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Tyrer Ecological Consultants Ltd, Roselands, Suite 1, 3 Cross Green, Formby, L37 4BH

Preliminary Ecological Appraisal

March 2024

Project No: PR-0086-24

Wynn Offa

Wynnstay Yard

Ruabon

Wrexham

LL14 6DP

National Grid Reference: SJ29474341



Wynn Offa, Wynnstay Yard, Ruabon, Wrexham, LL14 6DP
Preliminary Ecological Appraisal

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Surveyor	Mr. M. Pritchard ACIEEM
Author	Mr. M. Pritchard ACIEEM
Survey Date	05/03/2024
Reviewed by	Mrs. K. Wilding CEnv MIEMA ACIEEM
Review date	19/03/2024
Approved by	Mrs. K. Wilding CEnv MIEMA ACIEEM
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This report aims to provide general advice on ecological constraints associated with any development of the site and includes recommendations for further survey where applicable.

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Executive Summary

As part of a proposed planning application at Wynn Offa in Ruabon, Wrexham, (termed as 'the site' throughout this report), Tyrer Ecological Consultants Ltd were commissioned by Blueprint Architectural Services to carry out a preliminary ecological appraisal (PEA) in March 2024.

Proposals are understood to involve the erection of a new dwelling with associated access. See **Figure 1.1** for site plan.

Extensive findings, conclusions and recommendations are presented throughout the report; however, the reader should be aware of the following key points.

Designated sites: No direct impacts are anticipated from the proposed development in relation to statutory designated sites, however, the local planning authority (LPA) Wrexham Borough Council may need to consult Natural Resources Wales (NRW) about the planning application who may require a screening process from the LPA to rule out risks to the River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid Special Area of Conservation (SAC), given the proximity of the site (within 2.0km) to this designated site, which is sensitive to pollution and degradation from new development, particularly, damage to its aquatic environment from irresponsible practice during construction phases but also operational phases.

Bats: No direct impacts are anticipated from the proposed development in relation to bats and/or their roost sites, however a Bat Lighting Plan is recommended in the report. This is due to the nature of the surroundings as opposed to the site itself offering high value commuting and foraging habitat which could be affected by harsh lighting being introduced.

Other terrestrial mammals: Regarding badgers and hedgehogs, whilst the appraisal yielded no evidence of either species using the site itself and the likelihood of badgers using the site is negligible, [REDACTED]

[REDACTED] The same scrub could also hide hedgehogs sheltering by day. There is also a low possibility of hedgehogs using the site to forage given its favourable connectivity to dense continuous scrub.

A precautionary approach is recommended to be adopted considering these two mammals in the form of the following prescriptive measures:

- badgers: pre-commencement checks of the site and visible areas adjacent to site for any field signs - prior to commencement by an ecologist. In the event that any field signs of badgers are encountered during pre-commencement checks, based on the nature of the field signs, the ecologist should consider further measures including additional precautions to include extended the checks to off-site environs, and/or further surveys.
- hedgehogs: a pre-commencement check of the site should be carried out prior to start of works by an ecologist. In the event that any hedgehogs are encountered if they cannot be left in-situ they should be carefully captured and relocated to an area of like-for-like habitat off site / adjacent to site with sufficient shelter. Resting or hibernating animals should be given a reasonable period of time to awake and move on of their own accord particularly if discovered in the colder months.

Net-benefits for Biodiversity: Appendix III provides ideas for net-benefits for biodiversity.

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1.0 Introduction & Scope

- 1.1 As part of a proposed planning application at Wynn Offa in Ruabon, Wrexham, (termed as 'the site' throughout this report), Tyrer Ecological Consultants Ltd were commissioned by Blueprint Architectural Services to carry out a preliminary ecological appraisal (PEA) in March 2024.
- 1.2 Proposals are understood to involve the erection of a new dwelling with associated access. See **Figure 1.1** for site plan.

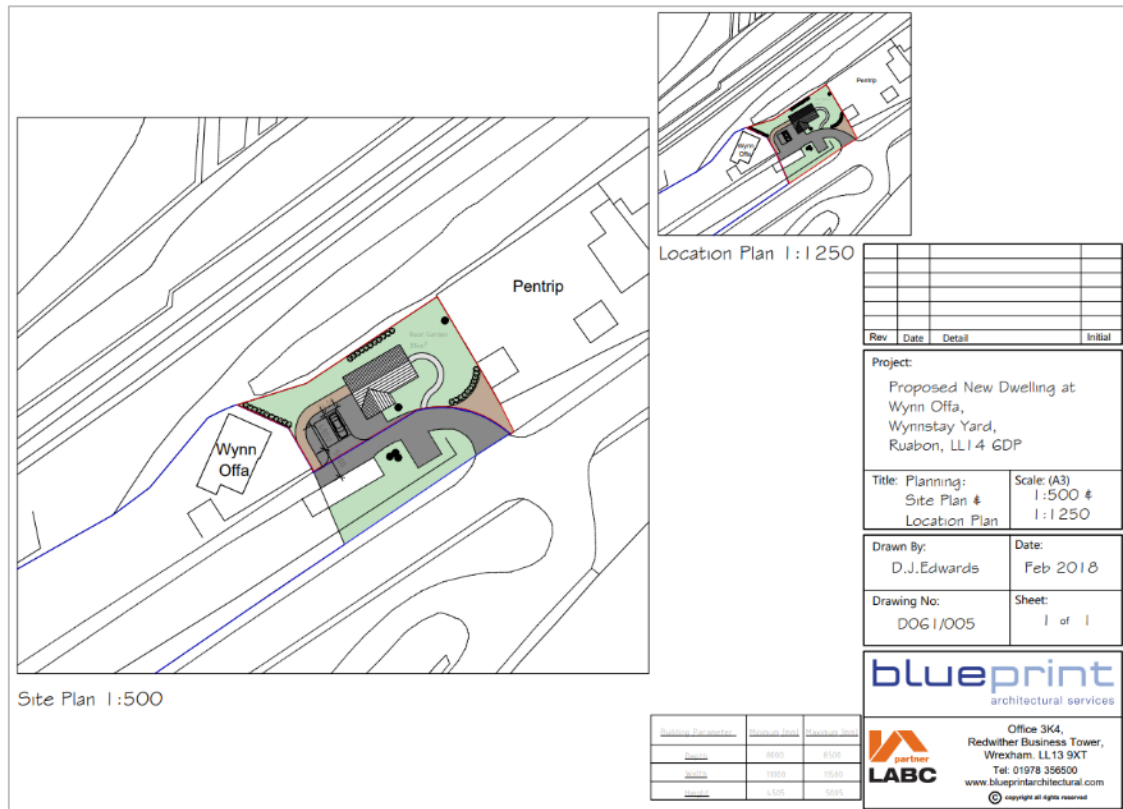


Figure 1.1 - Planning: Site Plan & Location Plan – Drawing No. D061/005

- 1.3 As part of the Local Planning Authorities (LPA) planning policies and obligations to the Planning Framework, ecological surveys are generally required prior to planning permission being granted, particularly where protected/priority habitats or species are, or may be present, that could be affected by the proposals for which the application seeks consent.
- 1.4 The PEA was carried out in accordance with the 'Guidelines for Preliminary Ecological Appraisal, 2nd Edition' (CIEEM, 2017) and all associated 'CIEEM Competencies for Species Survey (CSS)', whilst this report has been presented in accordance with the British Standard 42020:2013 Biodiversity. Code of practice for planning and development.

Aims & Objectives

- 1.5 The appraisal aims to ascertain baseline nature of the site and where possible, obtain information on any priority wildlife habitats, or species, that may be present and if so determine if they will be affected by the proposals. The survey therefore includes the following objectives:
- Present baseline ecological information (as necessary) within a suitable report,

- Identify, measure and map relevant habitats using *UK Habitat Classification – Habitat Definitions Version 2.0* (UKHab Ltd, 2023),
- Identify any likely ecological constraints associated with the proposals (i.e. the presence of protected/priority habitats or species that exist within the confines of the boundary, or zone of influence (ZOI),
- Identify measures likely to be required in line with the mitigation hierarchy (i.e. impact avoidance > minimisation > mitigation > compensation),
- Identify additional survey requirements,
- Aim to achieve no 'net loss' and Identify enhancement opportunities for biodiversity in line with national and local planning policy following '*Biodiversity Net Gain: Good practice principles for development*' (CIEEM et. al., 2019),
- Set out any requirements for post-development monitoring, management, or other commitments, and how they can be secured, where required.

1.6 As a functioning component of this specific ecological appraisal:

- Habitats were identified, measured and mapped using the UK Habitat Classification – Habitat Definitions Version 2.0 (2023),

1.7 This report provides baseline information as derived from the diurnal appraisal process outlined above and recommends any necessary additional surveys, or work, where applicable, to provide a conclusive ecological impact assessment.

1.8 The Applicant should be aware that if during the appraisal:

- The site was found to be suitable for any European Protected Species (EPS), otherwise protected, or, priority habitats/communities/species, or,
- Signs of use by particular protected species were found, or suspected, or,
- Seasonal constraints significantly limit the gathering of ecological information to arrive at an accurate conclusion on which the planning application can proceed;

Then more detailed surveys may be recommended where necessary, to allow the ecologist to arrive at a conclusive impact assessment.

1.9 If protected species were subsequently found either during the appraisal or during detailed further surveys and / or may be affected by the development proposals, then a Mitigation Licence may be required to legally proceed with the development.

1.10 Where more detailed surveys are recommended by the Ecologist, following ecological appraisal, then Local Planning Authorities (LPAs), on the advice of their ecological advisors, may not grant permission until such time that all relevant material information is gathered in accordance with their obligations to the legislature.

1.11 Groups/species omitted from this report have been discounted due to negating factors including obvious absence/isolation of suitable habitats, and/or distributional aspects negating the necessity to survey for them, and/or the proposed works were not considered to impact the species or encroach on areas where the species may be present.

2.0 Legislation & Policy

2.1 The legislature and guidance considered for the purposes of this report includes the following:

- The Environment (Wales) Act (2016),
- BS 42020:2013 Biodiversity – Code of Practice for Planning and Development (2013),
- BS 8683:2021 Process for designing and implementing biodiversity net gain (2021),
- Conservation of Habitats and Species Regulations (2017) (as amended),
- Countryside Rights of Way (CRoW) Act (2000),
- Natural Environment and Rural Communities (NERC) Act (2006),
- Protection of Badgers Act (1992),
- The Invasive Alien Species (Enforcement and Permitting) Order 2019 (IASO),
- The Hedgerow Regulations (1997),
- Town and Country Planning Act (1990),
- Wild Mammals Protection Act (1996),
- Wildlife and Countryside Act (1981) (as amended).

2.2 These acts entail relevance to both protected and invasive species. The degree of protection offered to taxa provided within existing UK and EU legislature often varies depending on species/group, for example, some species may purely be protected during one of its life stages (e.g. common species of breeding bird whilst nesting/with eggs/young); some species may receive full protection (e.g. bats), whereas others may be protected solely on a national basis (e.g. grass snake).

2.3 **Table 2.1** contains appropriate legislature to each species/group specifically respective to the Site and provides the relevance of said legislation.

Table 2.1 - Relevant Legislation

Species/Group	Relevant Legislation	Level of Protection
Bats	CRoW Act (2000) Conservation of Habitats and Species Regulations (2017) (as amended) Wildlife and Countryside Act (1981) (as amended)	All British bats and their roosts are afforded full protection from damage/destruction and bats may not be injured/killed/taken at any life stage. Once identified, roosts are protected whether the bat is in occupation or not.
Birds	CRoW Act (2000) Wildlife and Countryside Act (1981) (as amended)	All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected. Birds listed on Schedule 1 Wildlife & Countryside Act (1981) (as amended) are afforded a greater level of protection.

Great Crested Newt (GCN)	CRoW Act (2000) Conservation of Habitats and Species Regulations (2017) (as amended) Wildlife and Countryside Act (1981) (as amended)	Great Crested Newts (GCN's) are fully protected from disturbance, killing, injuring or possession at any life stage. Confirmed breeding ponds and resting places are afforded the same protection.
Invasive Plant Species	Wildlife and Countryside Act (1981) (as amended)	Species listed within Schedule 9 as invasive, including Japanese Knotweed (<i>Reynoutria japonica</i>) and Himalayan Balsam (<i>Impatiens glandulifera</i>), for example, carry notoriety regarding development. The Act makes it an offence for any person to grow or cause to grow in the wild any plants listed as invasive.
Reptiles	Conservation of Habitats and Species Regulations (2017) (as amended) Wildlife and Countryside Act (1981) (as amended) CRoW Act (2000)	All native reptile species have protection in the UK, through section 8(1) and (5) (specified in Schedule 5) of the Wildlife and Countryside Act 1981 (as amended). Sand lizard (SL) and smooth snake (SS) are species of principal importance however with greater protection(s).

Relevant Policy

- 2.4 The Environment (Wales) Act 2016 ("the Act") - requires local planning authorities to have regard to area statements in the development of Local Development Plans. The Act introduced an enhanced biodiversity and resilience of ecosystems duty (Section 6 Duty). This duty applies to public authorities in the exercise of their functions in relation to Wales and will help maximise contributions to achieving the well-being goals. The Nature Recovery Action Plan supports this legislative requirement to reverse the decline in biodiversity, address the underlying causes of biodiversity loss by putting nature at the heart of decision-making and increasing the resilience of ecosystems by taking specific action focused around objectives for habitats and species. Part 1 of the Act promotes sustainable management of natural resources, and in Part 1 section 6 states:

"A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions."

- 2.5 Section 7 of the Act 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. Section 7 of 'The Act' alongside the UK Biodiversity Action Plan (UKBAP) provided a statutory basis for lists of habitats and species of national conservation importance - now transposed under section 41 (s.41) of the Natural Environment Rural Communities Act 2006 (NERC Act).

2.6 Planning Policy Wales (PPW) 11th Edition (2021) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. PPW, the TANs, MTANs and policy clarification letters comprise national planning policy.

2.7 PPW (2021) states:

“The presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained. Planning authorities should advise anyone submitting a planning application that they must conform with any statutory species protection provisions affecting the site, and potentially the surrounding area, concerned. An ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the development management process. It is considered best practice that screening to determine the presence of protected species should be carried out by a competent ecologist on the basis of data provided by the relevant Local Environmental Record Centre.”

2.8 PPW and the National Development Framework (published as Future Wales – the National Plan 2040) set out how the planning system at a national, regional and local level can assist in delivering these requirements through Strategic Development Plans (SDPs) and Local Development Plans (LDPs).

2.9 A ‘Dear Heads of Planning Letter’ was issued 18 October 2023 by the Minister for Climate Change - updating parts of Chapter 6 of PPW. The main changes included strengthened wording and new measures to address policy on green infrastructure, net benefit for biodiversity using the stepwise approach / Decca framework, strengthened approach to the protection of Welsh SSSIs and improved measures to improve the planting of trees and woodlands.

2.10 Planning authorities must therefore follow a stepwise approach (see **Figure 2.1**) to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, or minimized, or mitigated, and as a last resort compensated for; enhancement must be secured wherever possible.

2.11 PPW also requires developments to achieve a Net Benefit for Biodiversity (NBB):

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

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

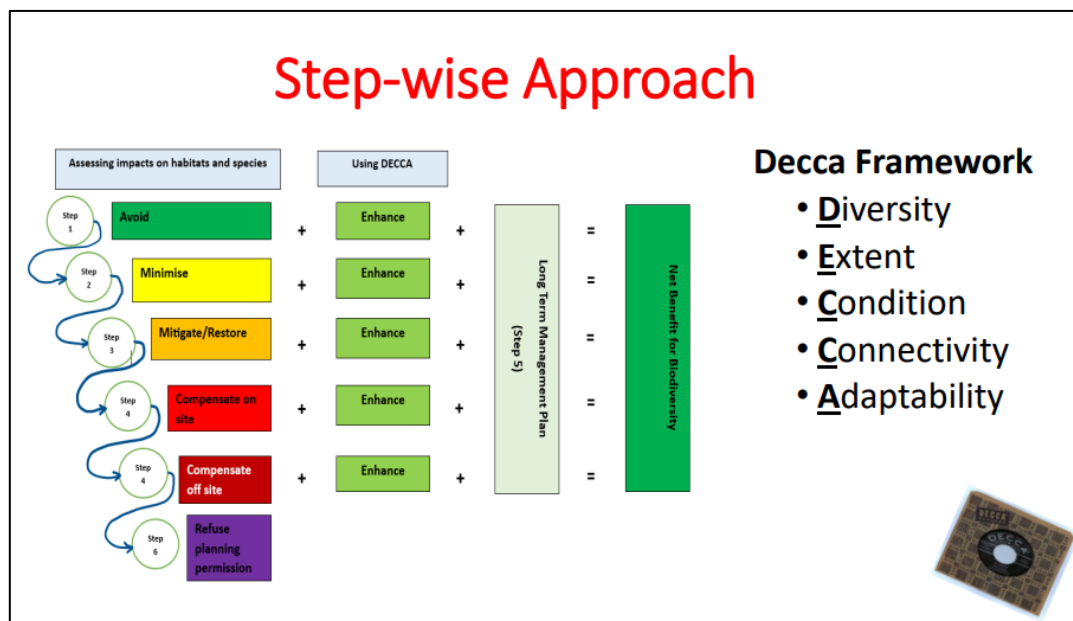


Figure 2.1 – The Stepwise approach and Decca framework to be adopted by planning authorities in Wales

- 2.12 Wrexham Borough Council prepared a plan namely the ‘Wrexham Unitary Development Plan (1996 – 2011)’, which was formally adopted in February 2005 and supersedes any previous development plans for the area. A new plan, the ‘Wrexham Local Development Plan 2 (2013 - 2028)’, which will replace the current adopted plan, is currently under review. Until this new plan is adopted, the Wrexham Unitary Development Plan remains in effect.
- 2.13 Policy EC6 of the Wrexham Unitary Development Plan mirrors these statements within PPW 2021 and goes onto state the following:

“Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site. Where such development is permitted, damage should be kept to a minimum, and compensatory measures should be provided. Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves will be supported.”

3.0 Methodology

Desktop study

3.1 A desk study was undertaken to identify existing information on the presence of designated sites, protected and notable species and habitats within proximity as follows:

- Statutory designated sites for nature conservation within 5km; and
- Non-statutory designated sites for nature conservation within 2km.

3.2 The following key sources were consulted:

- Natural Resources Wales and Joint Nature Conservation Committee (JNCC) websites;
- The Multi Agency Geographic Information for the Countryside (MAGIC) website;
- The 'Lle a Geo-Portal for Wales' and DataMapWales website.

3.3 Reference was also made to Google Earth Pro and Ordnance Survey (OS) maps of the local area and online aerial images (www.google.co.uk/maps) in order to determine any features of nature conservation interest in the wider area.

3.4 A commercial data request to the Local Environment Records Centre serving the area Cofnod has not been sourced at this time:

1) The Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK (CIEEM, 2020) states:

"It is generally expected that a desk study, including a data search, will be a key part of the ecological surveys or reports produced to inform a planning application. Freely available web-based sources of data and contextual information should always be used; in some cases, it may be acceptable to not undertake a data search with the LERC or other relevant NSS or local interest groups, for example:

ii) Situations where the data search would be extremely unlikely to provide information needed to inform the assessment, due to the scale and location of the proposed development. The appropriateness of excluding a data search will need to be judged on a case-by-case basis as, in most situations, it will be essential to carry out such a search even if the development is very small or is likely to have a low impact. It can be very difficult to demonstrate that a data search would not have provided relevant information without obtaining and reviewing those data.

iii) In some cases for Preliminary Roost Assessments of buildings in low impact / small-scale scenarios, such as an extension to a residential property, loft conversions (full or partial), installation of Velux/dormer windows, single modern agricultural or similar building conversion or demolition; however, it should not be assumed that data searches are never required for such scenarios and this must be judged on a case by case basis and justified accordingly.

2) The Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) also states:

"Very occasionally it might be possible to carry out a robust PEA without obtaining LERC/NBDC/CEDaR data; this will usually only apply to low impact or small-scale projects (e.g. by virtue of size, extent, duration of works, magnitude and locality), and should be determined on a case-by-case basis."

- 3.5 As it is considered the proposals are small scale and that likely impacts can be ascertained, the exemptions in the stated guidance are considered applicable in good practice, as such it is considered unnecessary to commission a commercial data request at this time as enough information has been obtained using freely available web sources during desk study and from the field study visit.
- 3.6 If a data search is considered necessary by the Local Authority ecologist, or environmental advisory body, to better inform the appraisal, a proportionate data search should be commissioned with results interpreted into the conclusions and recommendations of a re-issued/updated report.

Field survey

- 3.7 A daytime PEA was conducted on the 5th March 2024 in clear, wet weather (8°C) by the following qualified ecologist (**Table 3.1**).

Table 3.1 - Surveyor credentials

Name	Description of most relevant credentials
Mr. M. Pritchard ACIEEM (Senior Ecologist)	- Seven years professional experience & extensive training in cross habitat/species ecology; - Relevant degree: FdSc (Countryside, Conservation & Recreational Management); - FISC Level - 4 (2023) (Botanical); - Licenced for Great Crested Newts in Wales: S089281/1. - Licenced in Bats: (2020-5039-CLS-CLS) (Class 1) in England - Licenced for Great Crested Newt: CL08 (Great Crested Newt Survey Level 1) - 2018-34062-CLS-CLS (England); - Licensed for Sand Lizard & Natterjack Toad (2022-62891-SCI-SCI) in England; - Competent in UK Habs 2.0.

Floristic assessment

- 3.8 The survey followed the *UK Habitat Classification Version 2.0* (UKHabs, 2023) methodology with reference to the Joint Nature Conservation Committee (JNCC) *Phase 1 Habitat Methodology standards* (JNCC, 2010) and reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Technical Guidance Series "*Guidelines for Preliminary Ecological Appraisal, 2nd Edition*" (CIEEM, 2017).
- 3.9 During a survey walkover botanical assemblages were assessed and the land was inspected for the presence of red-listed species (Stroh *et al*, 2014; Hodgetts, 2011), NERC Act s.41 species and LBAP species alongside specially protected species as listed under Schedule 8 of the Wildlife and Countryside Act (WCA) (1981) (as amended) and / or Schedule 5 The Conservation of Habitats and Species Regulations (2017) (as amended). Species nomenclature follows Stace, C. (2019) – definitive English names.
- 3.10 The site was also assessed in relation to the presence of invasive non-native species (INNS) as listed under Schedule 9 (Part II) of the Wildlife and Countryside Act (1981) (as amended) and Schedule 2 of The Invasive Alien Species (Enforcement and Permitting) Order 2019 (IASO).

- 3.11 A species list was compiled that represents the site - presented in **Appendix II**.

Faunal assessment

- 3.12 During a walkover the identification of priority fauna encountered was documented whilst in tandem the area was assessed for the potential to support priority species.

Bats

- 3.13 Trees at the site boundaries were subject to a ground level tree assessment (GLTA) using equipment such as close-focus binoculars and a high powered-torch. Potential roost features (PRFs) can include woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed lifted bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached climbing species with stem diameters in excess of 50mm or pre-existing bat / bird boxes.
- 3.14 Criteria for roost assessment are based upon the determinants given in the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023).
- 3.15 Factors typically considered during the preliminary roost assessment include:
- Knowledge of bat species relevant to the site location and geographical range,
 - Nature of the immediate / surrounding habitat in relation to foraging opportunities,
 - Presence and conditions of loft spaces, upper floors, roof linings,
 - Presence / absence of roost potential,
 - Value and types of roost potential, if present (i.e. - maternity, hibernation, transition).

Birds

- 3.16 The site was inspected for evidence of nesting and suitability for relevant avian species including use of the site for breeding, passage, overwintering use. Bird species observed and heard were recorded, and a search was made for nest material, or areas suitable for nesting - this can take the form of searching structures, wooded vegetation, grassland, semi-aquatic vegetation such as reeds and/or the bare ground.
- 3.17 Additional to capacity to support generally common species, the site was also subject to an assessment for capacity to support species with extra protection under Schedule 1 of the Wildlife & Countryside Act (WCA) (1981) (as amended), for example barn owl (*Tyto alba*) and other Sch.1 (WCA) listed species.

Other terrestrial mammals

- 3.18 The field visit included a search for field signs of badger (*Meles meles*) which includes signs of activity such as prints, hairs, digging, setts, 'runs' leading to and from a sett and the existence of latrines or 'snuffle' holes where badgers have foraged in the ground. The site was assessed for suitability to support European hedgehog (*Erinaceus europaeus*) and other priority mammals.

Great crested newt / other amphibians

- 3.19 Terrestrial value on site was assessed in relation to protected and common amphibian shelter, hibernation, foraging and commuting habitat. The field visit also aimed to identify any ephemeral pools or unmapped waterbodies.
- 3.20 During desktop assessment a 250 metres radial search was undertaken from a site central grid reference in relation to the presence of ponds, ditches or other water bodies that may support great crested newts (GCN) (*Triturus cristatus*). The information gathered would then be used to aid in establishing if more detailed surveys are required.

NB: *Ponds within 500m of a proposed development site should be considered for their potential to support GCN, however, in some instances this distance may be reduced to 250m due to the presence of physical barriers and obstructions or based on the likely magnitude of impacts arising from the proposed development.*

- 3.21 In order to quantify risks to GCN in a PEA a range of factors that can lead to an offence are considered (see below and **Table 3.2**):
- Presence of ponds on site, and impacts to those ponds,
 - Site proximity to any additional ponds within 250-500m,
 - Pond quality (suitable for breeding, or not),
 - Nature, extent, and connectivity of available terrestrial habitat around the pond(s), considering core, intermediate and distant ranges, to be affected by works,
 - Presence of significant barriers between ponds and site,
 - Area of site habitat loss and permanence of that loss.

Table 3.2 - Factors that can increase/decrease risk of committing an offence

Increases risk to GCN	Decreases risk to GCN
large population size, high local pond density, good terrestrial habitat, low pre-existing habitat fragmentation, large development footprint, long construction period	small population size, low local pond density, poor terrestrial habitat, substantial pre-existing dispersal barriers, small development footprint, short construction period

Reptiles

- 3.22 The site and its surroundings were assessed for suitability for use by reptiles. During the survey particular attention was paid to features that could be used as basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, leaf litter, piles of hardcore) and opportunities for foraging (e.g. rough grassland and scrub). *Beebee & Griffiths (2000)* state specific habitat preferences of common UK reptiles:
- common lizards (*Zootoca vivipara*) use a variety of habitats from woodland glades to heaths, walls and pastures, as well as brownfield sites.
 - slow-worms (*Anguis fragilis*) use similar habitats to common lizards, and are often found in rank grassland, gardens and derelict land;
 - grass snakes (*Natrix helvetica*) have broadly similar requirements to common lizards but with a greater reliance on ponds and wetlands, where they prey on amphibians;
 - adder (*Vipera berus*) use a range of fairly open habitats with some cover, but are most often found in dry heath.

- 3.23 Assessment for reptiles considers important characteristics outlined in **Table 3.3** below, as derived from the *Reptile Habitat Management Handbook* (Edgar, 2010).

Table 3.3 – Important habitat characteristics for reptiles

1. Location (in respect of species range)	7. Connectivity to good quality habitat
2. Vegetation structure	8. Prey abundance
3. Insolation	9. Refuge opportunity
4. Aspect	10. Hibernation habitat potential
5. Topography	11. Disturbance regime
6. Surface geology	12. Egg-laying site potential

Invertebrates

- 3.24 The site was assessed for the presence of features that could be considered of high value to invertebrates. Several important features were considered, based on the assemblage descriptions provided within the Research Report “*Surveying terrestrial and freshwater invertebrates for conservation evaluation*” (C.M. Drake *et. al.* (2007), including but not limited to:

- Abundance of wildflower habitat,
- Wood decay,
- Early successional mosaic habitat,
- Shaded ground layer,
- Still and flowing water.

Quality assurance

- 3.25 Results, conclusions and recommendations in this report are based on several factors i.e.
- Previous survey results at this site and nearby sites.
 - Skills and experience of the ecologist.
 - Knowledge of flora and fauna relevant to the site location and geographical range.
 - Nature of the immediate and surrounding habitat in relation to shelter, foraging and commuting opportunities.
- 3.26 The results, conclusions and recommendations of this report have been assessed by Mrs. K. Wilding, Director of Tyrer Ecological Consultants Ltd, and her assessment concurs with the findings and recommendations of the surveyor and author Mr. Pritchard.

4.0 Limitations

- 4.1 The optimal time of the year to carry out a preliminary ecological appraisal / UK Habitats survey is April to October; the survey was therefore carried out within a sub-optimal period. It is considered, however, that enough information was gathered during the site visit on which to base ecological conclusions and recommendations, based on the habitat types encountered presenting no significant issues in such regard.
- 4.2 In considering limitations, no significant constraints were experienced that might adversely influence the results, conclusions, and recommendations of this report which have been provided in accordance with best practice guidance.

5.0 Desk Study Results

- 5.1 The site is located off the B5605 carriageway in Ruabon, Wrexham, approximately 7.70 kilometres to the south of Wrexham city centre. See **Figure 5.1**.
- 5.2 The site is a small area of neglected grassland on a flat and south-east facing aspect, wedged between two small residential plots to the south-west and north-east respectively. Securely fenced to the adjacent north-west is a live railway track running between Ruabon station to the north-east and Chirk to the extended south. To the adjacent south-east is a small area of tree cover along the road verges of the B5605 and the nearby Wynnstay Yard south-west. There are telecoms poles installed and comms lines over the site.

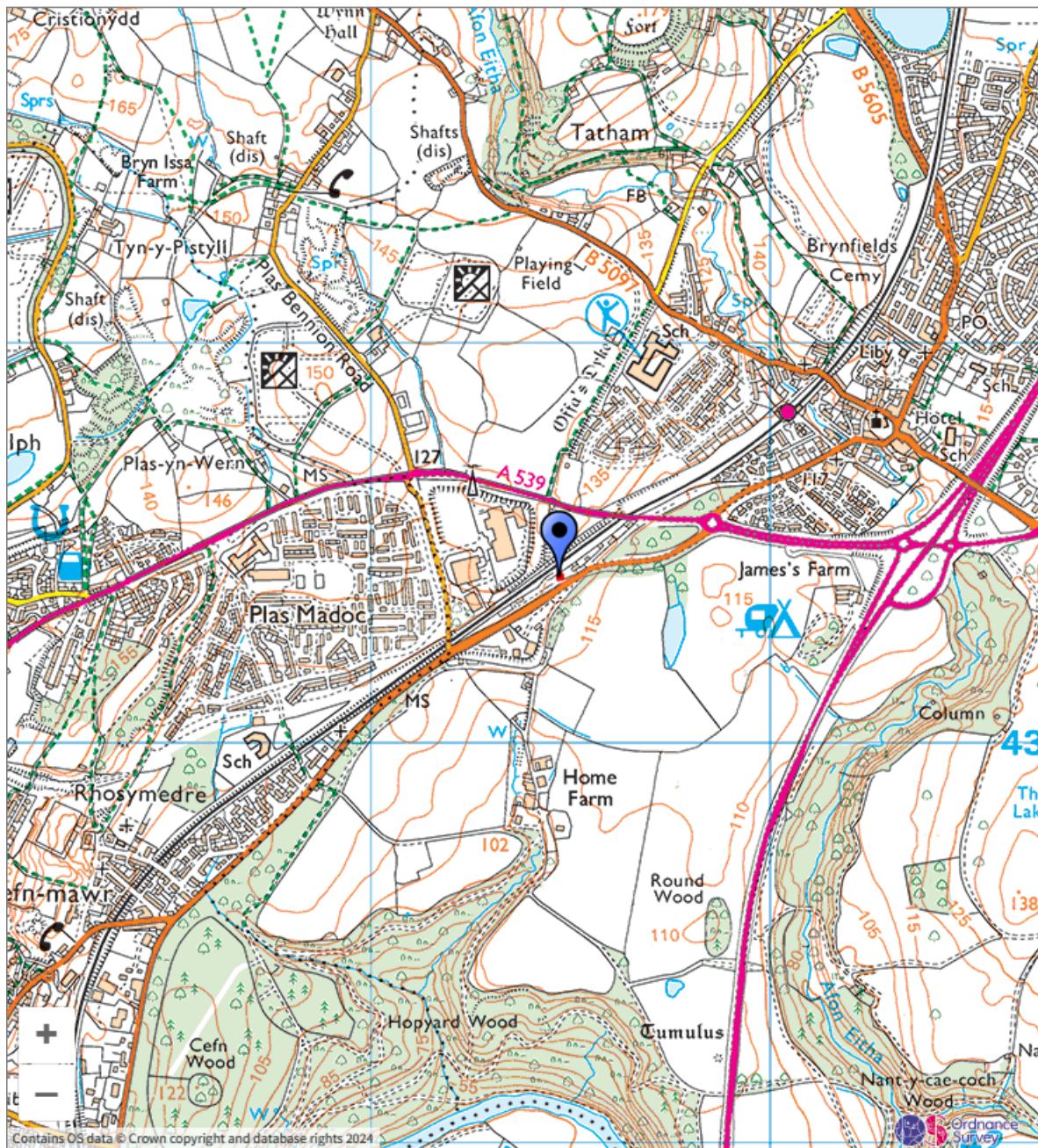


Figure 5.1 – Location of the site in the context of its surroundings (Sourced: [BNHS Grab a Grid Reference Duo](#))

- 5.3 Nearby habitats within 50 metres include north adjacent birch (*Betula*) trees, broadleaved woodland within 30 metres to the south, various lines of broadleaf trees, sub-urban residential plots with concomitant gardens south-west and north-east and dense continuous scrub on the banks of the site-adjacent railway to the north-west. Slightly further away lies an industrial setting with warehousing to the north-west and there is a silage field beyond the railway to the north surrounded by woodland.
- 5.4 The nearest pond is within a large arable grassland 290 metres to the south-east with significant barriers (busy roads) between it and the site.
- 5.5 There are two statutory designated sites within 2.0 kilometres of the site: see **Table 5.1**.

Table 5.1 - Statutory designation types and reasons for designation within 2.0 kilometres buffer

Site/distance	Designation	Interest features
Afon Dyfrdwy (River Dee)		General site character • Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (4%) • Salt marshes, Salt pastures, Salt steppes (2%) • Inland water bodies (Standing water, Running water) (90%) • Improved grassland (2%) • Broad-leaved deciduous woodland (2%) Annex I habitats that are a primary reason for selection of this site • 3260 Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation Species occurrence description not yet available.
River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid	Sites of Special Scientific Interest	Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site • Not Applicable
1.31 kilometres to the south of the site	Special Areas of Conservation	Annex II species that are a primary reason for selection of this site • 1106 Atlantic salmon <i>Salmo salar</i> Habitat occurrence description not yet available. • 1831 Floating water-plantain <i>Luronium natans</i> Habitat occurrence description not yet available. Annex II species present as a qualifying feature, but not a primary reason for site selection • 1095 Sea lamprey <i>Petromyzon marinus</i> • 1096 Brook lamprey <i>Lampetra planeri</i> • 1099 River lamprey <i>Lampetra fluviatilis</i> • 1163 Bullhead <i>Cottus gobio</i> • 1355 Otter <i>Lutra lutra</i> River Dee and Bala Lake/ Afon Dyfrdwy a Llyn Tegid - Special Areas of Conservation (jncc.gov.uk)

Wynn Offa, Wynnstay Yard, Ruabon, Wrexham, LL14 6DP
Preliminary Ecological Appraisal

Deeside and Buckley Newt sites 1.95 kilometres to the north of the site	Special Area of Conservation SAC	General site character • Inland water bodies (Standing water, Running water) (1.9%) • Bogs, Marshes, Water fringed vegetation, Fens (0.2%) • Heath, Scrub, Maquis and Garrigue, Phygrana (5.3%) • Dry grassland, Steppes (3.5%) • Humid grassland, Mesophile grassland (1.2%) • Improved grassland (40.5%) • Broad-leaved deciduous woodland (30.4%) • Coniferous woodland (2.9%) • Mixed woodland (4%) • Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites) (10.1%) Deeside and Buckley Newt Sites - Special Areas of Conservation (jncc.gov.uk) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site - 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles Annex II species that are a primary reason for selection of this site - 1166 Great crested newt
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- 5.6 No information is freely available in relation to non-statutory designated sites at this time.
- 5.7 No extended information is freely available in relation to priority habitats within 2.0km at this time..

6.0 Field Survey Results

6.1 Habitat Survey

- 6.1.1 See **Table 6.1** (below) for baseline habitat information and descriptions which strictly covers the red line boundary; refer to **Appendix I** for any supporting imagery.
- 6.1.2 Refer to **Appendix II** for scientific names in relation to **Table 6.1** (below).
- 6.1.3 Refer to **Appendix IV - UK Habitats Map** for the location of habitats as described.

Table 6.1 – UK Habitat codes and descriptions

Habitat code	Description
g4 127 - modified grassland; sward type mosaic	The majority of the site is a neglected modified neutral grassland, likely re-made ground, on a flat (85%) and otherwise south-east facing aspect (15%); the ground is disturbed in places revealing hazards such as metal poles sticking out from the soil. The soil is base rich and neutral; the vegetation composition is typical of disturbed improved ground comprised of abundant broadleaved dock and curled dock, frequent creeping buttercup, rough meadow-grass, red fescue, dandelion, wavy bitter-cress and Yorkshire-fog, white dead-nettle and spear thistle. The edges of the south boundary, which is angled, have a local frequency of common cornsalad and willowherbs with hedge mustard. The edges of the north boundary along the fence line features occasional bramble, common nettle and foxgloves. The site generally has a rare cover of smooth sow-thistle, cow parsley, perennial rye-grass and a star moss. There are telecoms poles installed and wires high overhead on site.
g4 108 - modified grassland; frequently mown	The west of the site includes a minor area of amenity mown grassland below ankle height and flat, consistent in sward; species noted included perennial rye-grass, annual meadow-grass, springy turf-moss, daisy and dandelion.
u1 113 - built up areas and gardens; stone-faced bank	A small region of hard landscaping stone-faced bank with planted non-natives is present in the south-west of the defined red line boundary.

6.2 Vegetation

Notable species

- 6.2.1 No priority species or species of conservation importance based on rarity or status were identified during the appraisal; all species encountered were considered common and typical components of their habitat.

Invasive non-native species

- 6.2.2 No species listed as 'invasive' under Schedule 9 (Part II) of the Wildlife & Countryside Act (1981) (as amended) were identified upon assessment of the survey area.

6.3 Bats

- 6.3.1 None of the birch trees present adjacent to site provide bat roost suitability given they provide no potential roost features.
- 6.3.2 The general nature of the site can be considered low value bat habitat at most, however the site is a small largely unmanaged weedy grassland close to much more valuable habitat in the form of woodlands and treelines, the latter of which is highly favoured by foraging and commuting bats, and so the site may act as a stepping stone area between more favourable environs for bats on commute or feeding along the railway or treelines.

6.4 Birds

- 6.4.1 No evidence of any Schedule 1 listed (Wildlife & Countryside Act 1981 (as amended) specially protected species, such as barn owl, was observed and the site can be reasonably discounted as providing any notable value to Sch.1 listed species such as barn owl and other raptors.
- 6.4.2 No evidence of breeding by common birds was observed on site at any point during the survey. The trees that encompass the site from the boundaries, as well as the adjacent scrub beyond the north boundary Network Rail fencing, provide basic value habitat for common nesting birds associated with such habitat, though any value to nesting birds is situated off-site.

6.5 Other terrestrial Mammals

- 6.5.1 The walkover found no evidence of any badger setts or field signs, such as latrines, snuffle holes, scratch posts or paths and the site can be confidently assessed as unsuitable for badgers; within the 30-metre zone of the site the dense continuous scrub within the adjacent Network Rail land to the north-west boundary is sloped and inclined to the north-west and the vegetation is dense. [REDACTED]
- 6.5.2 Similar to the above, no field signs or sightings of hedgehog were encountered though this species is nocturnal and may be present in the locale based on the habitat types and connectivity to wider more valuable habitat. The site itself provides no value for hibernation or sheltering hedgehogs, but, subject to presence, could provide foraging habitat, with immediate links to dense scrub which hedgehogs could favour by day for shelter and for hibernation use in the colder months.

6.6 Herpetofauna

- 6.6.1 No ponds are present on site or within 250 metres of the site. The habitats present, in the form of species poor modified grassland, which is largely flat, has no shelter features and is fairly open and bare, should not be considered to be of any value greater than low to great crested newts (GCN'S), or for other amphibians, subject to presence. The distance from ponds and the nature of the surrounding landscape further deduces the potential value of the site to amphibians given the presence of busy roads, built infrastructure and lack of potential breeding ponds within 250 metres.
- 6.6.2 Reptiles are also unlikely to be present, in any capacity, based on unsuitable on-site habitat.

6.7 Invertebrates

- 6.7.1 There is insufficient habitat quality on site for locally notable invertebrates.

7.0 Conclusions & Recommendations

Designated sites

- 7.1 No direct impacts are anticipated from the proposed development in relation to statutory designated sites, however, the local planning authority (LPA) Wrexham Borough Council may need to consult Natural Resources Wales (NRW) about the planning application who may require a screening process from the LPA to rule out risks to the River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid Special Area of Conservation (SAC), given the proximity of the site (within 2.0km) to this designated site, which is sensitive to pollution and degradation from new development, particularly, damage to its aquatic environment from irresponsible practice during construction phases but also operational phases.

Habitats & Vegetation

- 7.2 No direct impacts are anticipated from the proposed development in relation to priority habitats, priority botanical communities, or to botanical species of conservation concern.
- 7.3 No priority habitat close to site will be destroyed by the proposals; damage to the root protection zone of surrounding trees can be avoided through protecting adjacent trees during construction with appropriate fencing and buffer zones. In addition to this, standard environmental protection and pollution prevention measures should be adopted throughout the construction phase to protect any sensitive nearby off-site environs.
- 7.4 Any new landscaping should aim to incorporate native species suitable for the area and local soil types (neutral), as opposed to introduction of non-native exotic species of minimal biodiversity value - see **Appendix III** for suitable species.

Invasive non-native species

- 7.5 No invasive non-native species listed under Schedule 9 (Part II) of the Wildlife & Countryside Act (1981) were identified upon assessment of the site to warrant any specific intervention measures.

Bats

- 7.6 No direct impacts are anticipated from the proposed development in relation to bats and/or their roost sites.
- 7.7 No direct impacts are anticipated from the proposed development in relation to foraging and commuting habitat. However, the installation of any new harsh artificial lighting as part of any development that exceeds current levels may have a negative impact upon foraging / commuting bats in the landscape, subject to their presence, particularly if increased light spillage occurs in areas of that are currently free from illumination that could be used by bats, such as local treelines and woodland. A bat-sensitive lighting plan is therefore recommended to provide a wildlife friendly design and avoid potential impacts to bats that may use the surrounding trees for feeding and commuting. Several options to consider have been listed below, though the reader is referred to the Bat Conservation Trust's 'Bats and Artificial Lighting at Night' guidelines (August 2023) for further information (see **Table 7.1**):

Table 7.1 – Extract from *Bats and Artificial Lighting at Night*, BCT (August 2023)

Appropriate luminaire specifications: Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on Key Habitats and features:

- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability
- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)
- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill
- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt
- Where appropriate, external security lighting should be set on motion-sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand
- Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues.
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

Birds

- 7.8 No impacts are anticipated in relation to any WCA Schedule 1 listed species such as barn owl and no specific intervention measures need be recommended in relation to protected bird species.
- 7.9 In relation to more common birds, there is no habitat on site likely to be used for nesting and so any proposed development is unlikely to directly result in loss of breeding habitat. However, the scrub and trees adjacent to the north-west boundary beyond fencing are likely to be used by nesting birds and for birds commuting in the landscape. Works at the site are considered unlikely to displace any birds using nearby trees and scrub even during the nesting season, therefore no timing implications are considered applicable at this time.

Other terrestrial mammals

- 7.10 Regarding badgers and hedgehogs, whilst the appraisal yielded no evidence of either species using the site itself and the likelihood of badgers using the site is negligible, the nearby scrub to the north-west [REDACTED] boundary given it is sloped facing the north-west, is along a possible connectivity route in the form of railway and is enshrouded in dense scrub. The same scrub could also hide hedgehogs sheltering by day. There is also a low possibility of hedgehogs using the site to forage given its favourable connectivity to dense continuous scrub.
- 7.11 A precautionary approach is recommended to be adopted considering these two mammals in the form of the following prescriptive measures:
- badgers: pre-commencement checks of the site and visible areas adjacent to site for any field signs - prior to commencement by an ecologist. In the event that any field signs of badgers are encountered during pre-commencement checks, based on the nature of the field signs, the ecologist should consider further measures including additional precautions to include extended the checks to off-site environs, and/or further surveys.
 - hedgehogs: a pre-commencement check of the site should be carried out prior to start of works by an ecologist. In the event that any hedgehogs are encountered if they cannot be left in-situ they should be carefully captured and relocated to an area of like-for-like habitat off site / adjacent to site with sufficient shelter. Resting or hibernating animals should be given a reasonable period of time to awake and move on of their own accord particularly if discovered in the colder months.

Herpetofauna

- 7.12 No impacts are anticipated in relation to great crested newts (GCN) or other herpetofauna, no further surveys or reasonable avoidance measures are recommended.

Invertebrates

- 7.13 No impacts are likely to occur in respect to notable invertebrate assemblages.

Net-benefits for biodiversity

- 7.14 Net-benefits for biodiversity ideas are presented in **Appendix III**.

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Appendix I: Site Photographs



Plate 1 – View of the south boundary from the eastern most region of the site



Plate 2 – East boundary viewed from the eastern most region of the site



Plate 3 – Access into the site from the B5605



Plate 4 – Site as viewed from the south-west region atop a small stone bank looking north



Plate 5 – Site as viewed from the northern boundary looking south-east



Plate 6 – Site as viewed from north boundary looking north-east along fence line



Plate 7 – A closer view of the sward type mosaic and disturbed nature of the ground



Plate 8 – A closer view of the sward type mosaic and disturbed nature of the ground with snapped metal pole jutting out of the ground



Plate 9 – A closer view of the sward type mosaic and disturbed nature of the ground



Plate 10 – East boundary region adjacent to neighbouring plot

Appendix II: Botanical Species List

Species nomenclature follows Stace, C (2019).

Scientific name	Common name
<i>Agrostis sp.</i>	Bent grass
<i>Anthriscus sylvestris</i>	Cow Parsley
<i>Bellis perennis</i>	Daisy
<i>Bryophyta</i>	a Moss
<i>Cardamine flexuosa</i>	Wavy Bitter-cress
<i>Cirsium vulgare</i>	Spear Thistle
<i>Dactylis glomerata</i>	Cock's-foot
<i>Digitalis purpurea</i>	Foxgloves
<i>Epilobium spp.</i>	Willowherbs
<i>Festuca sp.</i>	Fescue grass
<i>Geranium robertianum</i>	Herb-Robert
<i>Holcus lanatus</i>	Yorkshire-fog
<i>Lamium album</i>	White Dead-nettle
<i>Lolium perenne</i>	Perennial Rye-grass
<i>Narcissus sp.</i>	Daffodil
<i>Poa trivialis</i>	Rough Meadow-grass
<i>Ranunculus repens</i>	Creeping Buttercup
<i>Rhytidiadelphus squarrosus</i>	Springy Turf-moss
<i>Rubus fruticosus agg.</i>	Bramble
<i>Rumex crispus</i>	Curled Dock
<i>Rumex obtusifolius</i>	Broad-leaved Dock
<i>Sisymbrium officinale</i>	Hedge Mustard
<i>Sonchus oleraceus</i>	Smooth Sow-thistle
<i>Taraxacum officinale agg.</i>	Dandelion
<i>Urtica dioica</i>	Stinging Nettle
<i>Valerianella locusta</i>	Common Cornsalad

Appendix III: Biodiversity Net-benefits: General Recommendations

Native Planting and/or Landscaping - recommended species

The below species have been assessed against the local soil and habitat types and are deemed suitable for the site. All plant material should comply with the minimum requirements in BS 3936-1: 1992 Specification for trees and shrubs and BS 3936-4: 2007 Specification for forest trees and BS 8545: 2014 Trees from Nursery to Independence in the Landscape. Any plant material, which in the opinion of the appointed Landscape Architect, does not meet the requirements of the Specification, or is unsuitable, or defective in any other way, will be rejected. The minimum specified sizes in the plant schedule will be strictly enforced. The contractor should replace all plants rejected at own cost.

	Common Name	Scientific Name	Planting Preference
Ferns	Male Fern	<i>Dryopteris filix-mas</i>	Semi-shade or shaded
	Soft Shield-fern	<i>Polystichum setiferum</i>	Semi-shade or shaded
	Maidenhair Fern	<i>Adiantum capillus-veneris</i>	Suitable for rockeries / walled gardens
	Royal Fern	<i>Osmunda regalis</i>	Full sun in moist-damp areas
Herbaceous plants	Bloody Crane's-bill	<i>Geranium sanguineum</i>	Dry soils - suitable for rockeries
	Columbine	<i>Aquilegia vulgaris</i>	Semi-shade or open areas
	English Bluebell	<i>Hyacinthoides non-scripta</i>	Moist soils in semi-shade or open areas
	Giant Bellflower	<i>Campanula latifolia</i>	Semi-shade or open areas
	Greater Knapweed	<i>Centaurea scabiosa</i>	Dry-moist soils. Suitable for borders
	Greater Woodrush	<i>Luzula sylvatica</i>	Moist soils in semi-shade or open areas
	Meadow Crane's-bill	<i>Geranium pratense</i>	Humid-moist soils. Suitable for borders
	Musk Mallow	<i>Malva moschata</i>	Dry-moist soils. Suitable for borders and rockeries
	Sea Campion	<i>Silene uniflora</i>	Dry soils - suitable for rockeries
Climbers	Stinking Hellebore	<i>Helleborus foetidus</i>	Semi-shade or open areas
	Honeysuckle	<i>Lonicera periclymenum</i>	Dry-moist soils
	Hops	<i>Humulus lupulus</i>	Dry-moist soils
	Ivy	<i>Hedera helix</i>	Dry-moist soils
Woody Shrubs	Sweet-briar	<i>Rosa rubiginosa</i>	Dry-moist soils
	Blackthorn	<i>Prunus spinosa</i>	-
	Dogwood	<i>Cornus sanguinea</i>	-
	Guelder Rose	<i>Viburnum opulus</i>	-
	Hawthorn	<i>Crataegus monogyna</i>	-
	Hazel	<i>Corylus avellana</i>	-
Trees	Holly	<i>Ilex aquifolium</i>	-
	Alder Buckthorn	<i>Frangula alnus</i>	-
	Osier	<i>Salix viminalis</i>	-
	Pedunculate Oak	<i>Quercus robur</i>	-
	Purple Willow	<i>Salix purpurea</i>	-
	Rowan	<i>Sorbus aucuparia</i>	-
	Silver Birch	<i>Betula pendula</i>	-
	Wild Cherry	<i>Prunus avium</i>	-
Aquatic/marginal plants	Common Water-crowfoot	<i>Ranunculus aquatilis</i>	Ponds
	Marsh Marigold	<i>Caltha palustris</i>	Marginal vegetation
	Ragged Robin	<i>Silene flos-cucculi</i>	Marginal vegetation
	Water Mint	<i>Mentha aquatica</i>	Marginal vegetation
	Water-violet	<i>Hottonia palustris</i>	Ponds
	White Water-lily	<i>Nymphaea alba</i>	Ponds

Enhancement for Bats



- Beaumaris woodstone bat box

This bat box is made entirely from Woodstone, a robust material comprising concrete and wood fibres. The Beaumaris box has a single narrow cavity which makes it suitable for crevice roosting bats such as the Common Pipistrelle, Soprano Pipistrelle, Nathusius' Pipistrelle, Brandt's bat and Whiskered bat. The interior of the box has a rough surface for bats to cling to and the front of the box features a subtle but attractive imprint of a bat in flight.

Suitable for attaching to external walls and available in two sizes: the Midi and the Maxi.

For more information see www.nhbs.com/beaumaris-woodstone-bat-box.

Enhancement for Breeding birds

Common boxes



- 1B Schwegler Nest Box

These Woodcrete nest boxes are famous for their durability - lasting for at least 20-25 years.

Woodcrete is a breathable blend of wood, concrete and clay which will not rot, leak, crack or warp, whilst preventing condensation and maintaining more constant temperatures inside than wooden boxes. Schwegler bird boxes are backed by conservation organisations, government agencies and forestry experts and experiments have shown that the highest density of bird populations (i.e. breeding pairs per hectare) is achieved with Schwegler nest boxes. They are carefully designed to provide a stable environment and to mimic natural nest and roost sites with internal brood chamber dimensions that are similar to natural woodpecker cavities.

Schwegler have a patented method of installation on trees that prevents the tree trunk from growing over the hanger from which the box is suspended. A separate replacement front panel is also available.

Enhancement for Hedgehogs

The number of hedgehogs in the UK has plummeted over recent years; while there were estimated to be around 1.5 million in 1995 it is believed hedgehogs now number two thirds less at 500,000. Hedgehog homes could be provided as part of enhancement in close proximity to commercial works; a design suggestion can be found below.

Hedgehogs need homes just like humans, so making one for them is a great way to encourage them. Some tips include:

- Find a location - It should be sited in a quiet position out of prevailing wind in an area with some nearby cover. The front entrance should be out of the wind.
- Cover the outside - Cover the outside in a pile of woody garden cuttings and leaves. You can also cover it with soil, as long as the entrance hole and ventilation pipe is clear.
- Aftercare - It's worth clearing out the hedgehog home, every year or two. You can do this in April, after their hibernation but before hedgehogs start producing hoglets. However, the ideal time is in October before they go into hibernation, and after most of the litter have been weaned.
- Monitoring your hedgehog home - Remember that you won't see any activity between October and March/April when they're hibernating.
- If you'd like to find out if your box is being used, put something in front of the entrance that won't blow away but can be easily moved by a hedgehog, like a crumpled-up piece of newspaper. If a hedgehog is at home, you'll find it will have been moved by the next morning.



For Hedgehog Homes - [Hedgehog House, with weatherproof lid : Riverside Woodcraft](#)

Enhancement for Invertebrates

- Insect hotels

Insect hotels provide habitat for a variety of invertebrates. Designs can be small or large enough to create a focal point, and sturdy enough to last for years without maintenance in dedicated areas for wildlife.

Ensure any hotels are made from untreated wood, which is important as insects need natural materials to thrive, and, split into sections that each contain a different nesting/burrowing material. There should be pinecones for ladybirds, wood slits for butterflies and moths, bamboo canes for solitary bees, and loose pieces of wood for beetles, for example.

Placement: Biodiversity Area - Cite against walls or fences and fix where necessary to prevent toppling. You could push bricks against them to keep the bug hotel upright, which would also encourage woodlice and even frogs that enjoy cool stone conditions for shelter.



Examples of insect hotels

- National Trust Bee Log

<https://shop.nationaltrust.org.uk/national-trust-bee-log-wicken-fen-collection>



- Bee Bricks

Each Bee Brick contains cavities in which solitary bees can lay their eggs before sealing the entrance with mud and chewed-up vegetation. The offspring will emerge the following spring and the cycle will begin again. Each cavity goes part way into the brick, which is solid at the back. Bee Bricks should be placed in a warm sunny spot on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes. It is highly recommended that bee-friendly plants should be located nearby so that the bees using the bricks have food, otherwise it is unlikely that the brick will be used. Available in a choice of four colours: white grey, dark grey, yellow and red.





UK Habitats Key

-  Red Line Boundary
-  g4 127 - modified grassland;
sward type mosaic
-  g4 108 - modified grassland;
frequently mown
-  u1 113 - built-up areas and gardens;
stone-faced bank

Wynn Offa, Wynnstay Yard,
Ruabon, Wrexham, LL14 6DP

Survey Date: 05/03/2024
Drawn: MJP
Date Drawn: 05/03/2024
Size: A3
Scale: 1:300:00

Tyrer Ecological Consultants Ltd
Roselands,
Suite 1,
3 Cross Green,
Formby,
L37 4BH

Tel: 01704 875781
Email: enquiries@tyrer-ecologicalconsultants.co.uk
www.tyrer-ecologicalconsultants.co.uk