of the action.

Where bats are found within a potential development site, a license from the statutory licensing body i.e. Natural Resources Wales may need to be secured if works that could otherwise contravene legislation are to be carried out. These licences are only issued where the statutory licensing body is satisfied that works are unavoidable and would not have a negative impact on the favourable conservation status of bats. A license requires that the potential development site has full planning permission and that bats were a material consideration of the planning permission.

Bat Roost Potential Survey

A survey of trees on the site for bat roosting potential was undertaken by Daniel Yorke BSc (Hons) MCIEEM on the 21st December 2019. Trees were examined from ground level with the aid of binoculars and a Cluson CB2 lamp for the presence of potential roosting features (PRF) including cracks and fissures, cavities and rot holes, loose, flaking bark and dense ivy.

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The trees were also examined for evidence of bats including droppings in, around or below a PRF and stains around or below the PRF from the oils in bats' fur.

Trees were classified according to the following criteria set out in Table 1 below, developed with reference to the Bat Mitigation Guidelines (2004), Bat Workers Manual (2004) and the Bat Conservation Trust Good Practice Guidelines (2016).

Table 1: Bat roosting potential in trees

Roosting Potential	Criteria
<i>Good</i>	Trees that have many areas suitable for roosting with a large number of potential roosting features such as fissures, holes and flaking bark. These are normally in areas of good habitat such as close to water or in a landscape with well connected linear features. Trees with good potential could be used for a whole range of roosts including maternity and hibernation roosts.
<i>Moderate</i>	Trees with a smaller range of features suited to roosting in less valuable habitat, but still supporting features that could be attractive to bats and potentially support maternity roosts.
<i>Limited</i>	Trees with limited range or quality of roosting features in poor habitat. They could be used as occasional or transient roosts, but are unsuitable for maternity roosts.
<i>Very Limited</i>	Trees that have few places for bats to roost located in poor foraging habitat, but due to superficial features such as flaked bark etc. could be used on an occasional basis for solitary or small groups of bats.
<i>None</i>	Trees which appear unsuitable for roosting bats due to clear lack of roosting spaces such as voids etc and/or absence of suitable access points.

Survey Results

Three trees along the eastern boundary of the site were classified as having limited to moderate potential for roosting bats. The remaining five trees were classified as having limited potential. The results are set out in Table 2 below.

Table 2: Bat roosting potential assessment

Tree Number	Species	Comments	Bat Roosting Potential
T2	Oak	Mature hedgerow tree with dense mat of dead ivy on trunk and limbs.	Limited - Moderate
T3	Oak	Mature hedgerow tree with dense mat of dead ivy on trunk and limbs.	Limited - Moderate
T5	Oak	Mature hedgerow tree. No obvious potential roosting features	Limited
T6	Oak	Mature free-standing tree. Some minor cavities / rot holes	Limited
T7	Oak	Mature free-standing tree. Some minor cavities / rot holes	Limited
G8	Oak	Group of mature trees. No obvious potential roosting features	Limited
T9	Ash	Mature, senescent tree with hollow trunk and rot holes in limbs. Bees nest in trunk.	Good

Terrestrial Mammals

No evidence of badgers was found within the application site or outside the site's immediate boundaries. Badger activity has been recorded within the search area and the site does provide suitable potential foraging habitat for this species. It is advised that the site is re-surveyed for badger activity prior to construction works commencing.

Evidence of water vole (*Arvicola terrestris*) was found along the minor watercourse demarcating the northern extent of the application site, during June 2021. This included approximately 5 burrows, some of which appeared to be active, in addition to footprints found in soft mud and droppings (Figures 27 - 32). The burrows were located at or near to water level. The approximate location of the burrows is shown in Appendix 1. Repeat surveys of the watercourse were undertaken on the 16th September and 1st October 2021, in order to determine seasonal use of the watercourse by water vole. The surveys were undertaken by Daniel Yorke BSc (Hons) MCIEEM and consisted of a methodical inspection of the watercourse and the adjoining area of grassland for evidence of water vole, in accordance with Strachan (1998). A Browning Patriot trail cam was also used to record any water vole activity along the watercourse during the period 1st – 6th October 2021. No evidence of water vole was found in the area of grassland bordering the watercourse. Although recorded as marshy grassland due to the presence of indicator species such as rush (*Juncus* spp.) and sedge (*Carex* spp.), this area is relatively dry and does not support suitable habitat for water vole. Generally, less evidence of water vole activity was found during the September and October surveys, with footprints confined to only a few isolated locations and no droppings or latrines. Furthermore, only one of the burrows showed signs of recent use. No water voles were recorded on the trail cam. Due to the presence of only a limited number of burrows and general absence of latrines, the water vole population is considered to be small and marginal.

Water voles were given full legal protection in England & Wales on the 6th April 2008 by provisions under section 9 of Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). Schedule 5 of this Act makes it an offence to intentionally or recklessly damage, destroy or obstruct access to any structure or place that a water vole uses for shelter or protection. It is also an offence to disturb, kill or injure a water vole or handle a water vole without a licence. (Wildlife and Countryside Act 1981). Disturbing or harming a water vole, damaging its habitat or destroying or blocking water vole burrows could lead to prosecution. Offences carry a maximum penalty of £5,000. A licence is required to intentionally disturb water voles and damage or destroy water vole burrows by means of displacement, to facilitate development activities.

Birds

Hedgerows along the boundary of the site and standard trees provide suitable nesting and feeding habitat for a range of common bird species.

Reptiles & Amphibians

The site does not support any suitable habitat for reptiles or amphibians due to the absence of vegetative cover and aquatic habitat.

Invasive Plants

No evidence of any invasive non-native plant species listed on Schedule 9 of the Wildlife & Countryside Act 1981, as amended, was found within the site or on the immediate site boundaries.

Site Photographs



Figure 1: View facing north west from site entrance.



Figure 2: Hedgerow along southern boundary.



Figure 3: Poached turf.



Figure 4: Standard trees and hedgerow along western boundary.



Figure 5: Hedgerow along western boundary.



Figure 6: Mature oak standard (T2) on western boundary.



Figure 7: Mature oak standard (T3) on western boundary.



Figure 8: Hedgerow along western boundary.



Figure 9: Mature oak standard on western boundary.



Figure 10: Hedgerow along northern boundary.



Figure 11: Hedgerow on northern boundary.



Figure 12: Oak copse (G8) outside northern boundary.



Figure 13: Area of grassland sloping towards watercourse to north east of site.



Figure 14: Fence line along north eastern boundary.



Figure 15: Hedgerow along eastern boundary.



Figure 16: Hedgerow along eastern boundary.



Figure 17: Mature oak standard (T5) on eastern boundary.



Figure 18: Mature oak standard (T6).



Figure 19: Mature oak standard (T7).



Figure 20: View facing north west towards T6 & T7.



Figure 21: Marshy grassland at northern end of site (photograph taken facing west).



Figure 22: Steeply sloping bank and oak copse above marshy grassland.



Figure 23: Riffles and fallen tree on watercourse.



Figure 24: Pool on watercourse.



Figure 25: Ramsons on bank by watercourse.



Figure 26: Senescent ash tree on watercourse.



Figure 27: Water vole footprints.



Figure 28: Water vole footprints.



Figure 29: Water vole burrow.



Figure 30: Water vole droppings.



Figure 31: Water vole burrow.



Figure 32: Water vole footprints.

Evaluation & Recommendations

The application site is dominated by poor semi-improved pasture, of limited ecological value. Hedgerows along the boundaries of the site and standard trees are however of intrinsic ecological value, providing habitat for nesting birds, small mammals and invertebrates. The area of marshy grassland at the northern end of the site, whilst not containing any rare or notable plant species and not being a particularly good example of this habitat type, with limited species-richness, is assessed as being of moderate ecological value, particularly given its proximity to the watercourse. This latter feature forms a valuable wildlife corridor and supports a small, marginal population of water vole with approximately 5 burrows, footprints and several droppings recorded during the surveys.

With reference to the development masterplan, the proposed balancing pond and reedbed would result in the loss of part of the marshy grassland, however it is anticipated that, with sympathetic design, the balancing pond would result in a net gain in terms of biodiversity at this location, resulting in additional wetland habitat for water vole and a more diverse and ecologically valuable habitat. The outfall from the balancing pond will impact on the watercourse and water vole habitat, potentially resulting in disturbance to water voles and damage to burrows. As such, a licence from Natural Resources Wales will be required prior to the commencement of any works affecting the watercourse.

With reference to the masterplan of the proposed development the hedgerows and standard trees would be retained and enhanced through new planting. No evidence of badger was found on the site, however due to records of badger activity in the general area it is advised that the site is re-surveyed for badgers prior to commencement of site works. Several of the mature trees have some limited potential for roosting bats and therefore precautionary

mitigation measures as detailed below should be taken when carrying out any felling or pruning works.

Proposed Mitigation Measures

Water Vole Habitat

A detailed method statement for the protection of the watercourse during the course of site works will be required and can be covered by a planning condition. The method statement should include but not be limited to the following:

- Creation of *cordon sanitaire* or buffer strip along the watercourse.
- Storage of excavated materials and potential contaminants.
- Use of siltation traps.
- Detailed ecological design of balancing pond, reedbed and associated marshy grassland habitat.

Felling / Pruning Works

The following precautionary mitigation measures should be taken when undertaking any arboricultural works.

- Felling / pruning should be undertaken during the period 1st October – 1st March, outside the bird nesting season.
- If, during the course of pruning operations the contractor discovers any significant cavities, cracks or fissures all work must cease until an inspection can be made by the contractor using a borescope under the guidance of a licensed bat worker
- The contractor should avoid cross-cutting in proximity to any cavities, cracks or fissures.
- Any cracks or fissures should be wedged open prior to removal of limbs / branches to prevent crushing any bats when pressure is released.
- Limbs and branches with potential roosting features should be carefully lowered and left on the ground for a minimum of 48 hours before section cutting. Any cavities, cracks or fissures should be left clear to allow any bats to escape.
- If any bats are found during the course of operations all work must cease immediately until a licensed bat worker or Natural Resources Wales can advise on further action.

Site Lighting

This should avoid illumination of trees and hedgerows and should consist of low luminance, low ultraviolet down-lit lamps to minimize light spill. A lighting plan should be submitted to the LPA at the detailed design stage.

Protection of Woodland

The small oak copse located between the proposed main development site and balancing pond should be protected with appropriate contractor fencing during the construction phase. Permanent estate fencing should be considered for longer term protection, to minimize the risk of illegal tipping of refuse and garden waste. The long-term management of this habitat and a more extensive area of broadleaved woodland within the applicant's ownership to the north of the application site will be undertaken as part of ecological enhancement works (see below).

Proposed Ecological Enhancements

Planning Policy Wales (PPW) 10 sets out that "planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means that development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity" This policy and subsequent policies in Chapter 6 of PPW 10 respond to the Section 6 Duty of the Environment (Wales) Act 2016.

In accordance with planning policy guidance, biodiversity enhancement should form part of the development proposals.

Measures to enhance biodiversity on the site are indicated on the landscape proposals plans, these would be finalized at the detailed design stage and would include but not be limited to:

- A significant amount of new tree planting within the proposed development much of which will be native, including the belt of woodland planting to the southern boundary and the proposed hedge which runs from this proposed planting along the south eastern edge of the site adjacent to the Bryn Rodyn Farm Complex.
- Creation of new native woodland corridor, linking the small oak copse and larger areas of woodland to the north.
- Creation of wildflower grassland, using seed from appropriate local donor sites.
- Creation of wetland habitat as part of the drainage proposals to the north of the proposed development.
- Incorporation of bat and bird boxes in new housing at appropriate locations.
- Incorporation of bat and bird boxes in existing oak woodland.
- Sympathetic management of existing and new habitats, post-development. A detailed management plan for the site, including the existing oak copse and larger area of woodland to the north, in addition to newly created habitats can be submitted as a condition of planning.

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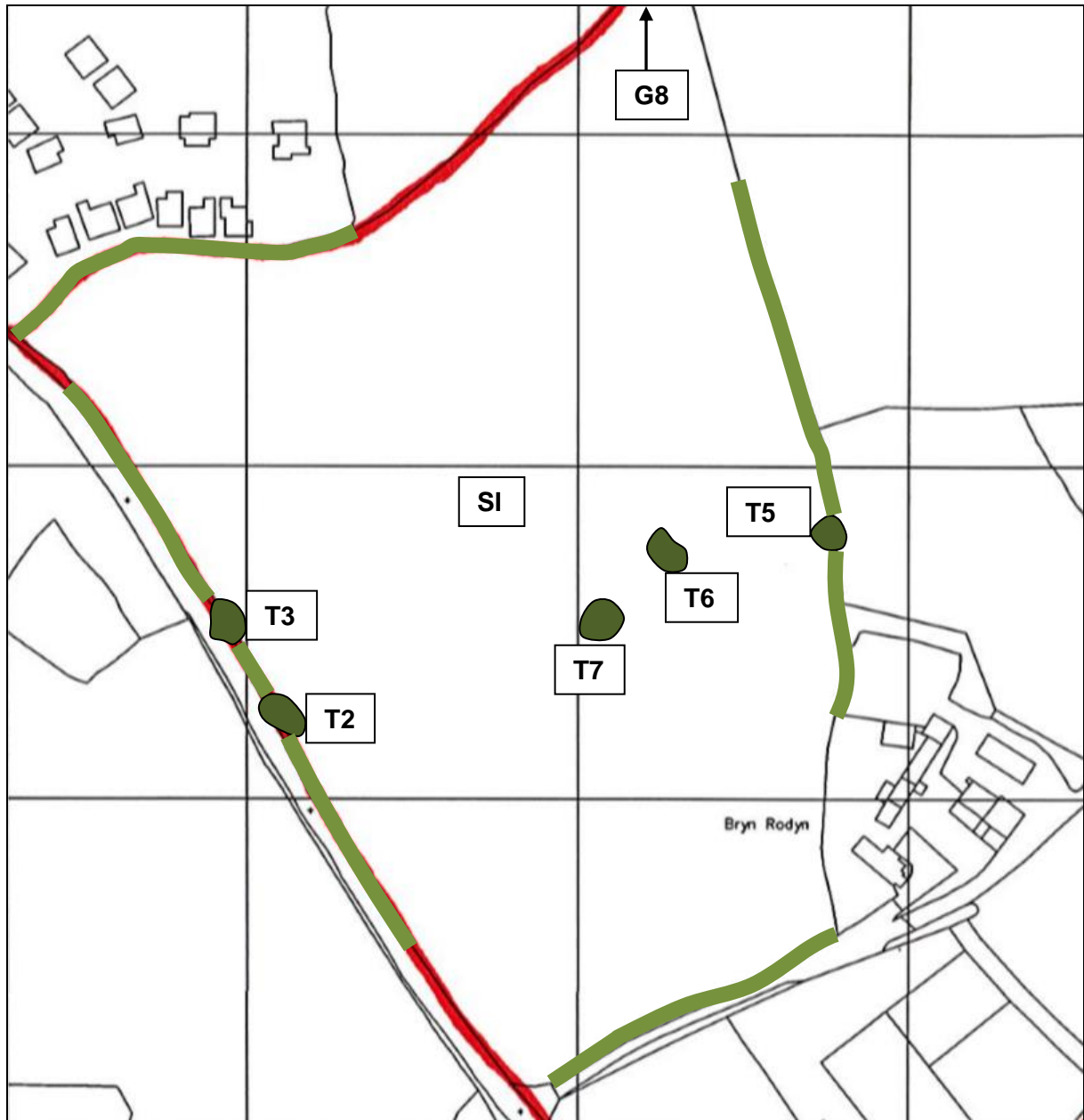
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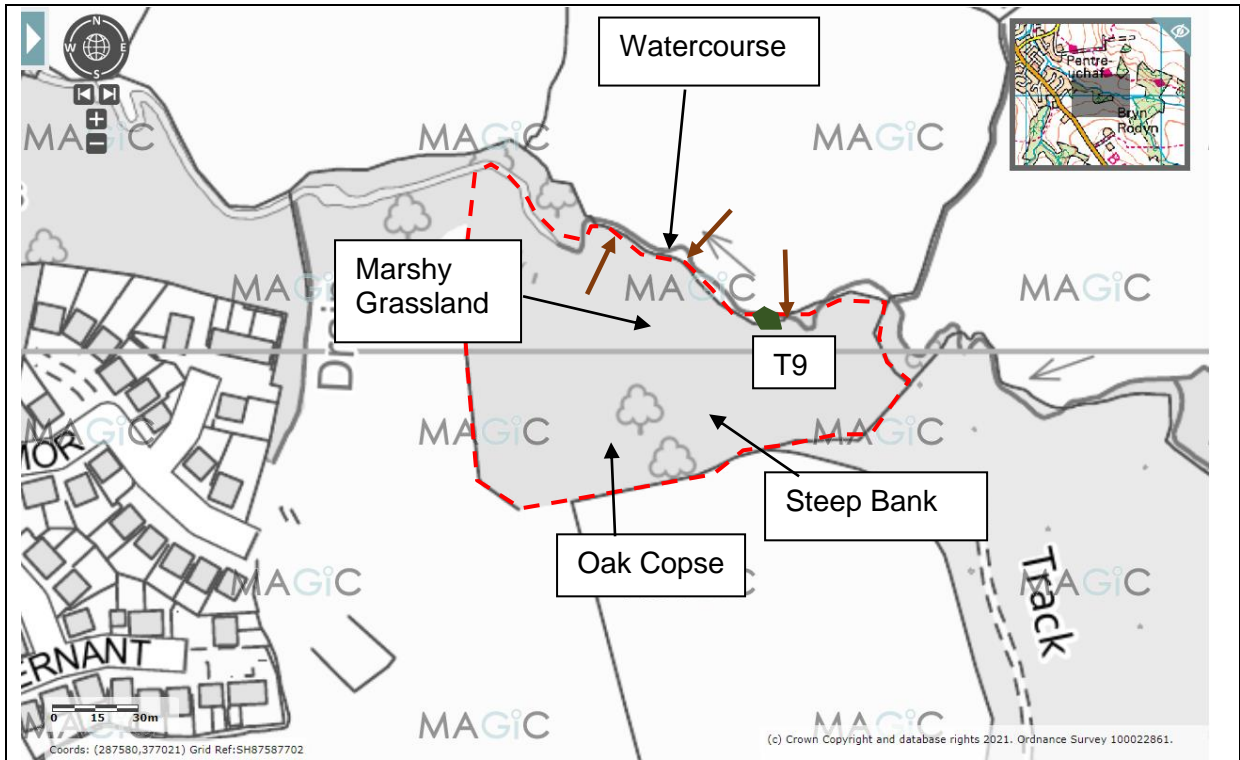
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Appendix 1






Phase 1 Habitat Map (southern section)



Phase 1 Habitat Map (Northern Section) (Base map taken from MAGIC)



Key

-  **T2 – T9** **Standard Trees**
-  **G8** **Oak Copse (outside site boundary)**
-  **Hedgerow**
-  **SI** **Poor Semi-Improved Grassland**
-  **Approximate location of water vole burrows (left and right bank)**