BLADE

ECOLOGICAL PERMEABILITY AND SPECIES ENHANCEMENTS

LAND SOUTH OF BRIDGE FARM, READING ROAD, ARBORFIELD, WOKINGHAM, RG2 9HT

ON BEHALF OF

TUNGSTEN PROPERTIES

DECEMBER 2025

V1

BIODIVERSITY
LANDSCAPE
ARBORICULTURE
DESIGN
ECOLOGY

Report Data	
Title	Ecological Permeability and Species Enhancements
Site Address	Land South of Bridge Farm, Reading Road, Arborfield, Wokingham, RG2 9HT
Client	Tungsten Properties
BLADE Reference	201-E-RP-PL-1902EPSE

Version	Author	Reviewer	Date Issued
DRAFT	C. Cookes BSc (Hons) MSc	E. Seaton BSc (Hons) MCIEEM	June 2025
V1	C. Cookes BSc (Hons) MSc	E. Seaton BSc (Hons) MCIEEM	December 2025

CONTENTS

1.0 INTRODUCTION

Background to the Development

1.1 BLADE Ecology Ltd. was commissioned by Tungsten Properties to produce an Ecological Mitigation and Enhancement Strategy for the Land South of Bridge Farm, Reading Road, Arborfield, Wokingham, RG2 9HT (centred on Ordnance Survey grid reference SU 75006 67232)

1.2 The application site is located within a rural area of Arborfield, Reading, immediately bound to its north and east by Pound Copse Local Nature reserve, separating it from Bridge Farm Estate business park to the north and Greenward Lane to the east. To its west, the site is bound by an A road (A327) and more widely, it is surrounded by arable fields, small residential settlements and mixed woodlands.

1.3 The application site is approximately 2.7ha and comprises semi-improved grassland, featuring a small area of woodland, scattered saplings and small areas of bare ground.

1.4 The application site boundary is shown in Figure 1.

Figure 1: Application Site Boundary

Ecological Baseline

1.5 An Ecological Impact Assessment was completed by ACD Environmental in September 2022 and was revised and approved in March 2023.

1.6 [redacted]

[redacted]

1.7 [redacted]

1.8 No significant impacts on designated nature conservation sites were predicted.

1.9 Given the site's location and the nature of the habitats within and immediately adjacent to the area of impact, it was considered that the likelihood of any protected and/or notable species being present on site and/or being negatively impacted by the development proposals was low, providing precautionary measures of working were implemented (see ACD Environmental, 2023 for full details of the appraisal).

Description of Development Scheme

1.10 On 2 February 2024 Wokingham Borough Council granted full planning permission for the erection of up to eleven commercial units with associated hard standing and landscaping. (Number: 223083). Relevant Conditions from this planning permission include:

Condition 9. Ecological Permeability and Species Enhancements

Prior to commencement of the development, a detailed strategy for species enhancements and ecological permeability for the site shall be submitted to the local authority for its approval. This strategy shall be prepared by a suitably qualified ecologist and appropriate to the local ecological context. Once approved the strategy shall be implemented in full unless otherwise agreed by the local authority in writing.

Reason: To ensure that the proposal is in accordance with Section 41 NERC Act re. UK Biodiversity Action Plan Priority Species (Species of Principal Importance) and complies with Planning Policies for Wildlife including CP7 of Core Strategy, and the National Planning Policy Framework which requires consideration of the potential biodiversity gains that can be secured within developments.

1.11 This report has been based on the following plans: BLADE Landscape Architects Strategy Plan, December 2025.

Objectives

1.12 The objectives of this Ecological Mitigation and Enhancement Strategy are:

- To produce a concise strategy to direct a future scheme of development at the site in full compliance with wildlife law and recognised best practice.
- Ensure all reasonable precautions have and will be undertaken to avoid killing or injuring wildlife during the development.

- Provide details of sensitive construction working practices and methods to minimise impacts.

- Design a scheme of enhancement to increase biodiversity post-development.

Contact Information

1.13 Zebra Ecology Ltd has been appointed as the Ecological Clerk of Works (EcOW) to oversee and monitor the ecological aspects of the development during construction phases:

Ecological Clerk of Works

Name: BLADE Ecology

Contact No: 01905 947558

The Ecological Clerk of Works will keep in regular contact with the Construction Manager throughout the construction works. Any breaches of the Ecological Mitigation & Enhancement Strategy will be brought to the attention of the Construction Manager / applicant with remedial action implemented.

2.0 LEGISLATION

Local Policy

Wokingham Borough Council Local Development Framework: CP7 Biodiversity 2010

2.1 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.

Wokingham Borough Council Managing Development Delivery Plan 2014

2.2 Policy TB23: Biodiversity and Development

2.3 Sites of national or international importance are shown and sites of local importance are defined on the Policies Map.

2.4 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.

Legislation

Habitats and Species of Principal Importance

2.5 The NERC Act, 2006 requires the Secretary of State to publish lists of habitats and species which are of principal importance for the conservation of biodiversity in England, Wales and Scotland. The lists replace the UK Biodiversity Action Pans (UK BAP) and have been drawn up in consultation with Natural England, Natural Resources Wales and Scottish Natural Heritage as required by the Act. Section 7 of the Environment (Wales) Act, 2016 has now replaced the duty in section 41 of the NERC Act in relation to Wales, with a duty on public authorities to seek to maintain and enhance biodiversity. The lists are used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 41 of NERC Act and section 7 of the Environment (Wales) Act, 2016, to have regard to the conservation of biodiversity when carrying out their normal functions.

2.6 Habitats of principal importance (HPI) are included on the lists. These are all the habitats in England, Wales and Scotland that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework.

2.7 Species of principal importance (SPI) are included on the lists. These are the species found in England, Wales and Scotland which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.

Biodiversity Action Plan (BAP) Habitats and Species

2.8 The UK Biodiversity Action Plan (HMSO 1995, 1998; UKBAP 2007) lists species and habitats which have undergone significant declines in recent years and for which conservation is a priority in order to preserve biodiversity in the UK. The BAPs provide a list of actions to be implemented to halt or reverse these declines. These species and habitats are identified as Habitats and Species of Principal Importance for the conservation of biological diversity in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act, planning policy and underpinning guidance (ODPM, 2005)

Great Crested Newt

2.9 The great crested newt is a ‘European Protected Species’ and is listed on both Annex II and IV of the EC Habitats Directive. The Directive is transposed into UK law through the Conservation of Habitats and Species Regulations 2017. They are also protected by the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act 2000. These pieces of legislation combine to give substantial protection to great crested newts and their breeding ponds and terrestrial habitat, making it an offence to:

- Deliberately capture, injure or kill a great crested newt;
- Intentionally or recklessly disturb a great crested newt in a structure or place that they use for shelter or protection or deliberately disturb a group of a great crested newts;

- Damage or destroy a great crested newt resting place/shelter (even if they are not occupying it at the time);

- Possess or advertise/sell/exchange a great crested newt (dead or alive) or any part of a great crested newt (including eggs and all life-stages);

- Intentionally or recklessly obstruct access to a great crested newt resting place/shelter.

Common Reptiles

2.10 In Britain there are four relatively widespread native species of reptile: the adder; grass snake common lizard and slow worm. These species are protected via part of Section 9(1) of the Wildlife & Countryside Act 1981 (as amended) against:

- Intentional killing and injuring;

- Selling, offering or exposing for sale.

2.11 Two other species of reptile: the sand lizard and smooth snake are 'European Protected Species'. It is illegal to injure, kill, disturb, capture, keep or sell them, or to damage or destroy the habitats in which they live.

Nesting Birds

2.12 Wild birds within the UK are primarily protected by the Wildlife & Countryside Act (WCA) 1981 (as amended by the Countryside & Rights of Way Act 2000). The WCA is the UK's domestic legislation which incorporates the legislation outlined in the European Community Council Directive 79/409/EEC on the Conservation of Wild Birds, more commonly known as the 'Birds Directive' – the oldest EU legislation on the environment. The Birds Directive provides legal guidance for the management and conservation of wild birds within member states. This legislation states that all birds, their nests and eggs are protected by law, and it is illegal to (subject to exception) to recklessly or intentionally:

- Kill, injure or take any wild bird;

- Take, damage or destroy the nest of any wild bird while in use or being built;

- Take or destroy the egg of any wild bird.

2.13 A total of 193 species of bird are identified with Annex 1 of the Birds Directive. These species are:

- in danger of extinction;

- vulnerable to specific changes in their habitat;

- considered rare because of small populations or restricted local distribution;

- requiring particular attention for reasons of the specific nature of habitat.

2.14 Habitats and important sites for species found on Annex 1 of the Birds Directive are safeguarded by the designation of Special Protected Area (SPA) status. SPAs are protected through the implementation of the Conservation of Habitats and Species Regulations 2012 (The Conservation Regulations). Ramsar sites (wetlands of international importance designated under the Ramsar convention) are also protected by the Conservation Regulations, which was amended in 2012 to enhance provision for the preservation, maintenance and enhancements of habitats for wild birds in the UK.

2.15 Species listed on the Schedule 1 of the Wildlife & Countryside Act (as amended), are offered greater levels of protection, whereby it is an offence to intentionally disturb adult birds engaged in nest building and during nest occupation, as well as the intentional disturbance of dependent young.

2.16 A further 49 species of bird are also protected by Section 41 of the Natural Environment and Rural Communities Act 2006 (NERC S.41). These species have been identified due to their importance to nature conservation.

Bats

2.17 All species of bat in Britain are 'European Protected Species' and are protected under the Conservation of Habitats and Species Regulations 2017, and the Wildlife and Countryside Act 1981, as amended by the Countryside & Rights of Way Act 2000. These pieces of legislation combine to give substantial protection to bats and their habitats, making it an offence to:

- 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;
- Intentionally or recklessly obstruct access to a bat roost.

Badger

2.18 Badgers are protected in the UK under the Protection of Badgers Act (1992), making it an offence to:

- Kill, injure or take a badger;
- Intentionally or recklessly interfere with a badger sett. Sett interference includes damaging, destroying or obstructing access to a sett and disturbing badgers while they occupy a sett.

Hazel Dormouse

2.19 The hazel dormouse is a 'European Protected Species' and is fully protected under national and European legislation. It is listed on Annex IVa of the Habitats Directive and the Directive is transposed into UK law through the Conservation of Habitats and Species Regulations 2017. They are also protected by the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act 2000. Dormice are also listed as a Species of Principal Importance under the Natural Environment and Rural Communities (NERC) Act (2006). These pieces of legislation combine to give substantial protection to dormice and their habitat, making it an offence to:

- Intentionally kill, injure or take a dormouse;
- Possess or control any live or dead specimen or anything derived from a dormouse (unless it can be shown to have been legally acquired);
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a dormouse;
- Intentionally or recklessly disturb a dormouse while it is occupying a structure or place which it uses for that purpose.

Otter

2.20 The European otter is the only native UK otter species. It IS a European protected species (EPS) and is also fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to:

- Capture, kill, disturb or injure otters (on purpose or by not taking enough care).
- Damage or destroy a breeding or resting place (deliberately or by not taking enough care);
- Obstruct access to their resting or sheltering places (deliberately or by not taking enough care);
- Possess, sell, control or transport live or dead otters, or parts of otters.

Water Vole

2.21 Water voles are protected in the UK under the Conservation of Habitats and Species Regulations, 2017 and Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This legislation makes it an offence to:

- Intentionally kill, take or injure a water vole;
- Possess or control any live or dead water vole, or any part or derivative (not including water voles bred in captivity under licence);

- Intentionally or recklessly damage, destroy or block access to a water voles place of shelter or protection (on purpose or by not taking enough care);

2.22 Intentionally or recklessly disturb a water vole whilst it is occupying a structure or place which it uses for shelter or protection (on purpose or by not taking enough care).

3.0 CONSTRUCTION PHASE MITIGATION

3.1 The Ecological Impact Assessment (ACD Environmental, 2023) should be referred to for full details of the protected species on-site. The below will be working methods will be followed to ensure all reasonable precautions have and will be undertaken to avoid killing or injuring wildlife during development.

Pre-construction

3.2 A pre-commencement site meeting will be undertaken with the Ecological Clerk of works, arboriculturist and building contractor prior to any clearance / development works.

3.3 A 'toolbox talk' will be provided to site-based personnel will be undertaken by the Ecological Clerk of Works to inform on agreed policies, recommendations and requirements to maintain environmental quality and minimise impacts during construction, generally avoiding unnecessary disturbance and pollution. Contractors will be made aware of how to identify field signs of protected species, particularly reptiles and nesting birds.

3.4 A pre-commencement site check to identify any changes in conditions on site and evidence for the presence of protected species, and ensure full compliance with wildlife legislation, will be undertaken. Please refer to the sections below for species-specific method statements. **If any protected species are identified during the inspection, the works will be delayed until the relevant licence has been granted by Natural England.**

General Construction Principles

3.5 To avoid disturbing nocturnal wildlife, no floodlighting will be permitted during the construction phase. Security lighting will be directed into the site, with diffusers, shields, hoods, cowls and/or PIR sensors used as necessary to ensure light spillage is kept to a minimum. Lighting along the boundaries will be kept to a maximum Lux level of 0.5 at 1.5m above ground level to ensure wildlife commuting corridors are not severed and the nearby LWS is not impacted.

3.6 Temporary site infrastructure, material/machinery stores and haul roads will be located away from sensitive features (e.g. the biodiversity protection zones including the 15m buffer from Pound Copse boundaries, ecologically sensitive habitats such as on-site woodlands and tree RPAs), in order to limit impacts to these features.

3.7 Heavy vehicles/machinery must stay within areas of hardstanding or bare ground to avoid killing/injuring any vulnerable fauna. When not in use, all machinery will be shut down and made safe.

3.8 All machinery will be routinely serviced and maintained to ensure they remain in a good condition. Where appropriate, drip trays will be placed under static machinery to reduce the risk of leaks. Refuelling will only be undertaken on areas of hardstanding, as far from the brook as is feasible.

3.9 Materials must not be left undisturbed for long periods of time, particularly mounds of loose material, such as soil, as fauna may be tempted to use them for shelter. Building materials such a bricks, stone etc. will be stored on raised pallets (at least 30cm above ground) to discourage vulnerable fauna from using them as shelter. Any demolition materials will be stored in skips or similar containers rather than piled on the ground.

3.10 A secure building or compound must be used to store contaminating substances to ensure that they cannot seep into the brook or any other nearby water body or groundwater. Empty containers will be immediately removed from the site and disposed of via an appropriately licensed waste contractor. All containers will be regularly checked for leaks, and any leaking containers will be appropriately disposed of. Appropriate spill kits will be kept nearby at all times to ensure that any leaked material can quickly be contained. In the event of a spillage, the Site Manager will be immediately informed, and if necessary work halted until the spill is contained.

3.11 Fixed sources of noise (e.g. generators) must be located away from sensitive features to reduce disturbance to wildlife. If feasible, the use of equipment powered entirely by fossil fuels will be avoided in favour of lower carbon options (e.g. battery powered equipment; low emission vehicles). Where appropriate, machinery that has the potential to generate dust (e.g cutting/grinding machinery) will be fitted with dust collection devices.

3.12 At least one week prior to ground clearance, areas of tall vegetation will be progressively cleared in order to allow any wildlife using the area to disperse away from the construction zone. An initial cut will be carried out to no less than 150mm, followed by a second cut to 100m then a third cut to 50mm. Ideally, this should be carried out over a three-day period to give wildlife time to disperse. Cutting should proceed from the edge of the existing development inwards to allow wildlife to move ahead of the cutting. This work should be carried out using hand-held tools or a ride-on machine with a flail attachment and be supervised by the Ecological Clerk of Works.

3.13 Following this, the vegetation will either be maintained at a height of <50mm throughout the construction period, or stripped to bare earth. Vegetation stripping will be by a light-weight digger with a flat-edged bucket and be supervised by the Ecological Clerk of Works.

3.14 Any excavations must either be backfilled before nightfall or, if they need to be left open, be provided with a ramp no more than 45 degrees in angle to prevent fauna from becoming trapped. Any excavations that have been left open must be checked for any trapped fauna before filling commences.

3.15 Any temporarily exposed open pipe system or duct (diameter greater than 200mm) must be capped at the end of each working day in such a way as to prevent wildlife gaining access.

3.16 [redacted]

3.17 Any other animals encountered during the works should either be allowed to safely disperse or transferred by hand to a nearby safe location in a similar habitat. Any injured animals should be taken to the nearest wildlife hospital.

Bats

3.18 If any works are required to trees, a ground level tree assessment (GLTA) must be completed by a suitably qualified ecologist to classify the trees suitability to support roosting bats.

Reptiles & Amphibians

3.19 Contractors will be briefed on the potential presence of reptile species and their legal protection.

3.20 If a reptile is discovered during any stage of the construction works, all work must immediately cease and the reptile allowed to disperse from the area unharmed. Any sighting of reptiles should be reported to the site manager and Ecological Clerk of Works. In the unlikely event that a great crested newt is uncovered at any stage of the development, works must cease immediately and consultation held with the Ecological Clerk of Works and Natural England to determine any licensing requirements necessary to allow lawful completion of the works.

3.21 The Ecological Clerk of Works will undertake a finger-tip search of any miscellaneous materials (e.g. brash piles). These materials will then be cleared by hand or via machinery with a flat-edged bucket or grab attachment, under the supervision of the Clerk of Works.

3.22 Once all the miscellaneous materials have been cleared, the Clerk of Works will undertake a final check, following which works will be allowed to procced unsupervised.

Nesting Birds

3.23 Where areas of potential bird nesting habitat, such as tussocky grassland require removal, site clearance will be undertaken outside of the bird nesting season (March – August inclusive).

3.24 If avoiding the bird nesting season is not possible, areas of vegetation will be carefully checked by the Ecological Clerk of Works prior to removal. The Ecological Clerk of Works will be able to identify any nesting birds and advise of appropriate safe working distances to ensure compliance with wildlife legislation. Active nests will be left undisturbed until young have fledged, as advised by the Ecological Clerk of Works.

3.25 [redacted]

Other Species

3.26 Prior to groundworks, the Ecological Clerk of Works (EcOW) will inspect the area for rabbit burrows that may in use by polecats. Should rabbit burrows be recorded, their use by polecats will be established prior to work commencing. The use of rodenticide poison will be avoided on-site to prevent secondary poisoning to polecats.

3.27 A fingertip search will for hedgehogs will be carried out by the Ecological Clerk of Works (EcOW) prior to vegetation clearance. Should a hedgehog be discovered, it will be allowed to move away from the working area unhindered. Any building materials such as bricks, stone etc. will be stored on raised pallets and bonfires strictly avoided.

Tree Protection

3.28 BS 5837: 2012 '*Trees in relation to design, demolition and construction*' will be implemented on site in order to ensure that retained trees are protected adequately from construction-related damage. Existing trees will be subject to regular inspection and the contractor should be satisfied that tree preservation orders have not been notified for the site since the previous survey work was undertaken. If TPOs are applicable the contractor must comply with the provisions of the Town and Country Planning (Trees) Regulations (Amendment) 2008.

3.29 Protective fencing will be installed around trees as per the Tree Protection Plan (TPP) / in line with BS 5837: 2012 '*Trees in relation to design, demolition and construction*' to form exclusion zones around protected trees during construction. Retained hedgerows will additionally be lined with protective barriers to prevent negative impacts to the existing ecological corridors. No access within these zones will be permitted. All-weather, durable signs will be attached to the fencing.

3.30 During site operations, contractors will ensure that machinery does not come into contact with any of the trees within / adjacent to the site. They will be especially vigilant when using tall machinery.

3.31 Any specified tree surgery works will be carried out in accordance with BS 3998:2010 '*Tree Works Recommendations*', Health and Safety legislation and relevant best practice. Prior to commencement of any works the contractor must provide valid proof of required Public Liability Insurance and a full working method statement and risk assessment.

3.32 Details for ongoing arboricultural supervision will form part of the construction phase mitigation have not been finalised at the time of reporting.

4.0 BIODIVERSITY ENHANCEMENTS

4.1 The following wildlife features will be installed within the post-development site, in order to provide compensation and enhancements for wildlife in line with Government Policy. Locations of the proposed features can be seen in Appendix A.

Invertebrates

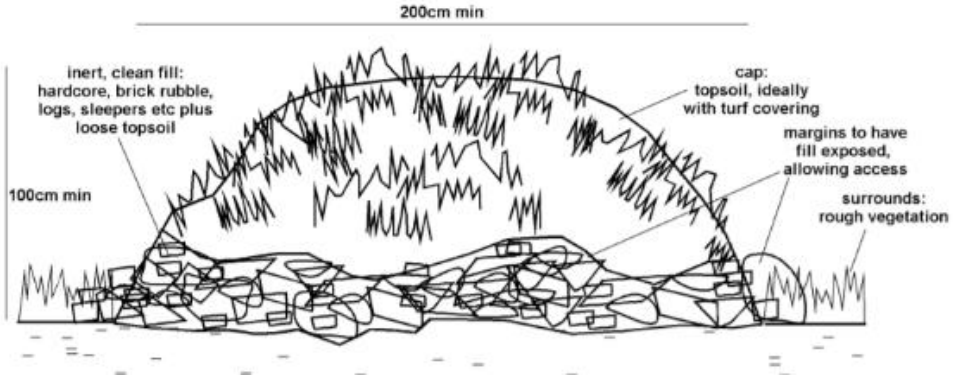
4.2 Conservation of deadwood is encouraged within the northern woodland section of the site. Where deadwood removal is required for health and safety reasons every effort should be made to retain the standing dead trunk. If fallen or cut wood has to be moved, it will be left in large sections and kept as close as possible to the parent tree or used to supplement purpose-built log piles created within areas of woodland.

4.3 An insect tower will be incorporated into the northern area to increase the pollinators present as well as invertebrate populations within the Application Site.

Reptiles & Amphibians

4.4 Areas of the canopy in the northern section should be opened by creating glades particularly in areas of cleared sycamore or fallen trees. Glades should aim to be approximately 0.4ha. Glades will be cleared of existing scrub encroachment and maintained as open space with annual mowing in late summer or early autumn to a height of approximately 5cm. All arisings will be removed from the woodland.

4.5 A hibernaculum will be created in the northern section of the site (see Appendix B for locations). This will measure at least 1m x 1m x 1.5m (above ground height x width x length) and will be created by first digging a 1m x 1.5m hole to a depth of 1.5m, loosely filling the hole with rubble hardcore and logs, and stacking to a height of 1m before loosely covering it with topsoil and turf. This will provide valuable shelter for reptiles, amphibians, and invertebrates. Where possible material created by on-site works should be used to create the hibernacula (ACD Environmental, 2023).



4.6 Fallen deadwood is to be retained in-situ, where not a hazard to the public. A log pile within the northern woodland section will be created from material from arboricultural works and/or other habitat works within undisturbed areas of the site to provide foraging, sheltering and

hibernation habitat for reptiles and other vulnerable fauna. Habitat surrounding the log pile will be left un-cut to provide additional protection and new material will be added as required.

Nesting Birds

4.7 Three bird boxes (Impeckable Swift Chamber, Impeckable No 2 Nest Box) will be installed on the northern elevations of new industrial buildings, ideally 4m above the ground to prevent predation from cats and foxes.

Bats

4.8 To provide additional roosting opportunities, two bat boxes (e.g. Schwegler 1FF bat box) will be mounted on the external walls of the proposed timber pods. Three tree-mounted bat boxes (e.g. Schwegler 2FN) will be installed on trees to provide artificial roost sites for crevice dwelling bat species. The boxes will be installed at least 4m above the ground, on elevations facing between south for sunlight exposure and east towards preferential bat foraging habitat, in areas where there is a clear flight path to suitable habitat and not above doors or windows.

Lighting and Dark Corridors

4.9 To ensure the site maintains connectivity to the wider landscape for bat species; a detailed lighting plan will be prepared as required by Condition 22 of the consent. The scheme has been designed to minimise the impacts of lighting upon bat species in line with the bats and artificial lighting guidance note (2023) published by the Bat Conservation Trust (BCT) in partnership with the Institution for Lighting Professionals (ILP) and the guidance note produced by Devon County Council (2022).

4.10 Lighting levels along the boundaries and green infrastructure are to be kept to a maximum Lux level of 0.5 at 1.5m above ground level to maintain viable bat commuting routes. With reference to any future lighting proposals within the site, shields, hoods and/or cowls will be used as recommended to prevent light spillage beyond essential areas. PIR motion-sensitive lights are also beneficial to ensure that lights do not remain activated when not required. Any lighting will also meet the appropriate luminaire specifications set out by the Institute of Lighting Professionals. Additional measures will also be followed as part off the lighting strategy:

- Only luminaries with an upward light ratio of 0% will be used;
- All external luminaires used on site will lack UV elements and will be warm white coloured (ideally <2700 Kelvin) to reduce blue-light components;
- LED luminaries will be used due to their sharp cut-off, lower intensity, good colour retention, and dimming capability.

4.11 A buffer zone should be maintained between the development and the dark corridor along the northern and eastern site boundaries in order to future proof the dark corridor. This buffer zone can include some lighting for health and safety purposes, but this lighting should be at lower levels than the main developed area. Where feasible, this zone should also include physical screening features (e.g. dense planting).

5.0 HABITAT CREATION, MANAGEMENT AND ENHANCEMENT

5.1 The proposed planting plan (BLADE Landscape Architects, 2025) should be viewed in conjunction with the below planting regime.

Existing Trees and Hedgerows Management

5.2 Existing trees and hedgerows will be subject to regular inspection. Any damaged, diseased or dangerous timber shall be reported, and a schedule of appropriate operations agreed with a qualified arboriculturist.

5.3 Boundary hedgerows will be allowed to grow in excess of 4m. The main objective for management is to maintain a varied age, condition and size of hedgerow in order to support a variety of wildlife. The basic principles for appropriate hedgerow trimming are as follows (RSPB, 2008):

5.4 All cutting regimes will be carried out on a two- or three-year rotation. This ensures that thick nesting cover is available annually for birds and also to boost the berry crop that often develops on second year growth.

5.5 Trimming will be undertaken during the months of January or February to prevent disturbance to nesting birds. Cutting at this time of the year also allows the berry crop to be used by over-wintering birds which is a vital part of their diet when food is scarce.

5.6 Trees will be allowed to develop within the hedgerows at spacing of approximately one tree every 20m.

5.7 The margins will be left unmanaged to encourage the development of tall grasses and ground-flora.

Tree Planting and Management

5.8 Trees are valuable ecological features which can provide feeding and nesting habitats for a range of fauna. 135 new trees will be planted across the post-developed site. Tree species to be planted include; *Acer campestre, Betula pendula, Betula pubescens, Carpinus betulus 'Frans Fontaine', Carpinus betulus, Prunus avium, prunus padus, Pyrus calleryana 'Capital', Quercus robur, Sorbus aria, Sorbus aucuparia, Sorbus torminalis, Tilia cordata 'Green spire', Tilia cordata, Crataegus laevigata 'Paul's Scarlet'* and *Sorbus hupehensis 'Pink Pagoda'.*

5.9 All planting is to be in accordance with BS4428:1989 Code of practice for general landscape operations. All new planting will take place over the winter period (October – March), with newly planted specimens protected from animal damage by the use of rabbit-proof fencing, netting or individual tree guards as necessary.

5.10 New tree planting will be monitored to ensure successful establishment. During the establishment period, watering will be undertaken as necessary to ensure moisture levels

appropriate for optimum growth are maintained. All plants will be assessed for pests / diseases. Natural methods of pest control will be undertaken. Where specimens fail, they will be replaced with the same species during the soonest available planting season. Mulch will be topped up as required in spring around the trees to retain moisture and inhibit weed growth. Stakes and ties will be checked during visits and subject to removal once self-supporting.

5.11 Pruning will be undertaken as necessary to remove suckers and dead, dying or diseased wood and to achieve natural shape, healthy growth and favour a single leader (except for multi-stem trees, where several leaders will be favoured).

Hedgerow Planting and Management

5.12 Hedgerows are valuable ecological features, which will maintain the connectivity of the site by providing feeding and nesting habitats and dispersal routes for a range of fauna.

5.13 New species-rich hedgerows (h2a5) will be planted along the western boundary. Planted hedgerow species will include *Acer campestre, Corylus avellana, Crataegus monogyna, Prunus avium, Prunus spinosa, Rosa canina,* and *Viburnum opulus.*

5.14 All planting is to be in accordance with BS4428:1989 Code of practice for general landscape operations.

5.15 The hedgerows are to be planted in double staggered rows at 300mm centres. All new planting will take place over the winter period (October – March), with newly planted specimens protected from animal damage by the use of rabbit-proof fencing, netting or individual tree guards. New hedgerows will be under sewn with Emorsgate EH1 Hedgerow Mixture,

5.16 Note: EH1 contains wildflowers and grasses that are tolerant of semi-shade and is suitable for sowing beneath newly planted or established hedges and on woodland edges, rides and glades. EH1 (or a suitable alternative with local provenance) is a complete mix composed of 20% native wildflowers and 80% slow growing grasses.

5.17 New hedgerow planting will be monitored to ensure successful establishment. During the establishment period, watering will be undertaken as necessary to ensure moisture levels appropriate for optimum growth are maintained. All plants will be assessed for pests / diseases. Natural methods of pest control will be undertaken, with mulched areas to be topped up in Spring. Where specimens fail, they will be replaced with the same species during the soonest available planting season.

5.18 Boundary hedgerows will be allowed to grow in excess of 4m in height and managed on a 2-3-year rotation with work undertaken to only one side at any time. The margins will be left unmanaged to encourage development of tall grasses and ground-flora. Trees will be allowed to develop within the new boundary hedgerows at spacing of approximately one tree every 20m. Mulched areas will be topped up in Spring.

Native Scrub Planting and Management

5.19 Native mixed scrub (h3h) will be created to the south of the developed land and along the eastern site boundary in conjunction with tree planting areas. Species to be planted include *Cornus sanguinea, Corylus avellana, Crataegus monogyna, Euonymus europaeus, Frangula alnus, Ilex aquifolium, Rhamnus cathartica,* and *Viburnum lantana.*

5.20 The scrub will be managed to maintain a varied age and condition and provide multiple micro-climates for biodiversity. The scrub will be coppiced in a fifteen-year rotation, with either 1/15 cut every year or 3/15 cut every three years, with cutting undertaken during the months of January or February to prevent disturbance to nesting birds and ensure that the berry crop is available for over-wintering animals. If any areas become overcrowded or overly dense, they will be selectively thinned to create more dappled light conditions.

5.21 Edges of the scrub will be scalloped and managed so that there is a gradual transition from short herbaceous vegetation through to tall herbaceous vegetation through to scrub.

5.22 Cutting will be undertaken with hand-tools where feasible and entirely avoided around the hibernaculum and habitat piles to prevent disturbance/injury to any hibernating reptiles and amphibians. Arisings will be removed to prevent a build-up of nutrients. These will either be used to create brash piles in undisturbed areas of the site or removed from the site. For further information see The Scrub Management Handbook by English Nature (2003).

Wildflower Establishment and Management

5.23 Areas of species-rich wildflower grassland will be created along the eastern site boundary, in the southern area surrounding amenity grassland and around the drainage basin. The proposed areas will be sown with a mix of Emorsgate EM3 – Special Purpose Meadow Mixture and the attenuation basin will be sown with Emorsgate EM8 – Meadow Mixture for Wetlands. The planting of non-native species, particularly invasive species, will be strictly avoided in these areas.

5.24 Preparation (Year 0)

5.25 The proposed areas of species-rich grassland (EM3) will be sown with the above seed mixes in September or Spring (March-May). Prior to seeding, the area will be cleared of all debris, litter, undesirable plant species (e.g. *Rumex* sp.) and dead plant material, with any grass cut and harrowed to achieve at least 50% bare soil in order to allow the seeds good contact with the soil. The seed mixtures will then be sown as per the manufactures prescribed sowing rate.

5.26 The areas will be fully watered to ensure healthy establishment. It is especially important that the wetland meadow is fully watered and kept moist during prolonged dry periods.

5.27 Undesirable plant growth will be controlled through hand-pulling. No fertiliser will be used within the meadow grassland at any point during preparation, seeding, establishment or maintenance.

5.28 Establishment (Year 1)

5.29 Most sown wildflowers will not flower during the first growing seasons, with annual plants from the soil seed bank usually dominating at first. This, however, offers shelter to the wildflower seedlings and so can help the wildflowers fully establish.

5.30 Cutting will be avoided in spring and early summer, with the first cut occurring in mid-summer (ideally early-August), with a second cut in early October.

5.31 Arisings will be removed to prevent a build-up of nutrients. These will either be used to create compost heaps in undisturbed areas of the site or removed from the site.

5.32 Maintenance (Year 2 onwards)

5.33 The species-rich grassland will be managed as long grass along the western and eastern site boundaries. The management will follow that of traditional meadows. An annual late cut will be undertaken in late summer (September) to a height of 120-150mm to allow plants to flower and set seed prior to cutting. Arisings will remain in-situ for 1-5 days to release seeds prior to being collected. The grassland will then be maintained to 50mm by mowing through late autumn, early winter and early Spring, as required.

5.34 The grassland immediately around the hibernaculum will be allowed to develop into tussock grassland. Once established, tussock grassland requires little maintenance. A single cut will be undertaken every two to three years between October and February, with cutting carried out on a rotational basis so that no more than half of the tussock grassland is cut in any one year.

5.35 As before, arisings will be collected and added to the compost heap / removed.

5.36 The EM8 wetland meadow mix located around the SUDs basin will be surface sewn in early autumn (September) or spring (March-May). Perennial species present can be slow to establish and can therefore the growth of annual weeds can be promoted. These weeds act to shelter the grassland seeds and therefore the cutting of weeds should be resisted until mid-late summer. After this initial cut, this grassland can be managed in conjunction with the wider species rich grassland.

5.37 Worn or damaged areas are to be repaired by over seeding into a prepared seed bed at the next maintenance visit, dependant on seasonal limitations and subject to suitable weather and ground conditions in accordance with best practice.

Flowering Lawn Establishment and Management

5.38 Areas of flowering lawn will be created within the carpark as well as within the amenity area of the southern section and along the western site boundary. The proposed areas will be sown with Emorsgate EL1 – Flowering Lawn Mixture.

5.39 Preparation (Year 0)

5.40 Prior to seeding, the area to be seeded will be cleared of all debris, litter and weeds and ploughed or dug. The area will then be harrowed or raked to produce a medium tilth and rolled or trod to produce a level firm surface.

5.41 Seeding will take place during autumn or spring months with average climatic conditions for the time of year and when the ground is not waterlogged, or frost bound. The seed must be surface sown and firmed in with a roll, or by treading or raking, to give good soil/seed contact. The areas will be fully watered to ensure healthy establishment.

5.42 Establishment (Year 1)

5.43 The wildflower content of the mix is perennial and will not flower during the first growing season. Any annual weeds to be controlled by regular mowing or topping.

5.44 Newly sown flowering lawns will be mown regularly (every 7 -10 days during growing season) throughout the first year of establishment to a height of 40-60mm. Cuttings will either be used to create compost heaps within undisturbed areas of the site or removed. Any weeds (e.g., Rumex sp.) will be hand-pulled.

5.45 Maintenance (Year 2 onwards)

5.46 From Year 2, the lawn should be mown regularly to 25-40mm, with mowing relaxed to every 4-8 weeks from late Spring to late Summer to permit flowering. Alternately, if cowslips are present, mowing should be suspended earlier in the year to allow their flowering. As before, arisings will be collected and added to the compost heap / removed.

5.47 Worn or damaged areas are to be repaired by over seeding into a prepared seed bed at the next maintenance visit, dependant on seasonal limitations and subject to suitable weather and ground conditions in accordance with best practice.

5.0 ECOLOGICAL CONDITION MONITORING AND RECORD KEEPING

5.1 Monitoring will be undertaken by the appointed Ecological Clerk of Works and to ensure compliance with the Ecological Mitigation & Enhancement Strategy. Visits will be recorded and a formal letter-style reports produced.

5.2 The Ecological Clerk of Works will keep in regular contact with the Construction Manager throughout the construction works. Any breaches of the Ecological Mitigation & Enhancement Strategy will be brought to the attention of the Construction Manager / applicant.

Table 2: Ecological Precautionary / Monitoring Requirements

Requirement	Timing	Details	Nature	Sign-off
Provision of Toolbox Talk	Prior to any site activity	A toolbox talk will be provided to site-based personnel will be undertaken by the Ecological Clerk of Works to inform on agreed policies, recommendations and requirements to maintain environmental quality and minimise impacts during construction, generally avoiding unnecessary disturbance and pollution.	Informal meeting. Toolbox talk to be signed by attendees with copy kept within the site office at all times.	No follow up required
Pre-commencement check	Prior to ground works / vegetation clearance	Inspection for vulnerable fauna such as reptiles, hedgehogs, polecats, nesting birds, bats etc. including finger-tip search. A pre-commencement check for any newly established potential badger setts will also be undertaken.	Site attendance immediately prior to works. Contractors to be briefed on any findings / implications.	Details to be sent to the LPA within 5 days.
Ecological enhancement sign-off visit	Within 3 months of completion of the development	Inspection to sign-off wildlife enhancement features. Planting as per the proposed Mitigation Planting Plan produced by Zebra Landscape Architects will also be subject to inspection.	Site visit with any remedial measures required to be fed back to applicant.	Details to be sent to the LPA within 5 days.

6.0 REFERENCES

ACD Environmental (2023). *Ecological Impact Assessment; Land South of Bridge Farm Estate, Reading Road, Arborfield.* Document file reference ANG23850_EcIA, Malmsbury, UK

Bat Conservation Trust & Institute of Lighting Professionals (2023). *Bats and artificial lighting at night- Guidance Note GN08/23*. Institute of Lighting Professionals, Warwickshire, UK.

BLADE Landscapes (2025). *Detailed Landscape Proposals.* Worcester, UK.

Dean et al (2016). *The Water Vole Mitigation Handbook*. Mammal Society, Bristol, UK.

Dobson, J. and Fairclough, J. (2021). *Rapid Assessments of the Potential Value of Invertebrate Habitats*. In Practice, 112: 44-48

English Nature (2001). *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough.

English Nature (2003). *Managing Landscapes for the Greater Horseshoe Bat*. English Nature, Peterborough, UK.

English Nature and FACT (the Forum for the Application of Conservation Techniques) (2003). *The Scrub Management Handbook*: *Guidance on the management of scrub on nature conservation sites*. English Nature, Peterborough, UK. Available at http://publications.naturalengland.org.uk/publication/72031 [Accessed June 2025]

English Nature (2004). *Reptiles: guidelines for developers*. English Nature, Peterborough, UK.

Environment Agency (2009). *Working at Construction and Demolition Sites: PPG6. Pollution Prevention Guidelines*. Environment Agency, Bristol, UK.

Fure, A (2012). *Bats and Lighting – six years on*. The London Naturalist No. 85.

Gent, T. and Gibson, S. (eds) (1998). *Herpetofauna Workers' Manual*. Joint Nature Conservation Committee, UK.

Institution of Lighting Professionals (2020). *Guidance Notes for the Reduction of Obtrusive Lighting. GN01:20 [online]*. Institution of Lighting Professionals. Available at https://www.theilp.org.uk/documents/obtrusive-light/ [Accessed June 2025]

Langton, T., Beckett, C. and Foster, J. (2001). *Great Crested Newt Conservation Handbook*. Froglife, Suffolk, UK.

Mathews F, Roche N, Aughney T, Jones N, Day J, Baker J, Langton S. (2015). *Barriers and benefits: implications of artificial night-lighting for the distribution of common bats in Britain*

and Ireland. Phil. Trans. R. Soc. B 370: 20140124. http://dx.doi.org/10.1098/rstb.2014.0124 [Accessed June 2025]

National Planning Policy Framework (2024). Department for Communities and Local Government, UK.

Natural England & DEFRA (2022). *Guidance - Bats: Surveys and Mitigation for Development Projects. Standing advice for local planning authorities to assess impacts of development on bats.* https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects [Accessed June 2025]

Natural England & DEFRA (2022). *Guidance – Reptiles: Surveys and Mitigation for Development Projects. Standing advice for local planning authorities to assess impacts of development on reptiles. https://www.gov.uk/guidance/reptiles-protection-surveys-and-licences* [Accessed June 2025]

Oldham, R.S., Keeble, J, Swan, M. J. S, and Jeffcote, M. (2000). *Evaluating the Suitability of Habitat for the Great crested newt (Triturus cristatus)*. Herpetological Journal 10: 143-155

RSPB (2008). *Farm Hedges and their Management. RSPB, Bedfordshire, UK*. https://community.rspb.org.uk/cfs-file/ key/telligent-evolution-components-attachments/00-3070-01-00-00-62-51-57/Farm-hedges-and-their-management.pdf [Accessed June 2025]

APPENDIX A

Plans

Biodiversity Enhancement Plan

Bird boxes are to be appended to northern elevations of indicated buildings and bat boxes are to be appended to eastern/ southern eleveations towards the eastern site boundary of indicated buildings, at heights of at least 4m from the ground.

Locations of the insect tower, hibernaculum and log pile are approximate and should be located where appropriate, adjacent to glades and away from public footpaths.

0 25 50 m

N

Key

- Bird box
- Bat box
- Insect tower
- Log pile
- Hibernaculum

BLADE

30 St. Georges Square, Worcester, WR1 1HX
01905 947 558
www.weareblade.co.uk

CLIENT
Tungsten Properties

PROJECT
Land South of Bridge Farm, Arborfield

DRAWING TITLE
Biodiversity Enhancements Plan

DRAWING STATUS
Planning

DRAWING NO.	REVISION
201-E-RP-PL-1902EPSE	V2
SCALE @ A4 1:2,686.59522	DATE DEC 2025

APPENDIX B

Qualifications and Experience

BLADE Ecology Ltd is Registered Practice of the Chartered Institute of Ecology and Environmental Management (CIEEM). A comprehensive range of ecological services are offered including Preliminary Ecological Appraisal (PEA), Ecological Impact Assessment (EcIA), Habitat Regulations Assessment (HRA), Biodiversity Impact Assessment (BIA) and European Protected Species (EPS) Surveys / Licensing.

The practice works closely work closely with clients to achieve their aspirations alongside securing the best outcomes for the environment. With wildlife legislation and policy as its basis; commercial awareness, pragmatism and defensible advice is combined to form BLADE Ecology's approach.

As well as offering a wide range of ecological services, BLADE Ecology offers an in-house collaborative approach in conjunction with BLADE Landscape Architects and BLADE Trees.

Emma Seaton BSc (Hons) MCIEEM

Emma holds a BSc (Hons) degree in Biology from the University of Sheffield and has since gained a postgraduate certificate in Ecological Consultancy. Her ecological experience includes Preliminary Ecological Appraisals, Ecological Impact Assessments (EcIA), surveying for notable / European Protected Species, mitigation / licensing advice and providing Continued Professional Development (CPD) sessions for developers on Biodiversity Net Gain. She has held Natural England survey licences for bats (Class 2), great crested newts and white-clawed crayfish since 2015. She is also a Registered Consultant under the Bat Mitigation Class Licence (BMCL) licence. Emma is a Full member of the Chartered Institute of Ecology and Environmental Management.

Chloe Cookes BSc (Hons) MSc

Chloe joined BLADE Ecology in 2024 as an Assistant Ecologist. She holds a BSc (Hons) in Animal Biology and an MSc in Applied Ecology from The University of Gloucester. She also has experience of co-leading a biodiversity audit at a wildlife reserve, carrying out ecological research on South African savanna grasslands and volunteering with Worcestershire Wildlife Trust.

30 ST GEORGES SQUARE
WORCESTER
WR1 1HX

01905 947558
info@weareblade.co.uk
www.weareblade.co.uk

BLADE Ecology Ltd. Registered in England and Wales Number 13084460. VAT 384 3366 75.

BLADE Landscape Architects Ltd. Registered in England and Wales Number 11068394. VAT 288 9595 14.

BLADE Trees Ltd. Registered in England and Wales Number 13385589. VAT 387 2462 66.

Registered Office: 30 St Georges Square, Worcester, WR1 1HX.