

Preliminary Ecological Appraisal

Reddam House

December 2024

Ecology | Green Space | Community | GIS

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Report Produced for Reddam House (Berkshire) Ltd

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SUMMARY

Introduction	• The site is located at Reddam House, Berkshire and is subject to plans for the demolition of existing outhouses and erection of a two-storey boarding house, associated plant equipment, new landscaping and highways works and other associated works. • This Preliminary Ecological Appraisal (PEA) has been written to describe the existing habitats and potential for protected species and identify any ecological constraints and opportunities, and further surveys required to support the application. • This Preliminary Ecological Assessment will be updated to a full Ecological Impact Assessment once further ecological surveys have been undertaken, in order to assess the impacts of the proposals.
Surveys undertaken	• This Preliminary Ecological Appraisal was completed following a UK Habitat Classification survey at the site in December 2024, which was extended to include an assessment for protected species. • A structure inspection for bats and ground level assessment of trees for roosting bats were also undertaken in December 2024. • A data search was requested from Thames Valley Environmental Records Centre to support the PEA.
Key results	• The site itself contains low value ecological habitats, with scattered trees and buildings being of value for birds and bats. • The wider area is suitable for a range of species and given the proximity, considerations for potential protected species dispersing over the site is required. • There are four buildings on site. Two buildings will require demolition to facilitate the development. The maintenance building is assessed to contain low potential for bats and the medical centre is assessed to contain negligible potential. The other two buildings (Drake House and Cadet) will be retained as part of the development and were assessed to contain negligible potential for bats. • Three trees identified for removal contain potential to support roosting bats. One additional tree within the red line boundary identified for retention also contains suitable features for roosting bats.
Recommendations	• One emergence survey of the low potential building and aerial inspection surveys of the trees with features suitable for roosting bats are required. • Preliminary mitigation for bats, birds and nocturnal mammals is set out. • A full Ecological Impact Assessment will be required when development proposals are available. This will detail the results of the further surveys and outline any mitigation, compensation and enhancement measures.

- to identify the existing habitats on site;
- to identify the potential for protected species;
- to identify if any further surveys are required with regards to protected habitats or species, to inform an Ecological Impact Assessment;
- to identify key ecological constraints to the project and make recommendations for design options to avoid significant effects on important ecological features/resources;
- to identify potential mitigation and compensation measures to ensure there is no negative impact on habitats and protected species during construction and in operation; and
- to identify potential ecological enhancement opportunities to seek a net gain in biodiversity.

2 POLICY AND LEGISLATION

2.1 National Policy

- 2.1.1 The **National Planning Policy Framework (NPPF)** (December 2024) sets out national planning policy, including policies of relevance to conserving and enhancing the natural environment. Policies of relevance to the proposed development (parts of paragraphs 187, 192, 193 and 198) have been summarised below:

Para 187: Planning policies and decisions should contribute to and enhance the natural and local environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan).*
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs;*

Para 192: To protect and enhance biodiversity and geodiversity, plans should:

- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
- b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*

Para 193: When determining planning applications, local planning authorities should apply the following principles, notably:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*

Para 198: c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

2.2 Local Policy

2.2.1 The Wokingham Borough Council's Core Strategy (adopted 2010) have provided guidance in relation to development and biodiversity in which includes the following policies which are relevant to this application. Further details are provided in Appendix 1.

- CP7 – Biodiversity.
- CP8 – Thames Basin Heaths Special Protection Area.

2.2.2 The Wokingham Borough Development Plan, Adopted managing development delivery local plan (February 2014) have provided policy towards development and biodiversity which includes the following policy which is detailed within Appendix 1:

- TB23: Biodiversity and Development

2.3 Relevant Legislation

2.3.1 The following pieces of legislation have been considered within this assessment with an explanation of their relevance provided.

Table 1 Relevant legislation

Legislation	Relevance
The Habitats Directive (together with the Birds Directive) forms the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. All in all, the Directive protects over 1,000 animals and plant species and over 200 "habitat types" (e.g. special types of forests, meadows, wetlands, etc.), which are of European importance. The Habitats Directive and parts of the Birds Directive are transposed into legislation by The Conservation of Species and Habitat Regulations 2017 (as amended) .	Buildings and trees with potential to support roosting bats on site. Likely presence of commuting and foraging bats on site.
Wildlife and Countryside Act 1981 (as amended, including by the Countryside and Rights of Way Act 2000), which provides legislative protection for certain species. The Act also prohibits the spread of invasive plant species, as well as providing the mechanism for the designation and protection of Sites of Special Scientific Interest;	Potential presence of nesting birds on site.
Badgers and their setts are protected under the Protection of Badgers Act 1992 as amended by the Hunting Act 2004.	Potential presence of badger within the vicinity of the site
The Natural Environment and Rural Communities Act 2006 (the NERC act) places a duty on all public authorities, including local planning authorities, to consider biodiversity in their work. Local planning authorities are to ensure that there is no net loss of biodiversity on a site, no net loss in habitat connectivity and aims to enhance biodiversity.	Potential presence of NERC S41 mammals on site Enhancements for biodiversity

3 METHODOLOGY

3.1 Approach

- 3.1.1 The overall assessment has been informed by guidelines provided in CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, Second Edition.

3.2 Desktop Study

- 3.2.1 A background data search was received from the Thames Valley Environmental Records Centre (TVERC) in November 2024. The search included records of bat records within 1km of the proposed development site, which was considered sufficient and proportionate given the potential impacts on protected species as a result of the development.
- 3.2.2 An additional search for statutory designated sites within 1km of the development site and granted European Protected Species (EPS) licences within 1km of the site boundary was undertaken using publicly available information (DEFRA Magic map).

3.3 UK Habitat Classification Survey

- 3.3.1 A UKHab survey was undertaken on 4th December 2024. The survey incorporated detailed assessment of the land within the development boundary, including a description and mapping of all key features and habitat types. The survey was carried out to identify the range of habitats within the site and the predominant and notable species of flora.

Quadrat methodology

- 3.3.2 Grasslands were surveyed using professional judgement using 1x1m² quadrats sample. A minimum of three quadrats were undertaken of each grassland section. The DAFOR scale was used to assess the coverage of each species.
- 3.3.3 Information collected within each quadrat included aspect, slope, average ground cover, sward variation, species, and their percentage cover.
- 3.3.4 Where the grassland differed to a certain extent or was divided by field boundary such as hedgerows it was considered that the grassland was a different habitat parcel, and another assessment was undertaken.

3.4 Bats

- 3.4.1 The habitats on site were assessed for their suitability to support foraging and commuting bats. This assessment was also contextualized through examination of

suitable habitat and features in the wider landscape and possible flight-lines across the proposed site following natural linear features such as hedgerows.

Preliminary roost inspection

- 3.4.2 Physical external and internal inspection of the buildings were undertaken on 4th December using the equipment described below to assist the inspection. Approximately eight hours of search effort were expended.
- 3.4.3 The physical search includes a search for live animals and a search for other signs that give an indication of past or present occupancy as outlined below. In the case of bats, typical indicators include droppings (which are characteristic and can often be speciated or at least be indicative of species type), signs of staining, urine splashing, characteristic odours, and accumulations of discarded prey remains.
- 3.4.4 Where required, the search included an endoscope search of features with potential for bats. Equipment included a Rigid micro-CA-350 Inspection Camera with micro 6mm extension, camera, laser measure, and binoculars.

Ground level assessment of trees

- 3.4.5 The methodology draws upon guidance within Collins (2023) and the Bat Tree Habitat Key (2018). The surveys were undertaken using binoculars and a high-powered torch to view features from the ground. Details on the potential roosting features were recorded as well as information to identify the specific trees. Tree numbering followed those set out within the Arboricultural Impact Assessment Report (WSP, 2024) for consistency and ease of identification.
- 3.4.6 Potential roosting features on trees were identified as any feature within a tree that could provide shelter for a roosting bat. These features result from the following three mechanisms:
- Disease and decay;
 - Damage; and,
 - Associations.
- 3.4.7 Tree with no potential roost features were assessed as having 'negligible' potential for roosting bats and no further surveys were carried out. Potential features have been categorised following the guidelines set out in table 6.2 (extract below):

Table 6.2. Guidelines for categorising the potential suitability of PRFs on a proposed development site for bats, to be applied using professional judgement.

Suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

3.4.8 Trees with features suitable for roosting bats were assessed as having ‘PRF-I’ or ‘PRF-M’ suitability for bats. Trees with ‘PRF-I’ potential for roosting bats were not subject to additional survey, in line with BCT survey guidelines. Justification is provided, in the form of a detailed description and photographic evidence, to demonstrate how the classification of ‘PRF-I potential’ had been made. Recommendations will be made as necessary if any trees with low potential are to be impacted.

3.4.9 Trees assessed as containing PRF-M and considered likely to be impacted by the development (e.g., directly through removal or indirectly from light spill) will be subject to further Potential Roost Features (PRF) inspections or Aerial Inspection Surveys. These results will be set out within the EcIA.

3.5 Birds

3.5.1 The bird survey included an assessment of the habitats on site for their potential to support protected and notable species of bird as well as their potential to support breeding birds.

3.6 Other Protected Species

NERC S41 mammals

3.6.1 The survey included an assessment of the habitats on site for their potential to support NERC Section 41 species such as hedgehog (*Erinaceus europaeus*), polecat (*Mustela putorius*), harvest mouse (*Micromys minutus*) and brown hare (*Lepus europaeus*).

Badger

3.6.2 The survey for badger (*Meles meles*) included a search of the development site for any evidence of badgers, including setts, foraging signs (snuffle holes), runs and latrines.

Hazel dormouse

3.6.3 The survey included an assessment of the potential of the site for hazel dormouse (*Muscardinus avellanarius*), focusing on the connectivity and suitability of the habitat on site.

Riparian mammals

- 3.6.4 The survey included an assessment of the potential of the site to support riparian mammals such as otter (*Lutra lutra*) and water vole (*Arvicola amphibius*). The principal survey techniques employed were an assessment of the connectivity of the site with suitable riparian habitat in the wider environment and a search for field signs including holts/burrows, couches, feeding sites, spraints/latrines, and tracks.

Reptiles

- 3.6.5 The potential presence of reptiles on site was assessed considering the habitats present (availability of refugia and basking areas) and suitability of surrounding environment. Where possible, attempts to confirm reptile presence on site were made following *Froglife Advice Sheet 10 – Surveying for Reptiles* through direct observation in reptile “hotspots” and checking of any existing refugia.

Amphibians

- 3.6.6 The habitats on site were assessed for their potential to support amphibian species, including great crested newt (*Triturus cristatus*) (GCN). This included an examination of suitable waterbodies and for breeding terrestrial habitat and terrestrial habitats which may provide sufficient structured vegetation in which amphibians may forage or hibernate.
- 3.6.7 In addition to the on-site assessment, *Great Crested Newt Mitigation Guidelines* (English Nature, 2001) recommend that a desktop analysis of ponds within 500m of the site be undertaken, to identify any potential breeding ponds which may require further survey. Ponds within 500m of the site were mapped on GIS with an OS OpenData base map at 1:10,000 resolution.

Invertebrates

- 3.6.8 Due to the many invertebrate taxonomic groups that exist, the often-large differences in invertebrate diversity between habitats and the many survey techniques available, invertebrate surveys are highly specific to individual sites. Therefore, an assessment of the site’s potential for invertebrates was undertaken, including the need for targeted surveys, as recommended in *Considering Invertebrates in Preliminary Ecological Appraisals* (Jukes, 2021).

3.7 Limitations

- 3.7.1 The UK Hab survey was undertaken in December, which is outside of the optimal survey period for botanical species (March – October). However, as the habitats on site are assessed to be common and widespread, an assessment of their importance for nature conservation and potential to support protected species has been possible and this is not considered a significant limitation to the assessment.

3.7.2 The medical building could not be inspected internally during the structure inspection for bats. The external structure inspection did not identify any potential roosting features on the building and therefore, the lack of internal access is not considered a significant limitation to the assessment.

3.8 Personnel

3.8.1 The surveyors on site are included within Table 2. The survey team have worked together on numerous similar projects and have a complimentary range of skills and experience which are considered to have provided a robust ecological appraisal of the site.

Table 2 Surveyors on site

Ecologist	Position	Qualifications/ Licences	Experience	Role in Assessment
Stephanie Green	Head of Ecology	MSc BSc (Hons), MCIEEM Class 1 GCN Licence Class 1 Hazel Dormouse Licence	Steph has over eleven years' experience in ecological field survey and consultancy. Steph is responsible for leading and undertaking comprehensive habitat assessments, protected species surveys and is a licenced GCN and dormouse worker, as well as a Full Member of CIEEM.	Report reviewer
Matt Attrill	Principal Ecologist	Tree Climbing and Rescue, City and Guilds NPTC Level 2 Award (206 and 306) BSc (Hons) Class 2 Bat Licence Class 1 GCN Licence	Matt is a highly experienced field surveyor with over nine years ecological experience. Matt is competent in surveying for a wide variety of wildlife gained experience from both the commercial and voluntary sectors.	Structure inspection for bats, UK Hab, report author
Joe Bamforth	Senior Ecologist	MSc, BSc (Hons) Mem.MBA Class 1 Bat Licence 2022-10148-CL17-BAT Tree Climbing and Rescue, City and Guilds NPTC Level 2 Award (206 and 306)	Joe has over six years' experience in ecological consultancy and leads a variety of habitat assessments and protected species surveys. He is also competent managing projects and undertaking biodiversity net gain assessments.	Structure inspection for bats, UK Hab, ground level assessment of trees

4.2 UK Hab Survey

General site description

- 4.2.1 The site comprises an area within school grounds, with four buildings and associated infrastructure. Habitats within the area are limited to amenity grassland and scattered trees.

UKHab survey

- 4.2.2 Figure 3 displays the key habitats using the UK Habitat classifications. Descriptions of the habitats are provided in the following section and comprise:

- Grassland – Modified grassland (g4);
- Urban – Developed land; sealed surface (u1b);
- Individual Trees



Figure 3 UK Hab survey results

Grassland – Modified grassland

- 4.2.3 A large proportion of the site contains modified grassland, managed for amenity use. The grassland was assessed to be in poor condition due to recreational impact, with high levels of bare ground throughout the sward. At the time of survey, the grassland

was managed to a short sward throughout and had a low species diversity. Four quadrats were taken from across the grassland, with the results displayed in Appendix 2. The grassland contained an average of 4.5 species per quadrat.

- 4.2.4 The grassland is assessed to contain low value for biodiversity and is not considered further in this appraisal.



Photo 1 Grassland on site



Photo 2 Grassland on site

Urban – Developed land; sealed surface

- 4.2.5 Areas of sealed surface are present across the site including roads, car parks and buildings. Roads and car parks are largely tarmac as the main surface covering, which offer negligible value for wildlife. The buildings are further discussed within Section 4.7 in relation to bats, with the remainder of the sealed surface habitat not considered further in this appraisal.



Photo 3 Sealed surface road



Photo 4 Sealed surface road

Individual trees

- 4.2.6 There are several mature individual trees present across the site, including pedunculate oak, common beech and scots pine. These trees are discussed further in relation to bats in Section 4.7.



Photo 5 Scattered trees on site



Photo 6 Scattered trees on site

- 4.2.7 Overall, the habitats present on site were assessed to be common and widespread in the context of the surrounding area, and not of importance for nature conservation.

4.3 Bats

Data search

- 4.3.1 The data search identified over 100 records of bats within 1km of the site, with species recorded comprised brown long-eared bat (*Plecotus auritus*), common pipistrelle (*Pipistrellus pipistrellus*), Daubenton's bat (*Myotis daubentonii*), *Myotis* spp (*Myotis* spp.), Nathusius's pipistrelle (*Pipistrellus nathusii*), Natterer's bat (*Myotis nattereri*), noctule bat (*Myctalus noctule*), serotine (*Eptesicus serotinus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and western barbastelle (*Barbastella barbastellus*). Many of the provided records were confidential and so their exact location could not be confirmed, however many records related to areas within Sindlesham, north of the site.
- 4.3.2 The data search also identified six granted EPS licences relating to bats within 1km of the site. Species listed comprised brown long-eared bat, common pipistrelle, Daubenton's bat, soprano pipistrelle and noctule. Two records related to the destruction of a breeding site for one or more of the species listed (2015-18114-EPS-MIT): brown long-eared bat, common pipistrelle, Daubenton's bat and soprano pipistrelle. EPS licence records related to two areas at the edge of the 1km search area, west and north of the site.

Habitats

- 4.3.3 The site contains modified grassland in poor condition and sealed surfaces, which provide very low value to bats. The scattered mature trees contain some value for foraging and commuting bats, however the site itself is assessed to be low value when considered in the context of the surrounds, which include extensive areas of woodland, lakes and grassland.

Roosting bats – Structures

- 4.3.4 There are four buildings present on site, as shown in Figure 4. The maintenance building (Appendix 3 Photo 7-10) and the medical building (Appendix 3 Photo 11-14) will require removal to facilitate the development and were therefore subject to a full internal and external structure inspection. Drake House (Appendix 3 Photo 15-16) and the Cadet building (Appendix 3 Photo 17) will be retained as part of the development and were therefore only subject to external inspection. The results of the structure inspection are provided in Table 3 below, with photographs provided in Appendix 3.
- 4.3.5 The maintenance building contains two damaged tiles and a missing soffit vent, which could provide a roost feature for bats. Overall, the maintenance building was assessed to contain low potential for roosting bats, in line with Table 4.1 of the Bat Conservation Trust Survey Guidelines (Collins, 2023), which states:
- ‘A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by a large number of bats (i.e. unlikely to be suitable for maternity and not a classic cool/ stable hibernation site, but could be used by individual hibernating bats).’*
- 4.3.6 The remaining three buildings were assessed to contain **negligible potential for roosting bats**. There was a single potential roost feature on the medical centre building which was fully inspected with an endoscope and determined to be unsuitable to support roosting bats, as it did not extend backwards to form a cavity and was open and exposed to the elements.
- 4.3.7 **No evidence of roosting bats** was identified during the structure inspection.



Figure 4 Structure inspection results

Table 3 Structure inspection results

Building reference	Description	Suitability for bats	Impacts
Maintenance building	Single story detached building. Brick built with UPVC windows. Single pitched roof with clay roof tiles. Internally, a loft occupies the entire roof space with rock wool insulation to ceiling level. The loft had extensive spider webbing at the time of survey and rat droppings were noted throughout.	Low - due to damaged tiles and missing soffit vent, offering potential access for bats to suitable voids.	Demolition
Medical centre	A single-story brick-built structure with a shallow pitched felt roof. There are PVC windows and wooden barge boards on the east and western elevations, which are flush to the walls and do not provide a suitable crevice.	Negligible	Demolition

Building reference	Description	Suitability for bats	Impacts
	The building is in good condition throughout. No internal inspection was possible, however as the roof is almost flat, it is unlikely to provide a suitable loft void. One minor void was noted above a UPVC window. The void was fully inspected via endoscope and was dismissed as a PRF due to being open across the base (therefore exposed) and not leading to a further suitable feature.		
Drake House	Two story brick-built structure in good condition, including the roof and soffits. The roof has extensive moss coverage.	Negligible	Retained, impacts limited to lighting
Cadet Hut	Single story modern brick-built structure. The roof and soffits are in good condition throughout.	Negligible	Retained, impacts limited to lighting

Roosting bats – Trees

4.3.8 Twenty-six trees were present across the site which were subject to a ground-level assessment for potential roosting features for bats. Of the 26 trees, three contains PRF-M features and one contains PRF-I features. The remaining 22 trees are assessed to contain negligible potential for roosting bats.

4.3.9 Impacts on roosting bats are considered further in this assessment, in relation to further survey requirements and likely mitigation.

4.4 Birds

4.4.1 The site offers some suitable nesting habitat for common woodland bird species within the scattered trees on site. The remainder of the habitats are assessed to provide negligible value for birds. No evidence of nesting birds was identified during the structure inspection.

- 4.4.2 All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) and cannot be killed or taken, their nests and eggs taken, damaged or destroyed while their nest is in use or being built. Therefore, impacts on birds during tree removal have been considered further in this appraisal.

4.5 Other Protected Species

Nocturnal mammals (NERC S41 species and badger)

- 4.5.1 The site itself offers very low suitability for NERC mammals such as brown hare, harvest mouse, hedgehog or polecat, as well as badger. The wider environment includes extensive woodlands and grasslands that could offer suitability for these species. No evidence of NERC S41 mammals or badger was identified during the UK Hab survey.
- 4.5.2 Given the suitability of the wider area for these nocturnal mammal species, it is likely that these species could occasionally use the site for commuting and dispersal, therefore impacts will be considered further during the construction period only.

Hazel dormouse

- 4.5.3 The data search did not identify any granted EPS licences relating to dormouse within 1km of the site.
- 4.5.4 The site does not contain habitats of value to dormouse, such as scrub, woodland or hedgerows. The wider area contains extensive areas of these habitat types which are likely to offer suitable habitat for dormouse.
- 4.5.5 The scattered trees on site are not suitably connected to the wider woodland areas and are unlikely to support dormouse. Therefore, dormouse are assessed as likely to be absent from the site and will not be considered further in this appraisal.

Riparian mammals

- 4.5.6 The site does not contain any suitable riparian habitats for otter or water vole and there are none present in the vicinity of the site, with the closest suitable habitat being the series of lakes 450m to the south west. Therefore, riparian mammals are assessed as likely to be absent from the site and are not considered further in this appraisal.

Reptiles

- 4.5.7 The site contains no suitable habitat for reptiles, with the modified grassland present being maintained to a short sward with high levels of bare ground which do not provide suitable refugia for reptiles. Therefore, reptiles are assessed as likely to be absent from the site and are not considered further in this appraisal.

Amphibians

- 4.5.8 There were no granted EPS licences relating to GCN within 1km of the proposed development site. There were six GCN licence returns for positive records of GCN presence, all from the same location north west of Mole Road 875m north west of the site and dated 2016 and 2017.
- 4.5.9 The site is assessed to offer negligible-very low suitability for GCN and other amphibians. There are no waterbodies on or adjacent to the site and therefore, no suitable breeding habitat. The grassland on site is maintained to a short sward and does not contain refugia for GCN to utilise.
- 4.5.10 The desk-based assessment identified three ponds within 250m of the site, with an additional pond located slightly outside of the 250m buffer. There are three ponds between 90 and 150m south of the site, within a woodland clearing. Additional lakes were identified to the south of the site within the 500m buffer; these are likely unsuitable for GCN due to the presence of fish.
- 4.5.11 Although the ponds south of the site may be suitable for GCN, it is considered unlikely that GCN are present on site due to the unsuitability of habitat, and higher quality habitat within woodland around the ponds. Therefore, GCN and other amphibians are assessed as likely to be absent from the site and are not considered further in this appraisal.

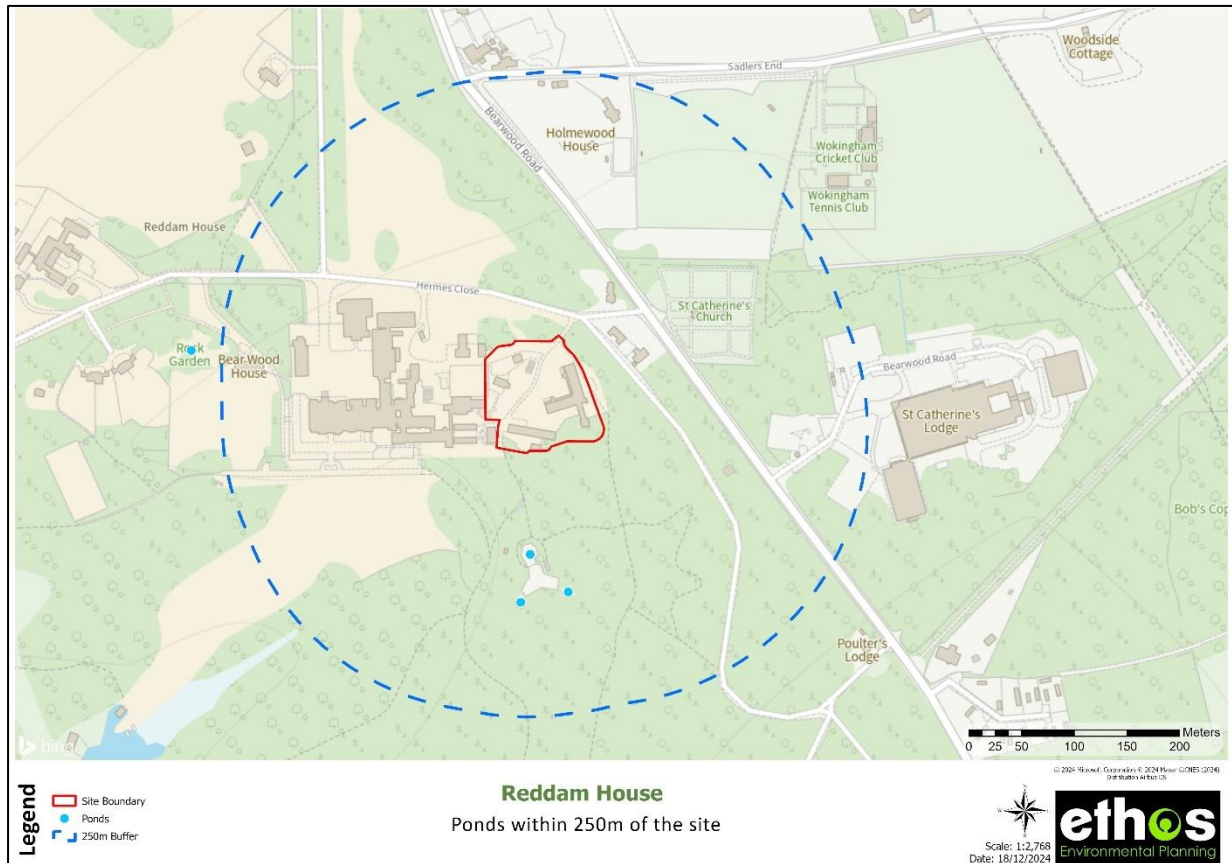


Figure 5 Ponds within 250m of the site

Invertebrates

4.5.12 The site comprises modified grassland, sealed surfaces buildings and scattered trees, which are common and widespread habitats considered to hold negligible-low value to the majority of invertebrates. The likely assemblage of invertebrates present on site is not assessed to be of importance for nature conservation and invertebrates are not considered further in this appraisal.

5 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

5.1 Constraints

- 5.1.1 There are several trees with features suitable for roosting bats, including features suitable for multiple bats (PRF-M). Mature trees with features for bats should be retained where possible within the development design. For trees with features which require removal, the loss of the features should be replaced like-for-like in line with best practice guidance (UK Bat Mitigation Guidelines, 2023).
- 5.1.2 The maintenance building was identified as having low potential for roosting bats, therefore further surveys have been recommended to identify the status of roosting bats within this structure, including the requirement for mitigation or EPS licensing.

Further ecological surveys

- 5.1.3 The following further surveys will be required and the results presented within an Ecological Impact Assessment:
- One emergence survey should be carried out on the maintenance building during the active bat season (May – August inclusive) to ascertain the buildings status in regard to roosting bats.
 - T13, T18 and the double trunked beech tree from G5 should be subject to further aerial inspection surveys to determine whether they support roosting bats. All of these trees are accessible from the adjacent car park and the features may be able to be inspected through use of a MEWP. If not, tree climbing surveys will be required to identify whether the features are suitable for roosting bats. The surveys will determine whether bats are present as well as the requirements for mitigation, compensation and licensing to allow the trees to be removed legally without impacting bats.
 - T21 is to be retained as part of the development however, if it is likely to be impacted by the introduction of artificial lighting, surveys would also be required on this tree, similar to T18 and T13. The surveys should be spread across the survey season where possible, but at least 1 month apart.

5.2 Outline Mitigation Recommendations

- 5.2.1 Full details of mitigation required will be provided in an EclA, once further surveys set out above have been completed. In the absence of development proposals, it is likely that mitigation measures could include:
- Mitigation required during the construction period should be detailed within a Construction Environmental Management Plan (CEMP).

- Standard pollution prevention control measures will be required to safeguard the retained adjacent woodland and trees during the construction period. Sensitive construction measures will also protect nocturnal mammals during this period.
- A lighting plan will be required to demonstrate the surrounding woodland habitat is not subject to increased lighting levels as a result of the development proposals, in order to protect bats and other nocturnal mammals.
- If bats are found to be roosting in the maintenance building, mitigation measures will be required in order to demolish the structure legally. This would include obtaining a bat licence from Natural England and precautionary working methods. Compensation for loss of the roost may also be required, depending on the significance of the roost.
- Tree removal should be undertaken outside of the breeding bird season (March-September inclusive) or subject to a pre-works check by a Suitably Qualified Ecologist. The ecologist will assess for the presence of any active bird nests and set up an exclusion zone around the nest until the chicks have fledged.
- Further surveys of T18 are not required, in line with best practice guidance relating to trees with PRF-I. However, precautionary mitigation will be required during construction to ensure that bats are protected, and the loss of the feature must be compensated for to avoid impacting the local roost resource.

5.3 Design Opportunities and Ecological Enhancement

5.3.1 Opportunities for ecological enhancement will be identified within the EclA, but are likely to include:

- Tree and shrub planting across the site to compensate for the tree loss on site.
- It is recommended to create nesting opportunities for species such as swifts, starlings, swallows and house sparrows within the new building.
- Additional roosting opportunities for bats should also be incorporated into the proposed building within the development.
- Creation of log piles and a stag beetle loggery using removed deadwood to provide habitat for stag beetles which are likely to be present in the local area, given the extensive areas of woodland habitat.
- Management of habitats created and enhanced as part of the development should be described within a Habitat Management and Monitoring Plan (HMMP).
- Ecological enhancement provisions could be secured through condition, and shown within an Ecological Enhancement Plan (EEP). The provisions could be subject to a compliance check by a Suitably Qualified Ecologist to ensure they have been installed to specification.

6 CONCLUSIONS

- 6.1 The majority of the site is of low value for biodiversity. The scattered mature trees are the most valuable habitat on site and have the potential to support nesting birds and roosting bats.
- 6.2 Further surveys for bats are required to inform an EclA, which comprise an emergence survey on the maintenance building which contains low potential for bats, as well as aerial inspection surveys of several trees on site. The further surveys will identify whether roosting bats are present and in turn, the requirements for mitigation, compensation or licensing. The proposed surveys will ensure compliance with local policy CP7 Biodiversity, which relates to the protection of Species of Principle Importance and identification of mitigation measures required to prevent damaging impacts, with appropriate compensation measures set out, if required.
- 6.3 Key ecological constraints have been identified in Section 5, along with preliminary recommendations for mitigation measures and ecological enhancements. The ecological enhancements proposed are in line with Paragraph 187 of the NPPF, which relates to incorporating features which support priority or threatened species such as swifts, bats and hedgehogs.

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APPENDIX 1 RELEVANT LOCAL POLICY

Wokingham Borough Local Development Framework. Adopted Core Strategy Development Plan Document

CP7 – Biodiversity

Sites designated as of importance for nature conservation at an international or national level will be conserved and enhanced and inappropriate development will be resisted. The degree of protection given will be appropriate to the status of the site in terms of its international or national importance.

Development:

- A) Which may harm county designated sites (Local Wildlife Sites in Berkshire), whether directly or indirectly, or*
- B) Which may harm habitats or, species of principle importance in England for nature conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife and river corridors), whether directly or indirectly, or*
- C) That compromises the implementation of the national, regional, county and local biodiversity action plans will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need, and:
 - i) Mitigation measures can be put in place to prevent damaging impacts; or*
 - ii) Appropriate compensation measures to offset the scale and kind of losses are provided.**

CP8 – Thames Basin Heaths Special Protection Area

Development which alone or in combination is likely to have a significant effect on the Thames Basin Heaths Special Protection Area will be required to demonstrate that adequate measures to avoid and mitigate any potential adverse effects are delivered.

Wokingham Borough Managing Development Delivery Document (Local Plan) – Adopted 21 February 2014

Policy TB23: Biodiversity and Development

1. Sites of national or international importance are shown and sites of local importance are defined on the Policies Map.
2. Planning permission for development proposals will only be granted where they comply with policy CP7 – Biodiversity of the Core Strategy and also demonstrate how they:
 - a) Provide opportunities, including through design, layout and landscaping to incorporate new biodiversity features or enhance existing
 - b) Provide appropriate buffer zones between development proposals and designated sites as well as habitats and species of principle importance for nature conservation

c) Ensure that all existing and new developments are ecologically permeable through the protection of existing and the provision of new continuous wildlife corridors, which shall be integrated and linked to the wider green infrastructure network.

APPENDIX 2 GRASSLAND QUADRAT RESULTS

Quadrat number	Common name	Latin name	Photograph
1	perennial rye-grass white clover daisy self-heal hawkbit spp. ribwort plantain dandelion	<i>Lolium perenne</i> <i>Trifolium repens</i> <i>Bellis perennis</i> <i>Prunella vulgaris</i> <i>Leontodon [spp]</i> <i>Plantago lanceolata</i> <i>Taraxacum officinale agg.</i>	
2	perennial rye-grass dandelion	<i>Lolium perenne</i> <i>Taraxacum officinale agg.</i>	
3	creeping bent dandelion fescue spp. Speedwell Spp. ground ivy cock's-foot field wood rush	<i>Agrostis stolonifera</i> <i>Taraxacum officinale agg.</i> <i>Festuca [spp]</i> <i>Veronica spp.</i> <i>Glechoma hederacea</i> <i>Dactylis glomerata</i> <i>Luzula campestris</i>	
4	fescue spp. creeping bent	<i>Festuca [spp]</i> <i>Agrostis stolonifera</i>	

APPENDIX 3 STRUCTURE PHOTOGRAPHS



Photo 7 Maintenance building



Photo 8 Maintenance building



Photo 9 Crack in tile on maintenance building



Photo 10 Gap in soffit on maintenance building



Photo 11: Internal gable end of maintenance building



Photo 12: Loft space of maintenance building



Photo 13 Medical centre roof



Photo 14 Medical centre



Photo 15 Medical centre northern elevation



Photo 16 Medical centre gap above window - no PRF and fully explored



Photo 17 Drake House



Photo 18 Drake House



Photo 19 Cadet Hut

APPENDIX 4 GROUND LEVEL ASSESSMENT OF TREES

Tree Number and suitability	Description	Photograph
T1 – no PRFs	Tree in good condition with no prf. minor pruning cuts	
T2 – no PRFs	good condition oak with no prf. minor pruning cuts	
T3 – no PRFs	good condition oak with well healed pruning cuts	

Tree Number and suitability	Description	Photograph
T4 – no PRFs	good condition oak with well healed pruning cuts	
T9 – no PRFs	no PRFs some pruning cuts to lower limbs	
T10 – no PRFs	impressive pine in good condition minus slight lean to north-west. no features	

Tree Number and suitability	Description	Photograph
T11 – no PRFs	No PRFs identified	
T12 – no PRFs	No PRFs identified	
T13 – PRF-I and PRF-m	two tear out features on eastern elevation. one at 10m other at 15m main trunk. three nut hatch sized holes at 7m on southern limb.	

Tree Number and suitability	Description	Photograph
T14 – no PRFs	No PRFs identified	
T15 – no PRFs	damage to bark on southern elevation but does not create a feature. no other features	
T16 – no PRFs	No identified PRFs.	

Tree Number and suitability	Description	Photograph
T17 – no PRFs	young triple stem sycamore with no prf	
T18 – PRF-i	Twin stemmed beech. a dead limb at top of tree on E stem. decay is open at the top and exposed to the elements. suitable for crevice dwelling bats but unlikely to support significant roosts. No PRF M identified. One PRF-I identified.	
T19 – no PRFs	No identified PRFs.	
T20 – no PRFs	No PRFs identified.	

Tree Number and suitability	Description	Photograph
T21 – PRF-I and PRF-m	PRF 1 - lifted and missing bark in several places on main stem. starting at 8m high with some lifted bark up to 18/20m. PRF 2 - Decay /woodpecker hole located about 16m high on NW elevation in area of missing bark. Cannot assess if recess or whether opens into cavity. PRF 3 - fissure running vertical down stem on NW elevation starting at 12m up to 20m. could be bark lifting or could be cavity. all three PRFs have potential for PRF M and I. High roosting potential.	
T56 – no PRFs	large TPO cedar. many pruning cuts from previous tree works. all clean cuts and no apparent damage to tree. no features noted. tree to be retained.	
G4 – no PRFs	Three stemmed oak. relatively young with no PRFs identified	

Tree Number and suitability	Description	Photograph
G5 – PRF-m	double stem beech with missing tops on both trunks. Northern trunk appear to offer rot hole features as PRF-m	
G5 – no PRFs	Beech with no PRF identified	
G5 – no PRFs	young beech. No PRFs identified	

Tree Number and suitability	Description	Photograph
G5 – no PRFs	Cedar with no PRFs identified	
G5- no PRFs	leaning young beech with all branches on W elevation. No PRFs identified	
G5 – no PRFs	Young tree with no identified PRFs	

Tree Number and suitability	Description	Photograph
G5 – no PRFs	managed oak with evidence of pruning. no evidence of damage or decay with no PRFs identified	
G5 – no PRFs	Young oak with no PRFs identified	