UPDATE PRELIMINARY ECOLOGICAL APPRAISAL AND GREEN INFRASTRUCTURE STATEMENT

22 BRYN ESTYN ROAD, WREXHAM

09 December 2024

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This report has been prepared by Sambrook Associates Ltd on behalf of Cassidy and Ashton in connection with the development at 22 Bryn Estyn Road, Wrexham and takes into account their particular instructions and requirements. It is not intended for, and should not be relied on, by any third party and no responsibility is undertaken to any third party.

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1 INTRODUCTION

1.1 Background Information

1.1.1 Sambrook Associates Ltd was instructed by Cassidy and Ashton to undertake a Preliminary Ecological Appraisal (PEA) and Green Infrastructure Statement (GIS) in relation to the demolition of an existing building and the construction of an apartment block, associated car parking and landscaping on land at 22 Bryn Estyn Road, Wrexham.

1.1.2 As part of the Appraisal, a site walk-over comprising a bat scoping survey, bat activity survey, walk-over of the gardens and a desktop study were undertaken in 2024. This report provides the results of these, as well as an appraisal of the potential effects the proposed development may have on biodiversity, and recommendations for further survey, mitigation and enhancement, where required. This is an update survey to the previous survey undertaken for a previous planning application in 2018. The previous assessment found the existing property to support a pipistrelle bat roost.

1.1.3 The aim of the appraisal is to provide sufficient updated ecological information to inform the planning application. The objectives of the study were to:

- Provide update baseline information on the current ecological features both on-site and in the immediate surrounding area (up to 30m where accessible);
- Identify the presence or potential presence of any protected species or habitats and provide an appraisal of potential effects that the proposed development may have on these;
- Identify the proximity of any sites designated for nature conservation interest and provide an appraisal of potential effects that the proposed development may have on these; and
- Provide recommendations for further survey work and / or mitigation measures if required and present opportunities for habitat enhancement.

1.1.4 In consideration of the nature of the proposed work (principally demolition and construction of buildings), the assessment focuses on bats and birds but habitats and other mobile species such as great crested newts and badgers are also assessed.

1.2 Site Description

1.2.1 The Site is located on the edge of a suburban area of Wrexham. To the north, west and south are residential properties and to the east are open agricultural fields.

1.2.2 The proposed development is hereby referred to as the Site and comprises the land within the red-line boundary. The walk-over survey covered an area greater than this (where access permitted) for mobile species such as great crested newts, badgers, water vole and otter and to look at how nearby habitats may influence the use of the building by bats.

2 LEGISLATION AND PLANNING POLICY

2.1.1 Many sites, animals and plants are protected by European and/or UK legislation either because of their decline across Europe and the UK or due to the persecution they have placed upon them by negligent or illegal acts such as baiting or trade. Legislation is also in place to prevent the spread of introduced or non-native invasive species and harmful weeds. When undertaking an appraisal of a proposed development, such legislation is taken into account as follows.

- **European:** Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive'); and Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (codified version of Directive 79/409/EEC as amended) (the 'Birds Directive').
- **UK (England & Wales):** The Conservation of Habitats and Species Regulations 2017, as amended (the 'Habitat Regulations') which transposes the Habitats Directive in UK law. Since 1st January 2021, the UK is no longer a member of Europe but since the Habitats Directives are embedded into UK statute, The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 was published and still applies in England and Wales; The Wildlife and Countryside Act 1981 (as amended); the Countryside and Rights of Way Act (CRoW) 2000; the Protection of Badgers Act 1992; the Natural Environment and Rural Communities Act (NERC) (2006) and the Environmental Protection Act (EPA) 1990.

2.1.2 Species such as bats, great crested newts, otter, water vole, reptiles, birds and badgers are all protected to varying degrees under this legislation.

2.1.3 Under the NERC Act, local authorities (and other public bodies) have a duty to conserve biodiversity. The Act confers responsibility on the local authority to take the protection of priority habitats and species (as listed in Section 41) into consideration when making a planning decision. Habitats listed in this section include eutrophic standing waters, rivers, lowland meadows and lowland mixed deciduous woodland. Species listed in this section include great crested newt *Triturus cristatus*, sky lark *Alauda arvensis*, hedgehog *Erinaceus europaeus*, otter *Lutra lutra*, soprano pipistrelle *Pipistrellus pygmaeus* and red squirrel *Sciurus vulgaris.* Full habitats and species' lists can be found at the Natural History Museum website, nhm.ac.uk or jncc.defra.gov.uk.

2.1.4 The Environment (Wales) Act 2016 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 the 6 objectives for habitats and species.

2.1.5 In addition to legislation, there are also national and local planning policies pertaining to the protection of biodiversity. Planning Policy Wales (PPW) Edition 12 (February 2024) requires the

planning system to have a key role in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement. Development plan strategies, policies and development proposals must consider the need to:

- support the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- ensure statutorily and non-statutorily designated sites are properly protected and managed;
- safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat;
- secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks;
- provide measurable biodiversity net benefit which is secured through the production and implementation of a Green Infrastructure Statement which comprises a commitment to biodiversity gain through the creation and long term management of valuable habitats.

2.1.6 To accompany the PPW, Technical Advice Note 5 (TAN5) demonstrates how local authorities, developers and stakeholders can deliver sustainable development that does not result in losses to biodiversity and takes the opportunity to protect and enhance it. Denbighshire council also have their own guidance and local policy to promote ecological resilience in their decision making.

2.1.7 The RSPB's Birds of Conservation Concern 5 (2021) is also taken into consideration when undertaking this appraisal.

2.1.8 Because of the type of development proposed, it is usual that bats are the most likely animals affected and so the legislative and licensing obligations pertaining to bats are described in more detail below.

2.1.9 All bat species are protected in the UK under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). The species is also protected under Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (the EC Habitats Directive). This has been transposed into UK law by the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales. Bats are referred to as European Protected Species (EPS).

2.1.10 It is an offence to deliberately capture, injure or kill a bat; intentionally or recklessly disturb in a way that would affect their local distribution or abundance, or affect their ability to survive, or breed. It is also an offence to damage or destroy a bat roost and to possess, advertise, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.

2.1.11 If you wish to undertake works that would affect an EPS then you will need a licence. Natural England (NE) and Natural Resources Wales (NRW), in exercise of the powers conferred under regulation 53(1) and 56(3) (a) of the Conservation of Habitats and Species Regulations 2017, may issue licences for the following purposes:

- Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
- Preventing the spread of disease;
- Preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries; to allow people to carry out activities which would otherwise be illegal;

2.1.12 Before issuing a licence under the Habitats Regulations, the licensing authority must be satisfied that "there is no satisfactory alternative" to the work as proposed and, that the proposed actions "will not be detrimental to the maintenance of the population of the species at a favourable conservation status (FCS)".

2.1.13 To ensure these requirements are met, the licensing authority must have enough information to complete an assessment of the application. This includes sufficient survey data so that the roost and how it is used by bats is understood and impacts upon the roost are appropriately assessed so that mitigation and/or compensation can be designed into the proposed development that will ensure the bat population can be incorporated and maintained in the long term.

3 METHODOLOGY

3.1 Introduction

3.1.1 To inform this Ecological Appraisal, a site walk-over survey was conducted on 7 March 2024 which comprised an external inspection of the existing property for bats (i.e. a bat scoping survey) and birds. The survey also included potential for protected and notable species, and invasive species such as Japanese knotweed *Fallopia japonica* and Himalayan balsam *Impatiens glandulifera*. In addition to this, a desk-top study was also undertaken. A follow up bat activity and internal inspection were undertaken.

3.2 Desk-top Study

3.2.1 The desktop study involved publicly available data searches for statutory and non-statutory sites, legally protected species and other features of interest within a 500m radius of the site. The centre of the site (Ordnance Survey Grid Reference SJ35335122) was used for the data search.

3.2.2 The following sources were searched for information about the Site:

- Defra's 'MAGIC' website;
- Google Earth;
- Bing Maps; and
- Wrexham Council website.

3.3 Walk-over Survey

3.3.1 The purpose of the survey was to update:

- the habitats present;
- legally protected species potentially present;
- the presence of invasive plant and animals;
- any potential constraints to development; and
- any requirement for additional ecological surveys.

3.3.2 Rebecca Sambrook of Sambrook Associates Ltd. carried out the walk-over survey of the Site on 07 March 2024. The weather was cold with an average temperature of 2°C.

3.3.3 The survey was not a full Phase 1 Habitat survey; due to the residential nature of the site, this was considered unnecessary. The Site and immediately adjacent areas (up to 30m) were searched for evidence of protected species that may occur in this area such as bats, birds, great crested newts *Triturus cristatus*, badgers *Meles meles*, otters *Lutra lutra*, and water vole *Arvicola amphibious* and any invasive plants or animals.

3.3.4 Photographs are included within this report. Plant names follow the third edition of the New Flora of the British Isles (Stace, 2010). The common name of the plant is stated first and is followed by the Latin name, on the first occasion that it is used. Only the common name is used subsequently.

3.4 Bat Scoping Survey

3.4.1 The survey followed the methodology set out in the Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, J. (ed.) 2023). The building was inspected externally in March 2024 to identify any potential roosting features and access into the building for bats, including gaps, cracks, soffits, loose or missing tiles or crevices that bats may exploit. Evidence such as staining, droppings, urine splashes and individuals were also searched for. An internal inspection of the loft area was undertaken in December 2024, searching for the same evidence. Ten minutes was also spent listening (detector and ear) for squeaking noises that bats make when in their roost.

3.5 Bat Activity Survey

3.5.1 Given the continued suitability of the house to support bats, a bat activity survey was undertaken on the house. The survey followed the methodology set out in the Bat Conservation Trust's Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023).

3.5.2 The activity survey was undertaken during appropriate weather conditions and commenced 15 minutes before sunset until 1.5 hours after.

3.5.3 The building was surveyed by three surveyors (Rebecca Sambrook, Mark Benson and Imogen Evans) who were positioned strategically so that good coverage of the building was achieved (see Figure 3.1 below).

3.5.4 The surveyors each used a Wildlife Acoustics' EM Touch Pro 2 detectors. Two Firefox Swift Pro 2 IR cameras with two Westlite IR torches 850nm were also used. The data was analysed by the surveyors and reviewed by Rebecca Sambrook.

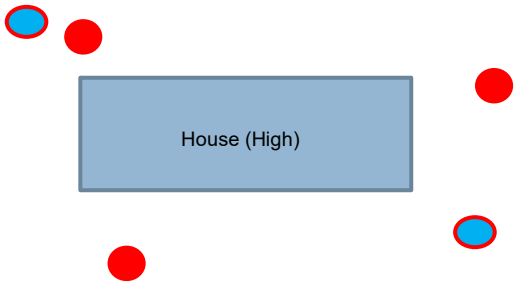
3.5.5 The following table provides details of the surveys.

Table 3.1: Survey Data

Variable	Date
	7/09/2024
Survey type	Dusk
Sunrise/Sunset	19:46
Time started	19:30
Time completed	21:20
Start weather	Dry, mild, still
Start Temperature	12°
Start rain	0
Start cloud	2
Start wind	0

End weather	**Dry, mild, still**
End temp	**11°**
End rain	**0**
End cloud	**0**
End wind	**0**

Plate 3.1: Surveyor locations Camera locations



3.6 Limitations

3.6.1 No significant limitations were encountered during the surveys.

4 RESULTS

4.1 Introduction

4.1.1 This section provides a commentary on the data collected during the desk-top study and surveys undertaken in 2024.

4.2 Desk-top Study

4.2.1 There do not appear to be any statutory or non-statutory sites within the assumed 500m zone of influence of the proposed site. Protected sites are not considered further.

4.2.2 There do not appear to be any ponds within 250m of the proposed site.

4.2.3 The Council planning portal did not reveal any pertinent information and there do not appear to be any current adjacent developments that would likely cause any in-combination effects with the proposed Site.

4.3 Walk-over Survey

4.3.1 The Site comprises a detached residential property, surrounded by mature ornamental gardens, paved patio and gravel driveway located along a quiet residential country lane in the suburbs of Wrexham. The northern boundary consists of a hedgerow adjacent to Bryn Estyn Road which comprises hawthorn *Crataegus monogyna*, holly *Ilex aquifolium*, elder *Sambucus nigra*, hazel *Corylus avellana*, sycamore *Acer pseudoplatanus* and barberry *Berberis candidula*. The eastern boundary is a post and rail fence flanked by overgrown vegetation in places. The southern boundary is a garden fence which abuts the adjacent property's garden and the western boundary is mature shrubbery including laurel, conifer, spruce, hazel and mature trees, including ash *Fraxinus excelsior* and pine.

4.3.2 The garden areas comprise amenity grassland, planted borders and shrubbery and also a large paved patio area to the rear and gravel driveway and parking area to the front. There is a small stand of *Cotoneaster horizontalis* next to the rear of the property.

4.3.3 No evidence of Japanese knotweed or Himalayan balsam was identified during the survey. But cotoneaster is listed on Schedule 9 of the UK Wildlife & Countryside Act as an invasive non-native species. Amongst the rest of the garden, there are multiple unidentified ornamental species, many of which will be non-native.

4.3.4 The shrubbery, hedgerow and trees provide opportunities for nesting **birds**. Bird species recorded during the survey include blue tit *Cyanistes Caeruleus,* robin *Erithacus rubecula* and house sparrow *Passer Domesticus.*

4.3.5 The site supports habitat that is suitable for **great crested newts**, but given the absence of ponds within 250m, it is unlikely they would be present within the site.

4.3.6 The site supports suitable terrestrial habitat for **reptiles** in the form of foraging, basking and sheltering opportunities but given the site is a residential garden, this reduces the likelihood of reptiles being present due to the managed habitat and regular disturbance from occupiers of the property.

4.3.7 The site supports suitable terrestrial habitat for foraging **badgers** and **hedgehogs** but no signs of either species was identified during the survey. Nevertheless, they may well traverse the site on a transient or regular basis, if they are present in the wider area.

4.3.8 The site does not support suitable habitat for **otter** or **water vole** and these are not considered further.

4.4 Bat Scoping and Activity Survey

4.4.1 The property is a known pipistrelle **bat** roost. The building supports features that bats would use including soffits and barge boards, but the roof tiles appeared to be good condition with no obvious significant gaps. There are minor gaps around the soffits that bats could use to gain access and roost in these features. The previous surveys in 2018 identified the presence of droppings in the loft space near to the eastern gable wall, however, no bats were recorded emerging or re-entering the building during any of the three nocturnal surveys. The 2024 surveys were similar in results. The internal and external physical inspections of the building in December 2024 identified the presence of recent pipistrelle bat droppings within the loft, on the western gable wall. Although the gap near the roof under which the droppings were found is too small for bats to navigate, it is considered that they were likely roosting on the wall plate of the western gable, having gained entry via a small gap in the soffit at that location. The droppings were falling through a very narrow gap and into the loft.

4.4.2 No bats were recorded emerging from the building during the September nocturnal survey. No more than two common pipistrelle bats were recorded very briefly foraging in the garden having flown over from the direction of the houses on the other side of the Bryn Estyn Road.

4.4.3 None of the trees to the boundaries of the garden appear to support potential roosting features. The site provides good foraging and commuting opportunities and is well connected to the wider landscape via hedgerows and the road.

4.4.4 Photographs of the site are provided in Table 4.1 below.

Table 4.1: Photographs of the Site

Front of property	Western gable
	
Rear of property	Eastern gable
	
Single storey side extension	Side extension barge boards loose
	

Garage with damaged/rotten barge board	Lean-to on side of garage – large Ivy
	
Eastern boundary	Southern boundary
	
Western boundary	Northern boundary
	
Garden	Patio





Bat droppings in cobweb below wall plate

Bat droppings in cobweb below wall plate





Hole in soffit box next to location of bat droppings



4.5 Appraisal of Potential Effects

4.5.1 The proposal comprises the demolition of the existing property and the construction of an apartment block with associated car parking and soft landscaping.

4.5.2 The main body of the existing garden will be lost as a result of the proposed development, including the non-native shrubbery and plants including the cotoneaster and the large ash at the entrance to the property. However, native boundary vegetation will be retained where possible, and protected during the works by the installation of Heras fencing.

4.5.3 As a minimum, good site management should be implemented based upon the Considerate Constructors Scheme, Code of Considerate Practice. Key principals of good management to protect habitats include:

- Being organised, clean and tidy; always net skips to prevent materials and rubbish from blowing around the site and onto adjacent habitats.
- Identifying, managing and promoting environmental issues.
- Seeking sustainable solutions, and minimising waste, carbon footprint and resources.
- Minimising the impact of vibration, and air, light and noise pollution.
- Protecting the ecology, the landscape, wildlife, vegetation and water courses.

4.5.4 Within the proposals, the soft landscaping scheme, will comprise the sowing of a species rich amenity grassland in the communal areas, as well as the planting of some smaller trees such as cherry Prunus sp. and species rich hedgerow, to soften the boundary features. The proposed drainage scheme includes the provision of a 'rain garden' which will provide an additional habitat type to the current baseline. The rain garden will be planted with native species that are tolerant to both dry and wet environments and will attract and support birds and invertebrates such as butterflies and bees. With this in mind, the proposed soft landscaping and drainage schemes will result in a more coherent, diverse and native habitat mosaic, which as well as valuable in its own right, will benefit numerous invertebrates, mammals and birds alike.

4.5.5 The Site offers opportunities for nesting birds and bats, but other protected and notable species are unlikely to rely on this site to survive.

4.5.6 **Bat** surveys conducted in 2017/18 found a pipistrelle roost to be present in the house (on the western gable) by physical inspection results only (no bats were recorded emerging/re-entering during the three activity surveys) and an NRW derogation licence (80147:OTH:EPS:2018) was issued on this basis.

4.5.7 The results of the 2024 physical inspection of the building showed that there continues to be a pipistrelle roost in the house. Although the location is on the eastern gable, rather than the western, the number and species of droppings is consistent with the previous findings. The single dusk survey undertaken in September 2024 also reflects the results of the previous surveys in that

no bats were seen emerging. It is acknowledged that no surveys were undertaken during the 'core' season in 2024 but it is considered that despite this, and given the activity surveys undertaken in 2017/18 provided no useful information on the roost type or species aligned with the NRW derogation licence being issued on the basis of the physical inspection of the building, reasonable conclusions can still be drawn and that mitigation originally proposed would still be reasonable and proportionate.

4.5.8 A derogation licence from Natural Resources Wales will be required in order for the development to proceed and the mitigation proposed in the original survey report will need to be implemented. The mitigation originally proposed and continues to be proposed in the current scheme includes:

- Derogation licence to be obtained prior to works commencing on the building.
- Toolbox talk to be provided by the named ecologist or accredited agent on Day 1
- Dawn survey to be undertaken on the day of commencement of soffit/roof removal works
- Endoscopic survey of the roosting feature and potential roosting features of the building including soffits.
- Temporary mitigation will be installed on a mature tree to the boundary of the site which will comprise a single Schwegler 2F bat box.
- Provision of permanent access into soffits on the north western and south eastern gables comprising:
    - gaps of 20mmx20mm near the apex into the soffits.
    - access between the soffit and wall via gap of 30cm either side of the apex to allow bats to land on the wall and go behind the soffits and into the wall plate and cavity wall.
- As per the original specification provided in the Tyrer Partnership report: '*The roofing work will involve the use of a breathable membrane, which has been shown to cause entanglement problems to bats, whereby their fine claws can become entangled in the material fibres. Therefore to avoid bats coming into contact with the material the top of the cavity wall opening where bat roost provisions are made, will be effectively closed using a fibre cement board that is a customary roofing practice and any gaps between the "stepped" brickwork sealed with expanding foam. A semi-rigid plastic sheeting will then be fixed over the BRM and extend down the cavity wall to approximately 200 mm to which it will be securely fitted this will prevent bats crawling up and underneath the roof tiles and BRM. Access into the cavity wall will be secured by a 18 mm x 100 mm horizontal opening in the brickwork*'

4.5.9 **F**oraging and commuting opportunities will remain post development.

4.5.10 Even in residential environments where bats will fly through and around, despite some light pollution, it is best practice to avoid impacts on bats and their habitats, and other species including birds and invertebrates, by maintaining as far as practicably possible, a dark environment above 2.5m height. This can be achieved by ensuring the lighting scheme is sensitive to the requirements of bats (and other species) and designed in accordance with the current guidance jointly issued by the Institution of Lighting Professionals and Bat Conservation Trust; Guidance Note 08/18: Bats and Artificial Lighting in the UK.

4.5.11 The likelihood of **great crested newts and other amphibians** being present and affected by the proposed works is highly unlikely since the nature of the development is of limited impact and that impact is readily mitigated; allied to the location of the development being at some distance from ponds. There will be loss of short mown amenity grassland which is suitable but not highly valuable to great crested newts, given it provides foraging opportunities but no shelter from predators; this will be compensated by the planting and low intensity management of species rich amenity grassland. The potential for impacts on GCN and other amphibians is unlikely. Nevertheless, as a highly precautionary approach, a Reasonable Avoidance Measures strategy is devised to ensure works are undertaken to further reduce the likelihood of harm to GCN and other amphibians and to prevent the Site becoming more attractive to amphibians during the course of the works. These RAMs would also benefit reptiles, badgers and other small mammals (if present).

- Any minor excavations will be backfilled overnight, capped at the ends (in the case of ducts) or if left open overnight, the surfaces are to be smoothed and a means of escape (a ramp) provided.
- Any excavated materials requiring storage should be stored on pallets raised off the ground, or otherwise compacted/modified to prevent plant growth and cracks that could be exploited by GCN. Any materials stored on the ground should be checked for GCN presence by an ecologist prior to re-use elsewhere on site.
- All on-site debris and stored materials should be dismantled and removed carefully as amphibians may be present, if a suspected great crested newt is found, a photograph is to be taken and sent to the retained ecologist for advice.
- Any materials arising from the development should be removed from site as soon as possible and should not be stored on site to prevent amphibians from using the materials for shelter.
- If amphibians, reptiles or any other animal is discovered at any point, works must stop immediately, and the ecologist is to be contacted for further advice.

4.5.12 Survey work for great crested newts is not required.

4.5.13 No active **bird nests** were identified in the vegetation, but it was slightly early in the bird nesting season and it is possible birds may nest in the vegetation around the garden at some point between the survey and start of proposed works. It is advised that the disturbance and/or

destruction of breeding birds and their nests is illegal under the Wildlife and Countryside Act 1981 (as amended). If any nests are built between the survey and the outset of works, and the nest is likely to undergo any disturbance, an ecologist should be contacted for advice. If nests are identified, the nests must remain intact and undisturbed until young have fledged. Any vegetation required to be removed, must be done outside of the nesting bird season which includes the months of March to August inclusive, unless the vegetation is first checked by an experienced ecologist and no nests are found.

4.5.14 It is possible that **badgers** and **hedgehog** pass through the Site on occasion and it is important not to cut off valuable habitat by the erection of impenetrable boundary features such as solid wooden fences and walls without gaps. Providing natural boundary markers such as hedgerows and tree lines, or post and rail fencing, allow mammals open access to areas that they use. During construction, it is pertinent to cover any excavations overnight or fit a means of escape such as a ramp at 45° angle to prevent animals becoming trapped. Similarly, any pipes or culverts in storage should be capped to prevent animals taking refuge within them. Post-construction, the site will remain available as a foraging resource for both species. Both species would particularly benefit from the planting of fruit trees and hedgerow with fruit bearing species.

4.5.15 **Enhancement:** The proposed scheme includes the installation of bat and bird boxes which will provide a net gain in roosting and nesting opportunities. The following boxes are proposed:

- 3no. wooden bird nest boxes (suitable for passerines) are to be installed on suitable trees to the boundaries, at least two metres off the ground to reduce risk of predators and human interference.
- 3no. Beaumaris Woodstone bat box or similar to be installed on suitable trees to the boundaries, at least 3 metres off the ground and out of direct sunlight.

4.5.16 **Site contractors, directors, owners, other personnel and their agents are reminded that many species and habitats are protected by law, and to kill, injure or harm such species and their habitats is a criminal offence. Custodial sentences and/or large financial penalties are expected if you break the law. Protected species and habitats commonly found on development sites include (but not limited to):**

- **bats including their roosts in buildings and trees;**
- **birds including their nests;**
- **great crested newts including their areas of shelter such as hedgerows, ponds and natural and artificial habitats such as log and rubble piles; and**

5 GREEN INFRASTRUCTURE STATEMENT

5.1 Assessed Losses

5.1.1 The proposed development will result in the loss of:

- 5 trees;
- Amenity grassland
- Ornamental shrubbery

5.2 Proposed Biodiversity Net Benefit

5.2.1 The proposed development includes a soft landscaping scheme which will be created with a biodiversity focus. The screenshot below shows the area of proposed landscaping (taken from Site Plan and Ground Floor Layout (C&A, 16/05/24)). The following will be undertaken:

- Creation of approx. 542m² of neutral grassland by sowing a wildflower seed mix such as Emorsgate EM2 Standard General Purpose Meadow Mixture or similar.
- Planting of 5no. trees comprising 3no. wild cherry *Prunus avium* and 2no. crab apple *Malus sylvestris* along the southern half of the eastern boundary.
- Creation of 50m species rich hedgerow along the eastern boundary. Comprising 30% hawthorn *Crataegus monogyna*, 30% blackthorn *Prunus spinosa*, 10% holly *Ilex aquifolium*, 10% field maple *Acer campestre*, 10% hazel *Corylus avellana* and 10% spindle *Euonymus europaeus*.
- Installation of a SuDS rain garden at the entrance to the site. To be planted up with 5no. yellow flag iris *Iris pseudocorus*, 10no. purple loosestrife *Lythrum salicaria* and 10no. meadowsweet *Filipendula ulmaria.*
- Installation of 3no. wooden bird boxes on mature trees on the southern boundary, at least 4m high to reduce the risk of human interference, and out of artificial light.
- Installation of 3no. Beaumaris Woodstone bat box or similar to be installed on suitable trees to the boundaries, at least 3 metres off the ground and out of direct light.



5.2.2 The above habitats will be created and managed as per the specification below.

Habitat Creation Specification & Management Plan	
Notes	All operatives will be appropriately trained, certified and qualified to undertake the tasks required. All work is to be carried out in accordance with the relevant British Standards, Codes of Practice and Legislation.
Proposed Habitats:	Neutral grassland: wildflower seed mix such as Emorsgate EM2 Standard General Purpose Meadow Mixture or similar (depending on availability). Fruit trees: 5no. trees; 3no. wild cherry and 2no. crab apple. Girth/Dia: 12-14cm, Height: 350-425cm, Root Zone: RB. SuDS rain garden to be planted up with 5no. yellow flag iris *Iris pseudocorus*, 10no. purple loosestrife *Lythrum salicaria* and 10no. meadowsweet *Filipendula ulmaria.* Note this feature is to be managed as per instructions by the manufacturer, it is not covered here. 50m species rich hedgerow along the eastern boundary. Comprising: • 30% hawthorn *Crataegus monogyna* (transplant, age 1+1, height 80-100cm, bare root) • 30% blackthorn *Prunus spinosa (*transplant, age 1+2, height 80-100cm, bare root) • 10% holly *Ilex aquifolium* (branched, 3 breaks, age 3L, height 40-60cm, container) • 10% field maple *Acer campestre* (transplant, age 1+1, height 40-60cm, bare root) • 10% hazel *Corylus avellana* (transplant, age 1+1, height 40-60cm, bare root) • 10% spindle *Euonymus europaeus* (transplant, age 1+1, height 40-60cm, bare root)
Ground Preparation	Create a planting bed to a depth of 1m and fill with subsoil (700mm) and topsoil (300mm). This will be a sufficient depth the support trees and also be suitable for the creation of the grassland and hedgerow. Where necessary, existing weeds will be treated with a herbicide and a suitable period allowed to elapse, as recommended by the manufacturer, for the herbicide to take effect before planting commences. Topsoil to be the top layer which should be raked to produce a fine tilth.
Sowing/Planting	Hedgerow to be planted first, followed by trees, and then the grassland can be sown. **Hedgerow:** Bare root plants shall be planted while dormant (i.e. November to April) and not when frosty or waterlogged. Plant at 5 plants per linear metre in a double staggered row. Species should be mixed randomly. Bare roots plants shall be notch planted (using T, L or straight notches) using suitable spades. The notches must be vertical and deep enough for the roots to hang freely with the transplant being plants so that the root collar is exactly level with the ground surface. The notch must then be closed

	and the soil well firmed round the roost in line with the guidelines set out in BS4428. All planting stock to be protected from rabbit damage using approved proprietary 600mm clear plastic spiral guards, supported with 0.9m 12/14lb canes as advised by the manufacturer. All plants to be watered in well after planting. Composted bark mulch shall be spread to a depth of 75mm and total width of 1m after watering. **Trees:** Tree pits of at least 75cm diameter greater than the roost system and no deeper than the container shall be excavated and the sides well scarified to prevent smearing. The root system of the tree should be wetted prior to planting. The tree should be planted at the correct depth taking into account the position of the root flare and the finished level - the rootball or root stem transition should be level with the existing host soil or surface. The base of the rootball should typically sit on subsoil, for larger rootballs the subsoil will sit around the lower portion of the rootball. Tree pits should be backfilled with 1 part excavated topsoil and 2 parts tree planting compost. At each stage the fill should be firmed in to eliminate all air pockets under and around the root system, but with care being taken not to excessively compact the soil. The final layer should not be consolidated. Apply a general-purpose slow release fertiliser (at the rate of 75gm/m2) and Tree Planting and Mulching Compost at the rate of (20litres/m2) are to be incorporated into the top 150mm of topsoil during final cultivations. All trees are to be double staked with 75mm dia stakes with rubbers and spacers. Stakes should be driven at least 300mm into the ground before planting the tree, taking care to avoid underground services and cables etc. and should typically be one third the height of the tree stem above ground. Staked trees shall be secured to stakes with suitable proprietary rubber tree ties and spacers. Immediately after planting, but before applying the bark mulch, all trees should be saturated. **Grassland:** Seed to be sown in the autumn (September to October) or spring (March-April) providing there is sufficient warmth and moisture. The seed must be surface sown and is to be applied by machine or preferably broadcast by hand. Press the seeds into the ground and if necessary, cover with a layer of topsoil, not exceeding 1cm in depth. During the establishment phase, in very dry conditions, the seed beds may need irrigation. Sowing rate to be confirmed pending seed mix selection.
Year 1 Management	**Hedgerow:** In the first spring, the shrubs should be cut to approx. 45–60cm above the ground to encourage them to 'bush out', encouraging lateral growth and creating a thick hedge.

	All dead, dying or diseased hedge plants will be replaced with plants of similar size and species. If the failure of the plant is due to disease and the disease is considered likely to re-occur then an alternative species may be used as replacement if agreed with the LPA. Weed growth will be controlled in the planting area by careful application of an approved herbicide by a qualified landscape contractor. **Trees:** Top up mulch to ensure a 50mm layer around tree bases is maintained. Replace any dead, dying, damaged stock with same species of similar size. Adjust ties and stake as and when required; the need for this must be checked annually. **Grassland:** Most of the sown meadow species are perennial and are slow to establish. Soon after sowing there will be a flush of annual weeds which can look unsightly, but they will offer shelter to the sown seedlings, are great for insects, and they will die before the year is out. Cut the annual weeds in August, then remove and compost. This will reveal the young meadow, which can then be kept short by mowing through to the end of March of the following year. Dig out any residual perennial weeds such as docks.
Year 2-30 Management	**Hedgerow:** The hedgerow is to be allowed to grow up to 1.75m and maintained at that height. The width of the hedgerow should be allowed to maintain a bushy structure. Trim different parts of the hedgerow on a 2-3 year rotation, only cutting one side of the hedgerow each time. Top up mulch to ensure a 50mm layer around plant bases is maintained up to Year 5. Replace any dead, dying, damaged stock with same species of similar size. Adjust protective sheaths and stake as and when required; the need for this must be checked annually. These can usually be removed from Year 5. **Trees:** Top up mulch to ensure a 50mm layer around tree bases is maintained up to Year 5. Replace any dead, dying, damaged stock with same species of similar size. Adjust ties and stake as and when required; the need for this must be checked annually. These can usually be removed from Year 5. From Year 3, check for the need to prune to encourage a good shape. **Grassland:** In the second and subsequent years, grassland will be managed by traditional meadow management based around a main summer cut in combination with autumn and possibly spring mowing. The meadow grassland is not to be cut from late April through to late August to give the sown species an opportunity to flower. After flowering in August mow to a

	height of c 50mm. Leave the arisings to dry and shed seed for 3 days then remove from site, or compost. Mow the re-growth through to late autumn/winter to c 50mm and again in spring, if needed.

6 CONCLUSION & RECOMMENDATIONS

6.1.1 The site has been the subject of a Preliminary Ecological Appraisal in 2024 which concludes that the existing building supports a bat roost which requires implementation of a full scheme of mitigation/compensation and a derogation licence from NRW before works can commence to demolish the building. The shrubbery also provides nesting bird opportunities. Otherwise, the site is unlikely to support significant populations of other species.

6.1.2 The avoid effects on boundary habitats the following is recommended.

- **Recommendation:** good site management is implemented in line with the Considerate Constructors Scheme, Code of Considerate Practice.
- **Recommendation:** barrier fencing such as Heras fencing is installed at the outset of site works to protect retained boundary features.

6.1.3 The following requirement and recommendations are made in respect of bats.

- **Requirement:** demolition of the building cannot proceed until a derogation licence from NRW is obtained. This will require a full scheme of mitigation/compensation to be provided. To include temporary mitigation in the form of one Schwegler 2F bat box and permanent compensation in the form of roosting provision in the new building.
- **Recommendation:** a bat sensitive lighting scheme should be designed in accordance with the current guidance jointly issued by the Institution of Lighting Professionals and Bat Conservation Trust; Guidance Note 08/18: Bats and Artificial Lighting in the UK.
- **Recommendation:** As a general enhancement, 3no. Beaumaris Woodstone bat box or similar to be installed on suitable trees to the boundaries, at least 3 metres off the ground and out of direct sunlight.

6.1.4 The following recommendations are made in respect of great crested newts and other amphibians.

- **Recommendation:** Implement the RAMS provided in Section 4 above.

6.1.5 The following recommendations are made in respect of birds.

- **Recommendation:** to prevent impacts on nesting birds, vegetation removal shall occur outside of the nesting bird season i.e. not during the months of March through to August inclusive. If vegetation removal is required during this time, the vegetation shall first be checked by a competent Ecologist and only if no nests are found can vegetation be removed. If nests are found, they will remain in-situ and undisturbed until the young have fledged.
- **Recommendation:** three wooden bird nest boxes (suitable for passerines) are installed on on suitable trees to the boundaries, away from artificial lighting.

6.1.6 To provide a biodiversity net benefit, the following recommendation is made.

- **Recommendation:** the biodiversity focused landscaping scheme is to include the measures detailed in Section 5 above.

6.1.7 Taking into consideration these recommendations, long term negative effects on biodiversity are not anticipated and the proposed development actually gives rise to biodiversity enhancement opportunities within the Site, improving biodiversity at a local level.

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