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Ecological Impact Assessment

Land Adjacent to The Orchids,
Tytherley Road
Salisbury
Wiltshire
SP5 1PZ

August 2026

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QUALITY CONTROL		
The information which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.		
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This report remains valid for 2 years from date of issue. Survey data are valid for 12-18 months from the date the survey was undertaken.		

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Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living creatures are capable of migration and whilst protected species may not have been located during the survey duration, their presence may be found on site at a later date.

The views and opinions contained within the document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to works.

1. EXECUTIVE SUMMARY

- 1.1. Darwin Ecology Ltd was commissioned by Urs Jungo to undertake an EclA of proposals for the buildings and habitats at Land adjacent to The Orchids, Tytherley Road, Salisbury, Wiltshire, SP5 1PZ (hereafter referred to as 'the site'). The assessment was required to support a planning application for the construction of a new residential dwelling and potential installation of a sewage treatment plant with filtration bed, and was informed by a desk study and habitat walkover survey.
- 1.2. During the habitat walkover survey the following habitats were identified on site: modified grassland, sparsely vegetated urban land, two sections of non-native and ornamental hedgerow, and two trees. Additionally, the eastern boundary of the site backed onto an area of ancient woodland named Noad's Copse.
- 1.3. The site was assessed as offering limited suitability for a range of protected and notable species, including terrestrial mammals, common amphibians and reptiles, foraging and commuting bats, and breeding birds. Owing to its low species diversity, and the regularly managed, short-sward nature of the modified grassland, the site is considered unlikely to support significant populations of such species. Nevertheless, due to the lack of dispersal barriers between the site and the ancient woodland individuals of protected and notable species may occasionally access and utilise the site, although this is likely to be limited to the eastern boundary.
- 1.4. Given the small scale of the proposed works, which are localised to the the sparsely vegetated urban land and a small section of the modified grassland on the western site, it was assessed that Phase II surveys would be disproportionate to the level of impact associated with the proposals. The works will maintain a 15m buffer from the ancient woodland to reduce any impacts that may arise during the construction phase.
- 1.5. It is considered that the mitigation, compensation, and enhancement measures outlined within this report will be sufficient to safeguard protected and notable species, should they be present at the time of works, and to offset any minor loss of ecological opportunities arising from the proposals.
- 1.6. Due to the plans increasing the residential units within the 13.8km zone of influence of The New Forest SAC, SPA, and Ramsar, a Habitat Regulation Assessment (HRA) will be required to assess the impacts of the proposed plans.
- 1.7. Recommendations for enhancements have also been made, including a wildlife-beneficial landscaping to ensure opportunities are available for protected species following the completion of the development, and that the ecological value of the site is enhanced in the long-term.

2. INTRODUCTION AND BACKGROUND

Background

- 2.1. Darwin Ecology Ltd was commissioned by Urs Jungo to undertake an EclA of proposals for the buildings and habitats at Land adjacent to The Orchids, Tytherley Road, Salisbury, Wiltshire, SP5 1PZ (hereafter referred to as 'the site')¹. The assessment was required to support a planning application for the construction of a new residential dwelling and potential installation of a sewage treatment plant with a filtration bed, and was informed by a desk study and habitat walkover survey.
- 2.2. The proposed drawings on which this assessment is based are provided at **Appendix 1, Proposed Plans**.
- 2.3. The habitat walkover survey followed the Chartered Institute for Ecological and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal (2017). Habitats on site were broadly mapped to a minimum of 5m² in accordance with current guidance from *UK Habitat Classification Version 2.0 UKHab Ltd (2023)*.
- 2.4. The subsequent EclA follows the CIEEM Guidelines for EclA in the UK and Ireland (2018).

Site Overview

- 2.5. The site is located in The Common village on the outskirts of Salisbury and is directly adjacent to Noad's Copse woodland. The site comprises an area of sparsely vegetated land and modified grassland formerly part of The Orchids amenity garden that backs onto an area of ancient woodland, with a low number of residential dwellings in the immediate area (see **Figure 1**).
- 2.6. The wider landscape comprises a mosaic of arable farmland, ancient woodland, chalk grassland, and low densities of small residential dwellings. The site is located 11km northeast of Salisbury city centre and 9.65km from The New Forest National Park (see **Figure 2**).

Scope of Assessment

- 2.7. The process of EclA aims to identify, quantify and evaluate the potential effects of development-related or other proposed actions on habitats, species and ecosystems.
- 2.8. Potential effects on the following ecologically sensitive receptors have been considered during the EclA of The Orchids:
 - Statutory and non-statutory designated sites; and
 - On-site habitats of intrinsic importance (such as buildings or discrete habitat features).

¹ Ordnance Survey (OS) grid reference SU 25533 32357.

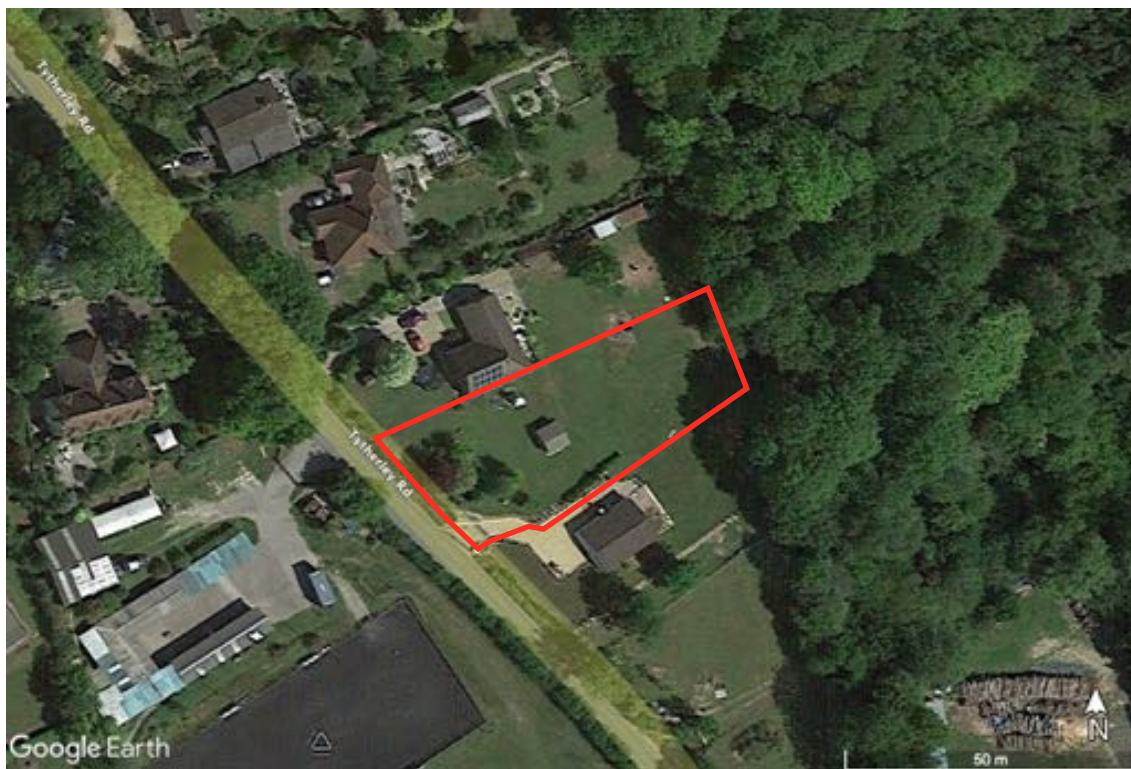


Figure 1: Site location within the local landscape (Copyright Google Earth, Aug 2026)



Figure 2: Site location within the wider landscape (Copyright Google Earth, Aug 2026)

3. LEGISLATION & POLICY

General Wildlife Legislation

- 3.1. Wildlife in the United Kingdom (UK) is protected through European and national legislation, supported by national and local policy and guidance. Development can contribute to conservation and enhancement goals outlined by these various legislation and policy by retaining and protecting the most valuable ecological features within a site and incorporating enhancements to provide biodiversity net gain.
- 3.2. This section provides a brief summary of the principle legislation and policy that triggers the requirement for preliminary and further ecological assessments in the UK. The presence of protected species within a site are a material consideration during the planning process. Preliminary and any necessary further ecological assessments provide an ecological baseline for a site and evaluation of the potential impact of proposals.
- 3.3. It is the responsibility of those involved with development works to ensure that the relevant legislation is complied with at every stage of a project. Such legislation applies even in the absence of related planning conditions or projects outside the scope of the usual planning process (i.e. permitted development projects or projects requiring Listed Building Consent only).

Bat Legislation

- 3.4. In England and Wales, all bat species and their roosts are legally protected under the European *Habitats Directive (1992)*; the *Conservation of Habitats and Species Regulations (2017)*; the *Wildlife and Countryside Act (1981) (as amended)*; the *Countryside and Rights of Way Act, 2000*; and the *Natural Environment and Rural Communities Act (NERC, 2006)*.
- 3.5. Barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *Rhinolophus hipposideros*, brown long-eared *Plecotus auritus*, soprano pipistrelle *Pipistrellus pygmaeus*, and noctule *Nyctalus noctula* bats are all species of principal importance in England under *Section 41* of the *Natural Environment and Rural Communities Act 2006*.
- 3.6. You will be committing a criminal offence if you:
 - Deliberately capture, injure or kill a bat;
 - Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
 - Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
 - Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; or
 - Intentionally or recklessly obstruct access to a bat roost.

- 3.7. The government's statutory conservation advisory organisation, Natural England, is responsible for administering European Protected Species (EPS) licences that permit activities that would otherwise lead to an offence.
- 3.8. A licence can be obtained if the following three tests have been met:
- Regulation 53(9)(a) - there is “no satisfactory alternative” to the derogation, and;
 - Regulation 53(9)(b) - the derogation “will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range” and;
 - Regulation 53(2)(e) - the derogation is for the purposes of “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”.

National Planning Policy

- 3.9. The *National Planning Policy Framework (2024)* aims to minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity. Chapter 15 ‘Conserving and enhancing the natural environment’ details what local planning policies should seek to consider with regard to planning applications.
- 3.10. Planning policies and decisions should contribute to and enhance the natural and local environment by:
- 187 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);
 - 187 b) Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
 - 187 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;
 - 188) Plans should: distinguish between the hierarchy of international, national and local designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement

of natural capital at a catchment or landscape scale across local authority boundaries;

189) Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural beauty which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and Broads. The scale and extent of development within all these designated areas should be limited, while development within their settings should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

3.11. Specific policies regarding habitats and biodiversity comprise:

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.

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

- a) If significant harm to biodiversity resulting from a development cannot be avoid (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;
- b) Development on land within or outside of Sites of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the feature of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around development should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

194) The following should be given the same protection as habitats sites:

a) Potential Special Protection Areas and possible Special Areas of Conservation;

b) Listed or proposed Ramsar sites; and

c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

Local Planning Policy

3.12. The local planning policy for the site is the Wiltshire Core Strategy, with relevant policies comprising:

Core Policy 50: Biodiversity and geodiversity:

Protection

Development proposals must demonstrate how they protect features of nature conservation and geological value as part of the design rationale. There is an expectation that such features shall be retained, buffered, and managed favourably in order to maintain their ecological value, connectivity and functionality in the long-term. Where it has been demonstrated that such features cannot be retained, removal or damage shall only be acceptable in circumstances where the anticipated ecological impacts have been mitigated as far as possible and appropriate compensatory measures can be secured to ensure no net loss of the local biodiversity resource, and secure the integrity of local ecological networks and provision of ecosystem services.

All development proposals shall incorporate appropriate measures to avoid and reduce disturbance of sensitive wildlife species and habitats throughout the lifetime of the development.

Any development potentially affecting a Natura 2000 site must provide avoidance measures in accordance with the strategic plans or guidance set out in paragraphs 6.75-6.77 above where possible, otherwise bespoke measures must be provided to demonstrate that the

proposals would have no adverse effect upon the Natura 2000 network. Any development that would have an adverse effect on the integrity of a European nature conservation site will not be in accordance with the Core Strategy.

Biodiversity enhancement

All development should seek opportunities to enhance biodiversity. Major development in particular must include measures to deliver biodiversity gains through opportunities to restore, enhance and create valuable habitats, ecological networks and ecosystem services. Such enhancement measures will contribute to the objectives and targets of the Biodiversity Action Plan (BAP) or River Basin/ Catchment Management Plan, particularly through landscape scale projects, and be relevant to the local landscape character.

Local sites

Sustainable development will avoid direct and indirect impacts upon local sites through sensitive site location and layout, and by maintaining sufficient buffers and ecological connectivity with the wider environment. Damage or disturbance to local sites will generally be unacceptable, other than in exceptional circumstances where it has been demonstrated that such impacts:

- i.* cannot reasonably be avoided
- ii.* are reduced as far as possible
- iii.* are outweighed by other planning considerations in the public interest
- iv.* where appropriate compensation measures can be secured through planning obligations or agreements.

Development proposals affecting local sites must make a reasonable contribution to their favourable management in the long-term.

Core Policy 51: Landscape:

Development should protect, conserve and where possible enhance landscape character and must not have a harmful impact upon landscape character, while any negative impacts must be mitigated as far as possible through sensitive design and landscape measures. Proposals should be informed by and sympathetic to the distinctive character areas identified in the relevant Landscape Character Assessment(s) and any other relevant assessments and studies. In particular, proposals will need to demonstrate that the following aspects of landscape character have been conserved and where possible enhanced through sensitive design, landscape mitigation and enhancement measures:

- i.* The locally distinctive pattern and species composition of natural features such as trees, hedgerows, woodland, field boundaries, watercourses and waterbodies.
- ii.* The locally distinctive character of settlements and their landscape settings.

- iii. The separate identity of settlements and the transition between man-made and natural landscapes at the urban fringe.
- iv. Visually sensitive skylines, soils, geological and topographical features.
- v. Landscape features of cultural, historic and heritage value.
- vi. Important views and visual amenity.
- vii. Tranquillity and the need to protect against intrusion from light pollution, noise, and motion.
- viii. Landscape functions including places to live, work, relax and recreate.
- viii. Special qualities of Areas of Outstanding Natural Beauty (AONBs) and the New Forest National Park, where great weight will be afforded to conserving and enhancing landscapes and scenic beauty.

Proposals for development within or affecting the Areas of Outstanding Natural Beauty (AONBs), New Forest National Park (NFNP) or Stonehenge and Avebury World Heritage Site (WHS) shall demonstrate that they have taken account of the objectives, policies and actions set out in the relevant Management Plans for these areas. Proposals for development outside of an AONB that is sufficiently prominent (in terms of its siting or scale) to have an impact on the area's special qualities (as set out in the relevant management plan), must also demonstrate that it would not adversely affect its setting.

Core Policy 53: Wiltshire's canals

The restoration and reconstruction of the Wilts and Berks and Thames and Severn canals as navigable waterways is supported in principle. The historic alignments of the Wilts and Berks, including the North Wilts Branch, and Thames and Severn Canals, as identified on the policies map, will be safeguarded with a view to their long-term re-establishment as navigable waterways.

These alignments will be safeguarded by:

- i. not permitting development likely to destroy the canal alignment or its associated structures, or likely to make restoration more difficult
- ii. ensuring that where the canal is affected by development, the alignment is protected or an alternative alignment is provided.

Proposals will be permitted that are designed to develop the canal's recreational and nature conservation potential, in particular, the use of the old line of the canal for walking, cycling and interpretation.

Proposals for the reinstatement of canal along these historic alignments or any alternative alignments will need to demonstrate that the cultural, historic and natural environment will be protected and enhanced, with no overall adverse effect, and that potential impacts on ecology, landscape, flood risk, water resources (abstraction) and water quality have been

fully assessed and taken into account. Proposals for the reinstatement of discrete sections of the canal will also need to demonstrate that the potential environmental impacts of the restoration project as a whole have been assessed and taken into account.

Core Policy 58: Ensuring the conservation of the historic environment.

Development should protect, conserve and where possible enhance the historic environment.

Designated heritage assets and their settings will be conserved, and where appropriate enhanced in a manner appropriate to their significance, including:

- i.* nationally significant archaeological remains
- ii.* World Heritage Sites within and adjacent to Wiltshire
- iii.* buildings and structures of special architectural or historic interest
- iv.* the special character or appearance of conservation areas
- v.* historic parks and gardens
- vi.* important landscapes, including registered battlefields and townscapes.

Distinctive elements of Wiltshire's historic environment, including non-designated heritage assets, which contribute to a sense of local character and identity will be conserved, and where possible enhanced. The potential contribution of these heritage assets towards wider social, cultural, economic and environmental benefits will also be utilised where this can be delivered in a sensitive and appropriate manner in accordance with Core Policy 57 (Ensuring High Quality Design and Place Shaping).

Heritage assets at risk will be monitored and development proposals that improve their condition will be encouraged. The advice of statutory and local consultees will be sought in consideration of such applications.

Core Policy 69: Protection of the River Avon SAC

In order to avoid and reduce potential environmental effects on the River Avon SAC, development will need to incorporate measures during construction and operation to avoid and prevent pollution and mitigate potential disturbance effects; appropriate measures may include consideration of suitable buffer zones along watercourses, habitat enhancements and river access management measures. All development within 20m of the river banks should submit a construction management plan to the local planning authority to ensure measures proposed during construction are satisfactory.

Where additional sewage discharges to a STW cannot be accommodated without measures to offset phosphate loading, development will be required to undertake proportionate measures (which may include contributions towards those measures identified in the Nutrient Management Plan) to demonstrate that the proposals would have no adverse effects upon the SAC.

4. METHODOLOGY

Desk Study

- 4.1. A desk study was undertaken for designated sites, and protected species and habitat records within 2 km of the site:
- The MagicMap website was reviewed to obtain information on any designated sites of nature conservation interest within 2km of the site and details of any EPS licences issued within 1km, extended to 2km for bats;
 - The Wiltshire Council Planning Portal was searched for past and pending planning applications that may have associated ecological documents detailing results of bat surveys; and
 - Google Maps and Ordnance Survey (OS) Leisure Maps were utilised to view aerial photographs and maps to assess the ecological context of the site within the wider landscape.
- 4.2. Natural England has developed a tool to help assess the potential risks to SSSIs by proposed developments. These are known as 'Impact Risk Zones' (IRZs), and they define the area around a SSSI that could be sensitive to development, considering the particular sensitivities of the feature for which the site is designated.
- 4.3. The IRZs help inform whether a development proposal may affect a SSSI and if so, whether it is necessary for the Local Planning Authority (LPA) to seek pre-application advice from Natural England. Information on the IRZs was determined from the MAGIC website to determine if the LPA is required to seek consultation for the current development.

Habitat Walkover Survey

- 4.4. Assistant Ecologist Jordan Holman-Thatcher BSc (Hons) conducted a walkover survey at Land adjacent to The Orchids on 14th of July 2026. The weather conditions at the time of the survey were dry with clear skies and a temperature of approximately 26°C.
- 4.5. The walkover survey assessed habitats present within the application red line boundary for their potential to support protected species, including:
- Bats;
 - Great crested newt *Triturus cristatus* and common amphibians;
 - Reptiles;
 - Dormouse *Muscardinus avellanarius*;
 - Other terrestrial mammals, including hedgehog *Erinaceus europaeus* and badger *Meles meles*;
 - Schedule 1 birds, including but not limited to; barn owl *Tyto alba*, lapwing *Vanellus vanellus* and skylark *Alauda arvensis*

- Breeding birds; and
 - Invertebrates.
- 4.6. As there is no running water within the site, in combination with their nationally sparse distribution, it is considered highly unlikely that white clawed crayfish *Austropotamobius pallipes* would be using the site and they are therefore not considered further in this report.
- 4.7. Otter *Lutra lutra* and water vole *Arvicola amphibius* are not considered further in this report due to the lack of running water on site and within the wider area. The site also does not offer any suitable habitat for these species.
- 4.8. The site was also searched for non-native, invasive plant species, with particular care to search for the most commonly occurring and problematic species, such as Japanese knotweed *Fallopia japonica*, Indian balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum*.

Limitations

- 4.9. Ecological surveys are limited by factors that affect the presence of plants and animals such as the time of the year, weather, and migration patterns. The survey was undertaken in June and therefore represents a valid sample of ecological evidence present on that date/season.
- 4.10. The desk study does not include data from the local environmental records centre (LERC). However, following CIEEM guidelines (2017) it is possible to conduct a robust assessment without the need of LERC data, for example for small-scale projects or on sites such as;
- A field in active arable cultivation where there is no impact on any hedges, trees or water bodies;
 - A small area of cultivated garden/amenity grassland, as above; or
 - A small urban site comprising mostly asphalt or compacted hardstanding.
- 4.11. The site is a small plot set comprising a dwelling and small area of amenity garden and therefore the lack of LERC data is not considered a limitation to the ecological assessment of the site.
- 4.12. No other limitations were encountered, or assumptions made during either the desk study or the field survey and it is considered that with the access gained and recording undertaken an accurate assessment of the site's ecological importance has been made.

5. SURVEY RESULTS

Desk Study

- 5.1. There is one statutory designated site within 2km of the site in the form of a Site of Special Scientific Interest (SSSI). There are several additional statutory designated sites of international importance within 10km of the site in the form of Special Areas of Conservation (SAC), and Special Protection Areas (SPA). These are detailed in **Table 2**.

Table 2: Statutory designated sites within 10km of the site.

Designated sites	Name and designation type	Reason for designation	Approximate distance from site
Within Site Boundaries	There are no designated sites within the site boundaries.		
Within 2km of Site	Bentley Wood SSSI	The whole site is replanted woodland on what was previously ancient woodland with a mix of conifers and native hardwood trees. The site is particularly noted for woodland butterfly and moth species, with over 40 species of butterfly, and over 300 species of moth recorded. Examples include the small pearl-bordered fritillary, dark green fritillary, and the lunar spotted pinion	400m south
Within 10km of Site	Salsbury Plain SAC	Salsbury Plain is designated as an SAC for the presence of two Annex I habitats, including <i>Juniperus communis</i> formation on chalk heaths, and semi-natural dry grassland and scrubland facies on calcareous substrates, making it an orchid-rich site. Additionally, the site supports a population of marsh fritillary butterfly <i>Euphydryas aurinia</i> , an Annex II species.	3.40km north
	Porton Down SPA	The site is part of an extensive area of chalk grassland with scrub and woodland. The site is designated as an SPA for supporting a breeding population of Stone Curlew <i>Burhinus oedecnemus</i> .	3.40km north
	Mottisfont Bats SAC	The site comprises of a mix of woodland types and supports an important population of rare barbastelle <i>Barbastella barbastellus</i> , an Annex II species, and the site is one of only six known maternity sites in the UK for this species.	6.50 km southeast
	River Avon SAC	The River Avon has been designated as an SAC for being classified as a water course of plain to montane levels and the presence of <i>Ranunculus fluitantis</i> and <i>Callitriche- Batrachion</i> vegetation. Additionally, the river contains five Annex II species including Desmoulin's whorl snail <i>Vertigo moulinsiana</i> , Sea lamprey <i>Petromyzon marinus</i> , Brook lamprey <i>Lampetra planeri</i> , Atlantic salmon <i>Salmo salar</i> , and Bullhead <i>cottus gobio</i> .	9.01 km west

	The New Forest SAC	The new Forest has been designated as an SAC for the presence of eleven different Annex I Habitats and two Annex II Species. This includes, but not limited to, oligotrophic waters, Northern Atlantic wet heaths with <i>Erica teralix</i> , European dry heaths, bog woodland, Southern damselfly <i>Coenagrion mercuriale</i> , and stag beetle <i>Lucanus cervus</i> .	9.65km south
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- 5.2. The site falls within the IRZ of several designated sites, including Bentley Wood SSSI, Mottisfont bats SAC, and The New Forest SAC.
- 5.3. A search of Wiltshire Council Planning Portal showed there was one relevant planning application within the last two years. This is detailed below.
- Application PL/2025/08124, located along the same road as the site, for the conversion of an agricultural building into a residential dwelling. Bat emergence surveys were required and identified one of the buildings as a day roost for common pipistrelle bats.
- 5.4. There are five areas of priority deciduous woodland within 2km of the site, with the closest being Noad's Copse along the eastern curtilage of the site. The next closest woodland is Hedgemoor Copse located 240m southeast from the site. There are four areas of ancient woodland within 1km of the site, with the closest being Noad's Copse located along the eastern curtilage of the site.
- 5.5. There are no further priority habitats within 1km of the site.

Habitat Walkover Survey

- 5.6. The habitats on site comprised sparsely vegetated urban land, modified grassland, and two lines of non-native and ornamental hedgerow. This section is to be read in conjunction with **Figure 3. Table 3** below outlines the summary of habitats identified on site, as well as their applicable secondary codes.

Table 3: Habitat applicable codes

Primary Habitat	UK Hab Primary Code	Applicable Secondary Code(s) used	Secondary Code(s) description
Sparsley Vegetated Urban Land	u1f	-	-
Modified Grassland	g4	16	Tall Forbs
		108	Frequently Mown
		200	Tree
Non-Native and Ornamental Hedgerow	h2b	-	-

u1f Sparsley Vegetated Urban Land

- 5.7. On the western section of the site there was an area of sparsely vegetated urban land that is approximately 80% bare ground, comprising chalk, and the remaining 20% covered by encroaching vegetation.
- 5.8. The species recorded include red fescue *Festuca rubra*, ribwort plantain *Plantago lanceolata*, field bindweed *Convolvulus arvensis*, common knapweed *Centaurea nigra*, nipplewort *Lapsana communis*, weld *Reseda luteola*, buddleia *Buddleja sp.*, Fuller's teasel *Dipsacus sativus*, yarrow *Achillea millefolium*, common nettle *Urtica dioica*, scentless mayweed *Tripleurospermum inodorum*, and sweet vernal-grass *Anthoxanthum odoratum*.
- 5.9. Three small metal roofing tins were scattered throughout, and a small area had been used as a bonfire within this area.

g4 Modified Grassland (Secondary Codes: 16, 108, 200)

- 5.10. The grassland was an amenity grassland that was frequently mown with an average sward length of 5cm. The predominant species present were red fescue and white clover *Trifolium repens*. Other species recorded include nipple wort, field bindweed, ribwort plantain, and creeping buttercup *Ranunculus repens*.
- 5.11. Along the eastern curtilage of the site that borders with ancient woodland, there was a mature holly tree *Ilex aquifolium* and ash tree *Fraxinus excelsior*, with tall forbs growing, along this edge with species including agrimony *Agrimonia eupatoria*, common nettle, vervain *Verbena officinalis*, and cherry laurel saplings *Prunus laurocerasus*.

h2b Non-Native and Ornamental Hedgerow

- 5.12. There were two lines of cherry laurel hedges running along the western curtilage and the southern curtilage of the site.
- 5.13. The southern hedge was well manicured and measured approximately 2m tall and 0.5m wide. The hedge was continuous with the exception of a small gap of 0.5m that was recorded. Additionally, a small hawthorn sapling was growing from the centre of the hedgerow.
- 5.14. The western hedge was well manicured with no gaps recorded, and measured approximately 1.5m in height, 1m wide, and 13m in length along the western curtilage. Other species recorded within the hedgerow include white bryony *Bryonia dioica*, dog rose *Rosa canina*, common ivy *Hedera helix*, common nettle, and clematis *Clematis vitalba*.



Legend

-  Red Line Boundary
-  Medium Tree
-  Non-native and ornamental hedgerow
-  Modified grassland
-  Spensley Vegetated Urban Land



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Figure 3: Habitat Map

Date: August 2020

Habitat Walkover Survey Photos



Image 1: Area of sparsely vegetated land facing southwest.



Image 2: Area of sparsely vegetated land facing southward with metal roofing tins.



Image 3: Area of sparsely vegetated land facing northwest.



Image 4: Modified grassland facing east.



Image 5: Modified grassland facing west.



Image 6: Modified grassland with tall forbs along the eastern curtilage.



Image 7: Southern hedgerow facing west.



Image 8: Western hedgerow facing west.

Protected Species

Bats

- 5.15. A search of MagicMaps showed one record of an EPS licence for bats within 2km of the site. These are detailed in **Table 4**.

Table 4: ESP licences granted for bats within 2km of the site

Case Reference	Licence dates	Species designation	Licensable Impact	Approximate distance from site
EPSM2012-4723	10/09/2012 - 30/09/2013	Common pipistrelle, soprano pipistrelle, serotine, brown long-eared	Destruction of resting site	620m southeast

- 5.16. The modified grassland, sparsely vegetated urban land, and trees on the site offer some low-value foraging and commuting opportunities for bats. However, these opportunities may be limited due to the short-sward length and regular management of the grassland.
- 5.17. The woodland that borders the eastern aspect of the site offers good foraging and commuting opportunities for bats.
- 5.18. The two trees present within the site curtilage were not of an age or character to support roosting bats. It is considered likely that bats regularly access and utilise the site.
- 5.19. The wider landscape contains a high quantity of suitable habitat for bats with the surrounding woodlands, ancient woodland, and grassland providing good opportunities for foraging and commuting.

Great Crested Newt and Common Amphibians

- 5.20. A search of MagicMaps showed no EPS licences for great crested newt, no records of great crested newt class survey licence returns, and no great crested newt pond surveys between 2017 to 2019 within 1km of the site.
- 5.21. There are no water bodies within 250m of the site, see **Figure 4**. The closest waterbody was located 280m southeast and was separated from the site by residential and farm buildings, hardstanding and a road.
- 5.22. The modified grassland and sparsely vegetated urban land on site offers some low-value foraging and commuting opportunities for amphibian species; however, these opportunities are limited by the regular management and short-sward length of the grassland, and the high coverage of bare ground as there will be limited protective cover from predation.
- 5.23. The wider landscape contained suitable habitat to support populations of amphibians with the woodland, grassland, and field margins all offering good foraging, commuting, and resting opportunities for these species. However, these opportunities may be limited due to the lack of waterbodies present within the wider landscape.



Figure 4: Waterbodies within 250m of the site. Copyright Magic Maps (Aug 2026).

- 5.24. The site is well connected to the wider landscape along the eastern boundary of the site due to being directly adjacent to suitable habitat and a lack of substantial dispersal barriers between the site and the ancient woodland.
- 5.25. The site has limited connectivity along the western boundary of the site due to significant dispersal barriers along this aspect, including hardstanding, roads, buildings, and regularly managed amenity gardens separating the site from areas of suitable habitat to support amphibians.
- 5.26. Overall, it is considered significantly unlikely that the site would support populations or individuals of amphibians. However, due to the presence of the ancient woodland along the eastern boundary, there is limited potential that individual amphibians in their terrestrial phase may access and utilise the site although this would be limited to the eastern boundary of the site.

Reptiles

- 5.27. A search of MagicMaps showed there were no EPS licences for rare reptile species within 1km of the site.
- 5.28. The modified grassland and sparsely vegetated urban land offer some low-value foraging and commuting opportunities for reptile species. However, these opportunities are limited

due to the regular management and short-sward length of the grassland, and the high coverage of bare ground as there will be limited protective cover from predation.

- 5.29. The metal roofing tins found within the sparsely vegetated urban land offer some refugia opportunity for reptiles however, it is considered unlikely that they would be used due to limited suitable commuting opportunities to the tins.
- 5.30. The wider landscape contained suitable habitat to support populations of amphibians, with the woodland, grassland, and field margins all offering good foraging, commuting, and resting opportunities for these species.
- 5.31. The site is well connected to the wider landscape along the eastern boundary of the site due to being directly adjacent to suitable habitat and a lack of substantial dispersal barriers between the site and the ancient woodland.
- 5.32. The site has limited connectivity along the western boundary of the site due to significant dispersal barriers along this aspect, including hardstanding, roads, buildings, and regularly managed amenity gardens separating the site from areas of suitable habitat to support reptiles.
- 5.33. Overall, it is considered significantly unlikely that the site would support populations or individuals of reptiles. However, due to the presence of the ancient woodland along the eastern boundary, there is limited potential that individual reptiles may access and utilise the site although this would be limited to the eastern boundary of the site.

Dormouse

- 5.34. A search of MagicMaps showed there were no EPS licences for dormice within 1km of the site.
- 5.35. The modified grassland and sparsely vegetated urban land on site have negligible potential to support dormouse.
- 5.36. The non-native and ornamental hedgerow offers low-value foraging opportunity for dormouse. However, the hedgerow lacks the species diversity for nesting opportunity and connectivity to suitable habitat in the wider landscape, as it does not connect to the ancient woodland on the eastern boundary.
- 5.37. Additionally, the two trees located on the eastern boundary do not connect with the canopy of the ancient woodland.
- 5.38. Overall, it is considered that the site has negligible potential to support dormice and they will not be considered further in the report.

Other Terrestrial Mammals

- 5.39. No evidence of badger (such as hairs, mammal paths, latrines, snuffle holes, or scat) or badger setts/sett entrances were identified on-site or within 30m of the site.

- 5.40. Evidence of mammal activity was found in the form of rabbit droppings on the boundary between the modified grassland and sparsely vegetated urban land.
- 5.41. The modified grassland and sparsely vegetated urban land offer some low-value foraging and commuting opportunities for mammal species. However, these opportunities are limited due to the regular management and short-sward length of the grassland.
- 5.42. The wider landscape contains suitable habitat to support terrestrial mammals, with the woodland, grassland, and field margins offering opportunities for foraging, commuting, and resting opportunities. It is considered likely that individuals and populations of terrestrial mammals are present within the wider landscape.
- 5.43. The site is well connected to the wider landscape along the eastern boundary of the site due to being directly adjacent to suitable habitat and a lack of significant dispersal barriers between the site and these habitats.
- 5.44. The site has limited connectivity along the western boundary of the site due to dispersal barriers along this aspect, including hardstanding, roads, buildings, and regularly managed amenity gardens separating the site from areas of suitable habitat to support.
- 5.45. Overall, due to the presence of some suitable opportunities for terrestrial mammals on site, in combination with the moderate level of connectivity between the site and areas of suitable habitat to support terrestrial mammals within the wider landscape, it is considered that individual terrestrial mammals may access and utilise the site on occasion.

Breeding Birds

- 5.46. No nests were identified on site at the time of the survey.
- 5.47. The two trees, and non-native and ornamental hedgerows offer some good foraging and nesting opportunities for breeding birds.
- 5.48. It is considered likely that the site supports an assemblage of common garden and woodland bird species. Common farmland birds may pass over the site on occasion due to the surrounding habitats in the wider landscape. However, the site itself does not contain suitable habitat to support these species.
- 5.49. The habitat on site is considered unlikely to provide suitable hunting opportunities for barn owls, due to the small size of the site and the vegetation present, lacking the complex, tall, and tussocky sward preferred by small mammals. It is considered unlikely that barn owls utilise the site to hunt.
- 5.50. It is likely that the woodland habitat within the surrounding landscape provides roosting opportunities for barn owls, and it is considered likely that barn owls are present within the wider landscape.

Invertebrates

- 5.51. The modified grassland, sparsely vegetated urban land, and non-native and ornamental hedgerow would provide suitable foraging, resting, and commuting for a variety of invertebrate species. It is considered that the site would support an assemblage of common invertebrate species.
- 5.52. Due to the lack of suitable habitat on site, it is considered significantly unlikely that Roman snail *Helix pomatia* and Stag Beetle *Lucanus cervus* would be present on site.

6. IMPACT ASSESSMENT

Designated Sites and Priority Habitats

Baseline

- 6.1. The site is located within 2km of Bentley Wood SSSI, and 10km of Salisbury Plain SAC, Porton Down SPA, Mottisfont Bats SAC, River Avon SAC, and The New Forest SPA, SAC, and Ramsar.
- 6.2. There are five areas of priority deciduous woodland and four areas of ancient woodland within 1km of the site, with the closest being Noad's Copse along the eastern boundary of the site.

Potential Impacts

- 6.3. The proposed plans comprise the construction of a single residential unit and a sewage treatment plant with a filtration bed with the works localised to the sparsely vegetated urban land and a small section of the modified grassland.
- 6.4. Due to the works leading to an increase in residential units it is considered likely there is likely to be significant effect on surrounding designates sites, green spaces, and wildlife sites through increased footfall and amenity pressure.
- 6.5. The site falls within the 13.8km zone of influence for The New Forest SPA, SAC, and Ramsar. Accordingly, the proposal has the potential to contribute to increased recreational pressure on these European sites and is therefore likely to require Habitats Regulations Assessment (HRA) screening by the competent authority. Any mitigation required would be secured through the planning process.
- 6.6. The proposals comprise the construction of a single residential dwelling, together with a package sewage treatment plant and filtration bed. Works will be largely confined to existing sparsely vegetated urban land and a small area of modified grassland.
- 6.7. Construction activities are not anticipated to directly affect Noad's Copse Ancient Woodland, as no works are proposed within the woodland and the development footprint is separated from it by approximately 15m. Subject to the implementation of appropriate construction best practice, including measures to prevent dust deposition, pollution and accidental encroachment, significant adverse effects on the woodland are not anticipated.

Habitats

Status of Habitats on Site

- 6.8. The habitats on site comprise modified grassland, sparsely vegetated urban land, and non-native ornamental hedgerow.

- 6.9. The areas of modified grassland, sparsely vegetated urban land, and non-native ornamental hedgerow are of low intrinsic ecological value. The value of the grassland is limited by its regular management, short sward length and low species diversity.
- 6.10. The trees are of moderate intrinsic ecological value.

Potential Impacts

- 6.11. The proposals will include the loss of the sparsely vegetated urban land and a section of the modified grassland along the western section of the grassland. Due to the low and limited intrinsic ecological value, the loss of this habitat will have a low impact at the local level.
- 6.12. The loss of vegetation from the grassland and sparsely vegetated urban land will result in the loss of some foraging, commuting, and resting opportunities. However, due to the small amount of vegetation being lost and the presence of other suitable habitats in the surrounding area it will have a low impact at the local level. Budleja was recorded growing in the sparsely vegetated urban land.
- 6.13. No trees will be lost as part of the proposals.
- 6.14. Cherry laurel and buddleia, invasive non-native species, are present on site. It is an offence to plant or cause the spread of these species.

Recommendations

- 6.15. *Tree root protection zones:* All retained trees and hedgerows will be protected in accordance with British Standards BS 5837:2012. Root protection areas will be 12x the diameter at breast height (DBH) or the reach of the longest branch (whichever is greater), unless otherwise advised by a qualified arboriculturist. Trees located off site but with their roots on site should also be protected. No materials should be allowed to be stored within these root protection areas, and no heavy machinery should run over them.
- 6.16. *Invasive species:* If invasive species on site are due to be removed as part of the proposals, these should be removed appropriately so as to prevent the spread of these species.

Protected Species

Bats

Status of Bats on Site

- 6.17. The two trees present on site were not of an age or character to support potential roosting features.
- 6.18. The habitats on site offer some low value foraging and commuting opportunities for bats however, due to the presence of the ancient woodland it is considered that a variety of bat species would regularly access and utilise the site.

Potential Impacts

- 6.19. No trees are proposed to be lost as part of the works. Therefore, the proposals will not result in the destruction of a bat roost and works can proceed without any requirement of a protected species licence or further surveys.
- 6.20. Light spill throughout the works and from any new artificial lighting on site may impact bat flight paths and foraging sites, potentially resulting in habitat fragmentation. It is therefore important to consider lighting impacts in proposed plans.

Mitigation

- 6.21. *Lighting:* Any new external lighting should be directed to avoid light spillage onto vegetation, particularly linear habitat features such as woodland edges or potential roosting sites within trees and buildings. Bats are sensitive to light and could potentially avoid the area if access points or the surrounding areas become lit. Appropriate lighting options will prevent a negative impact on bats potentially using the habitats on site and should be approved by a suitably qualified and licensed bat ecologist. Lighting plans should be approved and signed off by a licensed bat ecologist prior to submission, to ensure the scheme is suitable for bats. If appropriate measures are taken to reduce light spillage from the development, it is likely that there will be no negative impacts on local bat populations.
- 6.22. See **Appendix 4** for further information on designing lighting to minimise impacts on bats.

Amphibians and reptiles*Status of Amphibians and reptiles on Site*

- 6.23. The modified grassland and sparsely vegetated urban land offer low-foraging and commuting opportunities for amphibian and reptile species. However, these opportunities are limited due to the short sward length and regular management.
- 6.24. It was determined that the site was unlikely to support populations or individuals of amphibians and reptiles. If individuals are present, it is considered they would be limited to the eastern boundary of the site where the grassland meets the ancient woodland.

Potential Impacts

- 6.25. It is not anticipated that the works will result in a significant negative impact on amphibians and reptiles, and there will be no residual impact on these species.

Other Terrestrial Mammals*Status on Site*

- 6.26. No badger setts or sett entrances were identified on site or within 30m of the site boundary. Additionally, no badger latrines were identified on site.

- 6.27. Evidence of mammal activity was found in the form of rabbit droppings between the sparsely vegetated urban land and modified grassland.
- 6.28. The modified grassland and sparsely vegetated urban land offers some low-value foraging and commuting opportunities for mammals; however, this is limited due to the regular management and short-sward length of the grassland.
- 6.29. Due to the presence of suitable habitat to support populations of terrestrial mammals within the wider landscape, and the high connectivity between the site and the wider landscape, it is likely that individual terrestrial mammals access and utilise the site on occasion.

Potential Impacts

- 6.30. The loss of this habitat is likely to have a negligible impact due to the small size being lost and good quality habitat found in the surrounding landscape.
- 6.31. If terrestrial mammals are able to access the site during the proposed works, they may be injured due to the destructive activity or trapped in any excavations.
- 6.32. Due to the small size and limited opportunity of the area of modified grassland and sparsely vegetated urban land to be lost, it is not considered that the proposals would have a significant impact on local populations of terrestrial mammals.

Recommendations

- 6.33. Given the site's proximity to an area of ancient woodland, a pre-commencement badger walkover should be undertaken within 48 hours of works commencing to determine whether any new setts have been created on site or within 30m of the development boundary.
- 6.34. If the badger sett is active, or a new sett has been constructed, within 30m of the development boundary, the works have the potential to encroach into one of the buffer areas required by the Badger Trust Badger Protection Best Practice Guidance.
- 6.35. These buffer zones prevent:
- Use of heavy machinery within 30 metres of any sett entrance.
 - Use of lighter machinery (particularly for digging) within 20 metres of any sett entrance.
 - Use of hand tools such as hand digging or scrub clearance within 10 metres of any sett entrance.
- 6.36. In the situation that there is an active sett on site, all works should cease until an appropriate licence is obtained. Monitoring surveys will be conducted through the use of camera trap equipment to characterise the sett present. This data will then be utilised to apply for an appropriate licence from Natural England.
- 6.37. General mitigation measures are considered sufficient to protect terrestrial mammals during construction works within the application area. It is considered that standard mitigation and

reasonable avoidance measures (outlined below) should be sufficient to protect these species.

- 6.38. Any excavations or trenches on site must be covered whilst works are paused (such as overnight), or a ramp should be provided in order to prevent animals from becoming trapped within the excavations, and should be checked before filling takes place.
- 6.39. In the event a mammal is discovered on site during the construction phase, then all works must stop and:
- Primarily, the individual should be allowed to disperse naturally, with works being halted until they are outside the development area.
 - Alternatively, if the individual appears injured or is not moving, a suitably qualified ecologist should be contacted.
- 6.40. Given the above mitigation strategy, it is considered likely that there will be no residual impacts on terrestrial mammals.

Breeding Birds

Status on Site

- 6.41. The non-native and ornamental hedgerow and two trees on site offer some suitable nesting opportunities for local birds. at the time of the survey no nests were identified.
- 6.42. It is likely that the site is frequented by an assemblage of common garden and woodland bird species.
- 6.43. No suitable trees or structures to support roosting and nesting barn owls were identified on site or around the boundary of the site. It was determined that the grassland on site did not offer suitable hunting opportunities for barn owl due to its short sward and regularly managed nature. It is considered unlikely that barn owls would utilise the site.

Potential Impacts

- 6.44. The proposals will not result in the loss of any trees on site, therefore no loss of foraging or nesting opportunity.
- 6.45. The loss of the sparsely vegetated urban land and section of modified grassland will result in the loss of foraging opportunity for local birds. However, due to the small size and suitable habitat in the wider landscape this is not considered to have a significant impact on local birds.
- 6.46. It is not anticipated that the works will result in a significant negative impact on local birds and there will be no residual impact on these species.

Invertebrates*Status on Site*

- 6.47. It is considered that the modified grassland, sparsely vegetated urban land, and non-native and ornamental hedgerow would support an assemblage of common invertebrate species.
- 6.48. The site is considered unlikely to support stag beetles and roman snail due to lack of suitable habitat on site.

Potential Impacts

- 6.49. The loss of the sparsely vegetated urban land and section of modified grassland and will result in a small loss of suitable habitat for invertebrates; however, due to the small size of the habitats and the presence of suitable habitat within the wider landscape it is considered not to have a significant impact on local populations of invertebrates.

7. ENHANCEMENT RECOMMENDATIONS

- 7.1. National planning policy states that all developments should seek to enhance onsite biodiversity whether impacts on protected species are recorded or not. Incorporating enhancement features into new or renovated buildings should be carefully considered. These features can be simple and inexpensive. Please see below for specific recommendations.

Wildlife Beneficial Landscaping Scheme

- 7.2. Any future landscape planting should seek to enhance biodiversity, improve connectivity to the surrounding habitats and provide food and shelter for a wide range of wildlife. All amenity planting and formally landscaped areas should be designed using a variety of plant species beneficial for wildlife. These do not necessarily have to be native but should be chosen for their ability to provide nectar or fruit and should be non-invasive species. There are a number of specialist seed mixes available specific to certain soil types, growing conditions and designed to benefit different groups of species such as bees or butterflies and moths.
- 7.3. All habitats should be managed in a suitable way to encourage a wide variety of insects and other wildlife to use the site.
- 7.4. Further information regarding habitat creation, enhancement and management can be provided on request and submitted with further survey results for the final planning application.

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APPENDICES

1. PROPOSED PLANS

2. BATS AND LIGHTING

3. WILDLIFE-BENEFICIAL LANDSCAPING

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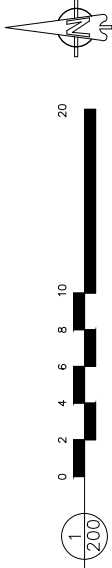
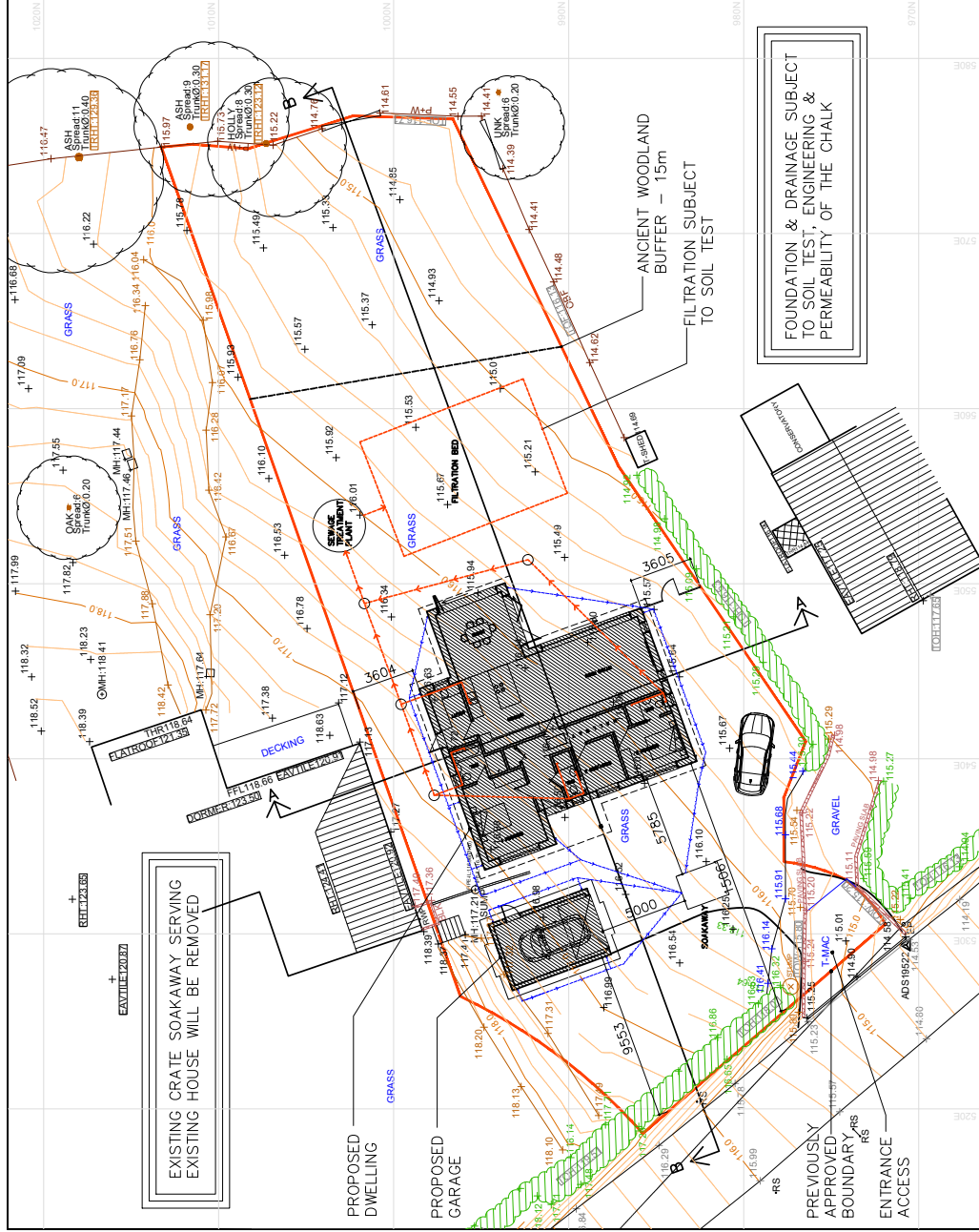

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FOR	MR. & MRS. JUNGO
SITE	LAND ADJ. TO THE ORCHIDS TYTHERLEY ROAD, WINTERSLOW SALISBURY, SP5 1PZ

TITLE	

PROPOSED SITE PLAN

C/No.	I/No.	SCALE
451432		1:200@A2
DRAWN		DRAWING NUMBER
CC		SP02
DATE		REV B
04/26		





THE IMPACT OF LIGHTING ON BATS

Bats favour a dark environment for both roosting and foraging as they are adapted to low-light conditions. Artificial lighting will disturb bats if the lighting covers roost access points, flight paths or foraging habitats.

The main peak of nocturnal insect abundance occurs at dusk and a delay in emergence results in a lower foraging rate for bats.

Artificial lighting creates a 'vacuum effect' for nocturnal insects. During the night nocturnal insects use the light of the moon* to navigate. However, artificial lighting and even sky glow above cities obscures the natural moonlight as it is closer

and radiates light in multiple directions.

Some species of bats have been recorded foraging around street lights such as *Pipistrellus* species and *Nyctalus* species. However, species that are less tolerant of artificial light are at a disadvantage when foraging as insects are drawn away from these species usual foraging grounds into the zones of artificial light.

Lighting must be considered in context to any development as increased lighting may cause roost abandonment, reduced reproductive success, and reduced foraging. Mitigation to reduce the impacts of lighting for bats is therefore of great importance in bat conservation.

Table 1: Summary of predicted impact of lighting for each species/genus

Impact	High	Medium	Low
Behaviour			
Maternity roost	All species	-	-
Night roost	<i>Rhinolophus hipposideros</i> <i>Rhinolophus ferrumequinum</i> <i>Myotis</i> spp. <i>Plecotus</i> spp.	<i>Pipistrellus</i> spp. <i>Nyctalus</i> spp. <i>Eptesicus serotinus</i> <i>Barbastella barbastellus</i>	-
Emergence	All species	-	-
Foraging	<i>Rhinolophus hipposideros</i> <i>Rhinolophus ferrumequinum</i> <i>Myotis</i> spp. <i>Plecotus</i> spp.	-	<i>Pipistrellus</i> spp. <i>Nyctalus</i> spp. <i>Eptesicus serotinus</i> <i>Barbastella barbastellus</i>
Commuting	<i>Rhinolophus hipposideros</i> <i>Rhinolophus ferrumequinum</i> <i>Myotis</i> spp. <i>Plecotus</i> spp.	-	<i>Pipistrellus</i> spp. <i>Nyctalus</i> spp. <i>Eptesicus serotinus</i> <i>Barbastella barbastellus</i>
Swarming	All species	-	-
Hibernation	All species	-	-

*For more information see Warrant, E., and Dacke, M. (2016) Visual Navigation in Nocturnal insects. *Physiology*, 31, 182-196.



Sources of light that can disturb bats include; light spill via windows, sport floodlighting, car headlights, roadside lighting, security lighting, aesthetic lighting of waterways, and aesthetic illumination of buildings. Glare will affect bats over greater distance than the target area directly illuminated.

Avoidance is the most effective method, but if this is not possible the following measures should be considered.

What lighting should I use?

- Low pressure sodium lights or 'warm' LEDs
- Wavelength above 540nm
- Colour temperature below 2700K
- Shielded lights that prevent light spill above a 70 degree angle
- Passive infrared (PIR) motion sensors



What to avoid:

- Lighting roost entrances, flightpaths, and foraging or commuting routes
- Reflective surfaces beneath lighting
- High level lights
- Non-directional lighting

Lighting should be considered at an early stage allowing impacts to be minimised through the design of the site.

Key Points

- Keep lighting intensity to the minimum level required
- Limit the times that lights are on to provide some dark periods (e.g. switching installations off between midnight and 5am)
- Dim lighting according to demand
- As an alternative to lighting pathways use paving materials that reflect moonlight
- Low level lighting allows darkness to be retained within higher vegetation
- Set dark habitat buffers - lighting should always be a minimum of 25m from vegetated margins and 40m from waterbodies
- Incorporate dark corridors within the site
- Compensate for the loss of dark areas by enhancing other dark areas
- Consider building design - install internal lighting away from windows



Wildflower Turf

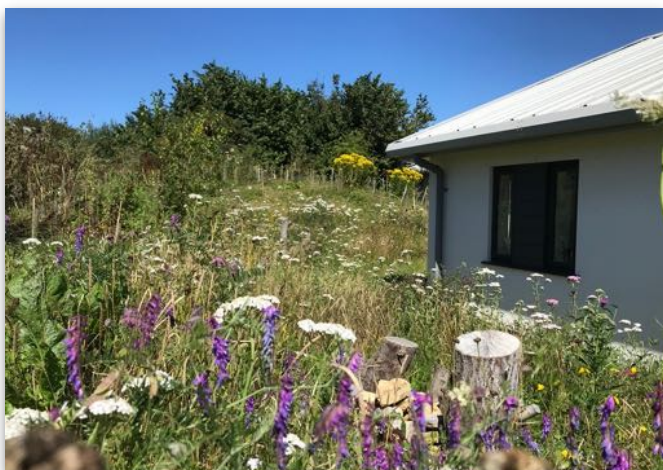
Wildlife Friendly Landscaping



Wildflower turf is suitable for use in a wide range of applications to provide a naturalistic and attractive meadow landscape and provides a more reliable result compared with traditional seeding methods.

The seeded turf contains a diverse mix of native wildflower meadow species including grasses and flowering plants characteristic of lowland meadows on a range of soil types.

As the grassland matures, the meadow develops a characteristic composition with species that thrive on the local soil.



Wildflower turf provides an instant enhancement to any landscaping project with low maintenance and reliable establishment of native wildflower grassland.

Darwin Ecology Ltd are Accredited Partners of Wildflower Turf Ltd.

Accredited partners are trained in the use and installation of Wildflower Turf Ltd. products to deliver attractive and successful wildflower landscapes.



The flowers in the turf have been chosen to ensure that flowering plants are present from early spring through to autumn.

A diverse and thriving meadow will attract a huge range of invertebrates and pollinators to birds, reptiles and mammals.

Darwin Ecology can help you maximise the impact of your wildflower areas by designing and creating additional habitats for the species you will attract including rustic and visually pleasing deadwood habitats or hibernacula as shown.



Creation and Management



Hedgerows are one of the UK's most important habitats. Improving and creating hedgerows provides habitats to benefit a range of wildlife including opportunities for nesting birds, pollinating insects, foraging bats and reptiles and amphibians.

Hedgerows can be planted from bareroot whips which are low cost and generally establish well but take two or three years to form a hedge structure. Larger plants can be used but can be less successful and may require greater maintenance and watering initially.

Planting or thickening hedgerows should be conducted in autumn or winter months while the plants are dormant allowing the roots to establish fully in spring prior to hotter drier summer weather.

Hedgerow management is important for its success as a wildlife corridor. A mix of native fruiting a flowering species should be used such as hazel, hawthorn, blackthorn, guelder rose, dog rose, honeysuckle and bramble.

Generally, the lower the management, the higher the value for wildlife. It is recommended that hedgerows are cut every two to three years to increase flower and berry production. Leave trimming to late winter (January to February) so that birds and small mammals can feed on the berries to get through the winter. Never cut during the breeding bird season (March to August, inclusive) as bird nests, eggs, and young are all protected by law!



Where needed, hedgerows can undergo management in the form of hedge laying, a traditional method to increase density and neaten the hedge, but keep it living.



Where branches are removed during maintenance, a "dead hedge" can be created to further enhance the site for a variety of wildlife including hedgehogs.