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Preliminary Ecological Appraisal Including a Protected Species Appraisal & BREEAM Assessment for Proposed Development at: 145-148 Friar Street, 1-15 Queen Victoria Street, Reading

On behalf of:
Thackery Estates
28 Ives Street
London
SW3 2NB

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0 SUMMARY

- 0.1 Skilled Ecology Consultancy Ltd. was commissioned by Thackery Estates to undertake a Preliminary Ecological Appraisal including a Protected Species Assessment at 145-148 Friar Street, 1-15 Queen Victoria Street, Reading. The report is required for a planning application for development of the site.
- 0.2 The site was surveyed on the 21st July 2022 by Skilled Ecology Consultancy Ltd. The survey was conducted by experienced ecologist Tommy Root BSc (Hons) ACIEEM (Hons) (licensed to survey for great crested newts *Triturus cristatus* and licenced to survey for bats - level 2) and reviewed by Suitably Qualified Ecologist Roger Spring BSc MCIEEM. The survey consisted of an inspection for preferred habitat types and signs and evidence of protected and priority species, such as for bats, great crested newts, reptiles, badgers *Meles meles* and nesting birds following Natural England (English Nature) Guidelines. A local record search was undertaken to accompany the report.
- 0.3 The site is 0.117ha and included: a mixture of commercial and residential buildings with commercial shopfronts and living space above the ground floor. All structures were brick and multi-storey. Most roofs were flat, though properties on Queen Victoria Street had pitched, clay tiled roofs.
- 0.4 No greenspace was present or proposed for impact.
- 0.5 The site is positioned in an urban location in central Reading.
- 0.6 No signs or evidence of protected, priority or rare species were noted during either survey and habitats were considered highly unlikely to support such species.
- 0.7 Further ecological surveys or mitigation were considered unnecessary. To minimise any residual risk of impact to protected, priority or rare species, precautionary measures, detailed later in the report, should be followed.
- 0.8 With the recommendations followed as described, development could proceed with a minimal risk of harm or impact to local ecological value or to protected, priority or rare species.
- 0.9 The BREEAM assessment for ecology concludes that with the addition of a small area of new brown roof the site will be increased in ecological value and a total of 11 ecology related credits can be awarded for the development. As detailed, another credit may be possible to achieve in LE1 01 for contaminated land, though this has not been assessed.
- 0.10 Biodiversity enhancement recommendations are also included in the report in accordance with national planning policy.

1 INTRODUCTION

1.1 Background

- 1.1.1 Skilled Ecology Consultancy Ltd. was commissioned by Thackery Estates to undertake a Preliminary Ecological Appraisal including a Protected Species Assessment at 145-148 Friar Street, 1-15 Queen Victoria Street, Reading. The report is required for a planning application for development of the site.
- 1.1.2 Wildlife such as nesting birds, bats, reptiles and great crested newts *Triturus cristatus* are protected by law. Protected and priority species and habitats, are also a material consideration for individual planning decisions under the National Planning Policy Framework, 2021 (NPPF) (MHCLG, 2021).
- 1.1.3 This study and report complies with the Chartered Institute for Ecology and Environmental Management (CIEEM) 2017 Guidelines for Preliminary Ecological Appraisal.
- 1.1.4 CIEEM guidelines indicate that ecological surveying typically remains valid for between 12 and 18 months (CIEEM, 2019).

2 METHODOLOGY

2.1 Desk Study

- 2.1.1 A local biological record search was conducted on behalf of Skilled Ecology Consultancy Ltd. by Thames Valley Environmental Records Centre (TVERC).
- 2.1.2 A search of the Multi-agency Geographical Information for the Countryside (MAGIC) was also conducted, to check for statutory nature conservation sites.
- 2.1.3 These results were then combined with the findings of the site survey, to assess the risk of ecology issues, relevant to planning, occurring on the site.

2.2 Study Limitations

- 2.2.1 No such limitations were present.

2.3 Initial Site Survey

Habitats and Surroundings

The site was visited on the 21st July 2022 to survey for ecology issues. This included the following:

- Noting the suitability of habitats present on the site, regarding protected, priority and rare species; including plants, amphibians, reptiles, mammals, nesting birds, invertebrates and protected, priority or red-listed Birds of Conservation Concern (BoCC);
- Assessing the habitats surrounding the site and in the local area;
- Direct survey for evidence of protected species as far as possible, e.g. for bats, reptiles, great crested newts, badgers *Meles meles*, and nesting birds;
- Checking for invasive species such as Japanese knotweed *Fallopia japonica* and giant hogweed *Heracleum mantegazzianum*.

Bat Inspection

- 2.3.1 The assessment for bats was conducted by experienced ecologists, licensed by Natural England to disturb and take bats for science and education. Buildings were inspected externally for bat activity, suitability and potential for roosting following English Nature Bat Mitigation Guidelines (English Nature, 2004) and Bat Conservation Trust Best Practice Guidelines, therefore considerations were:
- the availability of access to roosts for bats;
 - the presence and suitability of cracks, crevices, gaps, fissures, ivy growth and other places as roosts;
 - signs of bat activity or presence, such as; the bats themselves, droppings, grease marks, scratch marks, urine spatter and prey remains.
- 2.3.2 Equipment available for use during the survey included a ladder, high powered torch, digital camera and binoculars.
- 2.3.3 The availability of access to roosts was assessed based upon the presence of holes large enough to allow entry to bats and lack of cobwebs and dirt.
- 2.3.4 The outside of buildings were inspected for gaps, cavities, access points and crevices, and any signs of bats (droppings, staining, urine spatter), in accordance with Natural England (English Nature) guidelines (English Nature, 2004).

Reptiles & Amphibians

2.3.5 The site was inspected for potentially suitable terrestrial habitats for foraging, sheltering or dispersing amphibians and foraging, sheltering, breeding and basking habitat for reptiles. High quality terrestrial refuges searched for, included:

- Log piles & rockeries,
- Thick leaf litter,
- Compost & manure heaps,
- Mammal burrows,
- Deep ground cracks;
- Refuse suitable for shelter;
- Tussock grassland;
- Hedgerows and any other potential habitats.

Badgers & Other Mammals

2.3.6 Signs and evidence of badgers, and other protected, priority and rare mammal activity searched for included the following:

- Setts, holes and burrows;
- Foraging holes and other diggings;
- Latrines, droppings, spraints and scats;
- Mammal hairs;
- Paw prints and other tracks;
- Feeding remains;
- Scratch marks, bedding material and other signs.

2.4 Zone of Influence

2.4.1 The potential impact of a development is not always limited to the boundaries of the Site concerned. The development may also have the potential to impact on ecologically valuable sites, habitats or species beyond the Site boundaries. The area over which a development may impact ecologically valuable receptors is known as the Zone of Influence (Zol).

- 2.4.2 The Zol is determined by the source/type of impact, a potential pathway for that impact and the location and sensitivity of the ecologically valuable receptor beyond the boundary. For the majority of (unmitigated) impacts identified as part of the proposed development, the Zol is generally considered to be the application site and immediately adjacent areas.
- 2.4.3 In ecological terms, the Zol can also vary considerably depending upon the species potentially affected by the Proposed Development. For example, some species may be confined to a specific location whilst others, such as birds and bats are more mobile and can occupy larger territories or home ranges.
- 2.4.4 The Zol is likely to be influenced by the presence of dispersal barriers, such as roads and hardstanding, which either stop or reduce the likelihood of animals crossing it. As a consequence, this could isolate areas potentially suitable habitat within the application site due to fragmentation. The Zol for species or species groups has been determined by research and the professional judgement of the ecologist.

3 RESULTS AND RISK

3.1 Site Description & Location

- 3.1.1 The site is 0.117ha and included: a mixture of commercial and residential buildings with commercial shopfronts and living space above the ground floor. All structures were brick and multi-storey. Most roofs were flat, though properties on Queen Victoria Street had pitched, clay tiled roofs.
- 3.1.2 No greenspace was present or proposed for impact.
- 3.1.3 The site is positioned in an urban location in central Reading.
- 3.1.4 No ponds with habitat connectivity were present locally.

3.2 Nature Conservation Sites

- 3.2.1 The closest non-statutorily designated nature conservation site is Holy Brook Local Wildlife Site (LWS) located approximately 1km south. The site is designated for its flowing water and stands of marginal vegetation. The site has historical records of water voles.
- 3.2.2 No statutorily designated nature conservation sites such as Sites of Special Scientific Interest (SSSI) were present within 2km of the site (MAGIC, 2022).

3.3 Data Search

3.3.1 The following information is a summary of local biological records collated through TVERC (2022).

Table 1: Summary of local biological records.

Species	Approximate Location & Year
Birds	
Barn owl	2017 within 2km of site
Bullfinch	2016 within 2km of site
Cuckoo	2015 within 2km of site
Fieldfare	2015 within 2km of site
House sparrow	2016 within 2km of site
Kingfisher	2016 within 2km of site
Lapwing	2017 within 2km of site
Peregrine	2015 within 2km of site
Song thrush	2017 within 2km of site
Starling	2017 within 2km of site
Mammals: bats	
Common pipistrelle (UK & EU protected)	2018 1.8km south east
Brown long-eared (UK & EU protected, UK priority)	2018 1.8km south east
Noctule (UK & EU protected, UK priority)	2019 700m north
Soprano pipistrelle (UK & EU protected, UK priority)	2018 1.5km east
Mammals: other	
Badger (UK protected)	2018 1.2km north east
Herpetofauna	
Great Crested Newt (UK protected)	2017 800m north east
Grass snake (UK protected)	2016 1.8km east
Slow worm (UK protected)	2016 1.8km east
Invertebrates	
Stag beetle	2018 1.5km south east

3.4 Protected, Priority & Rare Species

Vegetation & Habitats

3.4.1 No vegetation was found present. Habitats included only hardstanding and buildings.

Bats

- 3.4.2 All buildings could be thoroughly surveyed with close proximity due to rooftop walkways. All buildings roofs and walls appeared in good condition with negligible gaps or access potential for bats or external potential for roosting.
- 3.4.3 The site and surrounding habitats were considered negligible in suitability or potential for foraging/commuting bats. The landscape was dominated by urban environments with few trees and other features that would produce insects for feeding bats. The area is also highly illuminated at night which is suboptimal for foraging/commuting bats.

Other Protected & UK Priority Mammals

- 3.4.4 The site was relatively small in area and negligible in suitability for foraging by badgers *Meles meles*, hedgehogs *Erinaceus europaeus*. or any other notable mammals.
- 3.4.5 No signs or evidence of ground dwelling protected, priority or rare mammals were observed.

Birds

- 3.4.6 Birds observed or heard on or close to the site during the survey visit included feral pigeon *Columba livia domestica*, herring gull *Larus argentatus* and carrion crow *Corvus corone*.
- 3.4.7 Herring gull are red-listed Birds of Conservation Concern (BoCC). No protected or UK priority birds were recorded, it is possible that on occasions widespread priority species such as starling and house sparrow may visit the site, though significant use by such species was considered unlikely.
- 3.4.8 No evidence of old or active bird nests were found.
- 3.4.9 The BoCC ratings are summarised as follows:
- Red-listed - highest conservation concern;
 - Amber-listed - moderate conservation concern;
 - Green-listed - least conservation concern.

Great crested newts & Other Amphibians

- 3.4.10 The site was considered negligible in suitability or potential as terrestrial habitat for amphibians of any species. No ponds were identified with habitat connectivity to the site.

3.4.11 Amphibians were not observed during the survey visit.

Reptiles

3.4.12 The site was considered negligible in suitability or potential for reptiles of any species with negligible safe basking, foraging or breeding habitat present.

3.4.13 Reptiles were not observed during the survey visit.

Invertebrates

3.4.14 The construction zone was negligible in diversity of habitats, size and diversity of flora necessary to support a significant assemblage of invertebrates of conservation concern.

3.4.15 No protected or priority invertebrates were observed during the survey visit.

Other Protected, Priority or Rare Species

3.4.16 No signs or evidence of any other protected or priority species were observed on the site. Habitats present were unsuitable for such species.

4 DISCUSSION OF RISK AND LEGISLATION

4.1 Protected & Priority Species

Bats

4.1.1 Bats are protected under the Wildlife and Countryside Act 1981 as amended by the Countryside Rights of Way Act 2000 and under the Conservation of Habitats and Species Regulations 2017. Some bats are also UK priority species. A summary of the offences likely to be relevant to development are:

- Intentionally or deliberately kill, injure or take a bat;
- Intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection, whether bats are present or not;
- Damage or destroy a breeding site or resting place of any bat;
- Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection;
- Deliberately disturb a bat anywhere.

- 4.1.2 Bats have been recorded within 2km of the site (TVERC, 2022). However, no evidence of bats (individual bats, droppings, urine stains etc.) was present. The site was considered negligible in suitability for roosting or foraging bats, though it could not be discounted that on occasions common bat species may cross the site temporarily for foraging during summer months.
- 4.1.3 The risk of significant impact to bats or local bat conservation was negligible.
- 4.1.4 Further bat surveys or mitigation were considered unnecessary. However, to minimise any residual risk of harm, or impact to bats, precautionary measures, detailed later should be followed.

Other Protected, Priority & Rare Mammals

- 4.1.5 The site was considered negligible in suitability for any other protected, priority or rare mammals. No signs or evidence of such were observed on the site or adjacent to the site.
- 4.1.6 Further surveys for any other protected, priority or rare mammals was considered unnecessary.

Birds

- 4.1.7 Wild birds are protected under the Wildlife and Countryside Act 1981 and, with certain exceptions (e.g. pest species) in certain situations, it is an offence to intentionally:
- Kill or injure any wild bird;
 - Take, damage or destroy the nest of any wild bird while it is in use or being built;
 - Take or destroy the egg of any wild bird.
- 4.1.8 Some bird species (such as barn owls) are also specially protected under Schedule 1 of the Wildlife and Countryside Act 1981 and others are UK priority species.
- 4.1.9 Protected birds and UK priority bird species have been recorded locally (TVERC, 2022). However, given the small size of the site and common and widespread habitats present, the risk of significant use or nesting by such species was very low. No signs or evidence of protected, priority or rare birds were observed.
- 4.1.10 Further surveys or mitigation for birds were considered unnecessary.

Great Crested Newts & Other Amphibians

4.1.11 Great crested newts are protected under the Wildlife and Countryside Act 1981 as amended by the Countryside Rights of Way Act 2000, and the Conservation of Habitats and Species Regulations 2017. Great crested newts are also UK priority species. A summary of the offences likely to be relevant to development are:

- Intentionally or deliberately capture or kill;
- Intentionally injure;
- Deliberately disturb, or intentionally or recklessly disturb in a place of shelter or protection;
- Damage or destroy a breeding site or resting place;
- Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection.

4.1.12 Great crested newts have been recorded within 2km of the site (TVERC, 2022), though not particularly close to the site.

4.1.13 Habitats present were considered negligible in suitability or potential as amphibian terrestrial habitat. No ponds or other potential amphibian breeding habitat was present locally.

4.1.14 The risk of presence and risk of impact to amphibians of any species was negligible. Further amphibian surveys or mitigation were considered unnecessary.

Plants & Habitats

4.1.15 No vegetation or notable habitats were present.

4.1.16 No rare, protected, priority or Schedule 9 invasive plant species were present.

4.1.17 No UK priority habitats were present or proposed for impact.

4.1.18 Further botanical surveys or mitigation were considered unnecessary.

Reptiles

4.1.19 Widespread reptile species including, grass snake, adder, slow worm and common lizard, are protected from intentional killing and injuring under the Wildlife and Countryside Act 1981. They are also UK priority species.

4.1.20 The site was negligible in suitability or potential for reptiles. The risk of presence or impact was negligible.

4.1.21 Further reptile surveys or mitigation were considered unnecessary.

Invertebrates

4.1.22 Habitats proposed for impact were unlikely to support an assemblage of rare invertebrates of conservation concern. The risk of presence or significant impact to such species was very low.

4.1.23 Further invertebrate surveys or mitigation were considered unnecessary.

Other Protected & Priority species

4.1.24 No signs or evidence of other protected, priority or rare species were observed on the site and it was considered that there was a low risk of such species occurring on the site or being impacted by the proposed development.

4.2 Other Issues

Sensitive Habitats

4.2.1 The site was a significant distance from any statutorily or non-statutorily designated nature conservation sites.

4.2.2 The risk of direct or indirect impact to such sites was very low. Further surveys or mitigation for the protection of local nature conservation sites or sensitive habitats were considered unnecessary.

5 RECOMMENDATIONS & BREEAM

5.1 Precautionary Measures and Compensation

Bats

5.1.1 The risk of significant impact to roosting, foraging and commuting bats was very low/negligible, to minimise any residual risk of impact the below recommendations should be followed:

- If tiles are required for removal, this should be undertaken by hand and if at any point bats, or evidence of bats (droppings etc.) are found works should stop and an ecologist called for advice;

- Any proposed external lighting should be minimised. Where external lighting is required it should be warm white LED lamps as these produce the least amount of heat and UV light possible, minimising the attraction effects on insects and minimising disturbance to local bats;
- Any external lighting proposed for the development should be aimed carefully, to minimise illumination of boundary habitats and avoid light spillage into the sky, or horizontally out from any buildings, by using hoods or directional lighting;
- External security lighting should be set on short timers and be sensitive to large moving objects only, to prevent any passing bats switching them on.

5.2 BREEAM LE 01- Site Selection

- 5.2.1 The proposed construction zone is previously developed ground. Therefore, one credit can be awarded for this category.
- 5.2.2 Credit achievement for the second credit in LE 01 has not been assessed in this report because it pertains to contaminated land, not ecology.

5.3 BREEAM LE 02- Ecological Risks and Opportunities

Ecological Value of Site

- 5.3.1 Regarding Survey and Evaluation, the following criteria have been achieved:
- A SQE was appointed at the design stage to undertake an initial ecology survey followed by appropriate reporting, with the information used to help inform the detailed design for the proposed development.
 - The SQE has produced a Preliminary Ecological Appraisal Report which includes baseline data and considers the Zone of Influence (see section 2.4 for methodology). The Preliminary Ecological Appraisal considers the Zol for each individual species and species groups. Overall, the risk of significant impact to notable species or habitats on the site or in the local environment is low.
 - The report includes assessment of potential impacts on ecological receptors, and makes recommendations for ecological enhancement of the site post-development. Recommendations to minimise risk of impact to protected species and notable habitats can be found in section 5.1 above. This PEA report considers current ecological value (low) and potential ecological value of the site (low), as well as direct and indirect impacts from the development and capacity to increase the ecological value of the site.

- The report will be shared with project team and will be used to inform site preparation, design, and construction works.

5.3.2 Consequently, one credit can be awarded.

5.3.3 Regarding Determining the Ecological Outcomes for the site, the following criteria have been achieved:

- One credit has been awarded with regard to Survey and Evaluation;
- The SQE has, and will continue to, liaise and collaborate with appropriate stakeholders to identify the optimal ecological outcome;
- The SQE has identified measures early in the project to influence the ecological outcome of the site, paying regard to the mitigation hierarchy;
- Measures to appraise and select measures to meet the optimal ecological outcomes for the site have been identified and decided upon.

5.3.4 Consequently, one credit can be awarded.

5.3.5 Regarding the Exemplary Level Criteria:

- One credit has been awarded with regard to Determining the Ecological Outcomes;
- Wider site sustainability-related activities and the potential for ecosystem related benefits has been considered, including as a minimum landscape, health and wellbeing, resilience, infrastructure, and community and end user involvement;
- It is understood and accepted within this calculation that credits have been achieved for the following issues: HE 07 Safe and Healthy Surroundings (both credits), and, Pol 05 Reduction of Noise Pollution.

5.3.6 Consequently, one credit can be awarded.

5.3.7 Overall, three credits can be awarded for LE 02.

5.4 BREEAM LE 03- Managing Impacts on Ecology

5.4.1 To make the credits under LE03 available, the following prerequisite criteria must be achieved: Criteria 1: LE02 must be achieved. Three credits under LE 02 can be achieved; therefore, credits under LE03 are available.

5.4.2 Potential negative impacts from the proposed development, including construction works, have been assessed and analysed by the SQE, and recommendations have been made regarding protected and priority species on site.

- 5.4.3 The SQE has proposed measures and recommendations for the proposed site's preparation and construction phases; these will be passed to the project team via the submission of the report.
- 5.4.4 Following the submission of this report to the project and design teams, and the dissemination of the appropriate recommendations and measures, one credit can be awarded. The ecological assessment is based on site survey, design drawings, Ordnance Survey Maps and a local biological records search through TVERC, 2022 which includes data supplied by interest groups. Thackery Estates to confirm that they have read this report and will follow recommendations provided.
- 5.4.5 Following on from the award of this credit, due to the net gain in ecological value through the provision of a brown roof (see LE 04), an additional two credits can be awarded.
- 5.4.6 Overall, three credits can be awarded for LE 03.

5.5 BREEAM LE 04- Change and Enhancement of Ecology

- 5.5.1 Up to three credits can be awarded based on the calculation of the change in ecological Biodiversity Units as result of the development, with an additional exemplary level credit for achieving significant net gain. Credits are awarded as follows:
- Minimising loss of ecological value (one credit - percentage score of 75-94);
 - No net loss of ecological value (two credits - percentage score of 95-104);
 - Net gain of ecological value (three credits - percentage score of 105-109); and
 - Significant net gain of ecological value (percentage score of 110 or above – exemplary).
- 5.5.2 There are no linear foliage or watercourses on the Site and as such no Biodiversity Unit calculations have been undertaken for watercourses.
- 5.5.3 The percentage change in Area Biodiversity Units = 105 - 109%

- 5.5.4 This Biodiversity Unit score has been determined using the proposed roof landscaping design (Flood Risk Assessment & Drainage Strategy (including SUDS) by JM Enviro Limited inputted into the BREEAM Change in Ecological Value Calculator. The existing site is all buildings and hardstanding (0.117ha). The new proposal includes a new brown roof (34m²) which includes a rooftop substrate layer that will overtime be colonised by windblown seeds.
- 5.5.5 This landscaping will create a net gain in post development ecological value, therefore three credits may be awarded.

5.6 BREEAM LE 05- Long term ecology management and maintenance

- 5.6.1 This assessment meets the pre-requisite criteria for credit achievement.
- 5.6.2 Consequently, one credit may be rewarded.
- 5.6.3 A Landscape and Ecology Management Plan (LEcMP) has been developed following BS 42020:2013 Section 11.1 covering five years after project completion. The document is not provided now as it may need substantial revision from the design stage to the post-construction stage. The LEcMP will include:
- Actions and responsibilities, prior to handover, to give to relevant individuals;
 - The ecological value and condition of the site over the development life;
 - Identification of opportunities for ongoing alignment with activities external to the development project and which supports the aims of BREEAM's Strategic Ecology Framework.
 - Identification and guidance to trigger appropriate remedial actions to address previously unforeseen impacts;
 - Clearly defined and allocated roles and responsibilities.
- 5.6.4 The scope of the LEcMP content can be seen in Appendix 8.4.
- 5.6.5 Overall, two credits may be awarded for LE- 05 once the above criteria are met.

5.7 Enhancements

- 5.7.1 The following will be undertaken to enhance the development for wildlife to provide a net gain in accordance with national planning policy.
- 5.7.2 To provide new nesting habitat the below boxes should be installed:
- 6 x Vivara pro sparrow terrace.
 - 6 x Ibstock Swift Bricks
 - 6 x Bat brick by Bird Brick Houses (www.birdbrickhouses.co.uk)
- 5.7.3 The bird boxes will be installed high on the new buildings (just below the roofline) and should be free from obstructions and light sources. The bird boxes will be facing a northerly direction. The bat boxes will be facing a southerly direction.
- 5.7.4 Bat and bird boxes can be purchased on-line through suppliers such as The Wildlife Shop and NHBS.
- 5.7.5 To maximise the ecological value of the proposed new brown roof a log pile will be created on the roof. The log pile will be created using thick logs (larger than 10cm in diameter) from native broad-leaved trees with the bark retained. The log pile will need to be secured to ensure it does not blow off the roof. The log pile will naturally rot down creating habitat for invertebrates which in turn will create a food resource for birds.
- 5.7.6 Biodiversity net Gain calculations (Headline Results) are provided in Appendix 5 below.

6 CONCLUSION

- 6.1 The site was considered negligible in ecological value with common and widespread habitats present. The risk of presence and significant impact to protected, priority or rare species or notable habitats was very low.
- 6.2 Further ecological surveys or mitigation were considered unnecessary for the development to proceed.
- 6.3 To minimise any residual risk of impact, recommendations for bats are included in the report and should be followed.
- 6.4 With the recommendations followed as described in the report, the proposed development could proceed with a minimal risk of impact to protected, priority or rare species or habitats.

- 6.5 The BREEAM assessment for ecology concludes that out of a total of 13 credits, a total of 11 ecology related credits can be awarded for the development plus one exemplary credit. As detailed earlier, another credit may be possible to achieve in LE1 01 for contaminated land, though this has not been assessed in this report.
- 6.6 Furthermore, by following the biodiversity enhancements, the development would be enhanced even further for the benefit of local wildlife in accordance with national planning policy.

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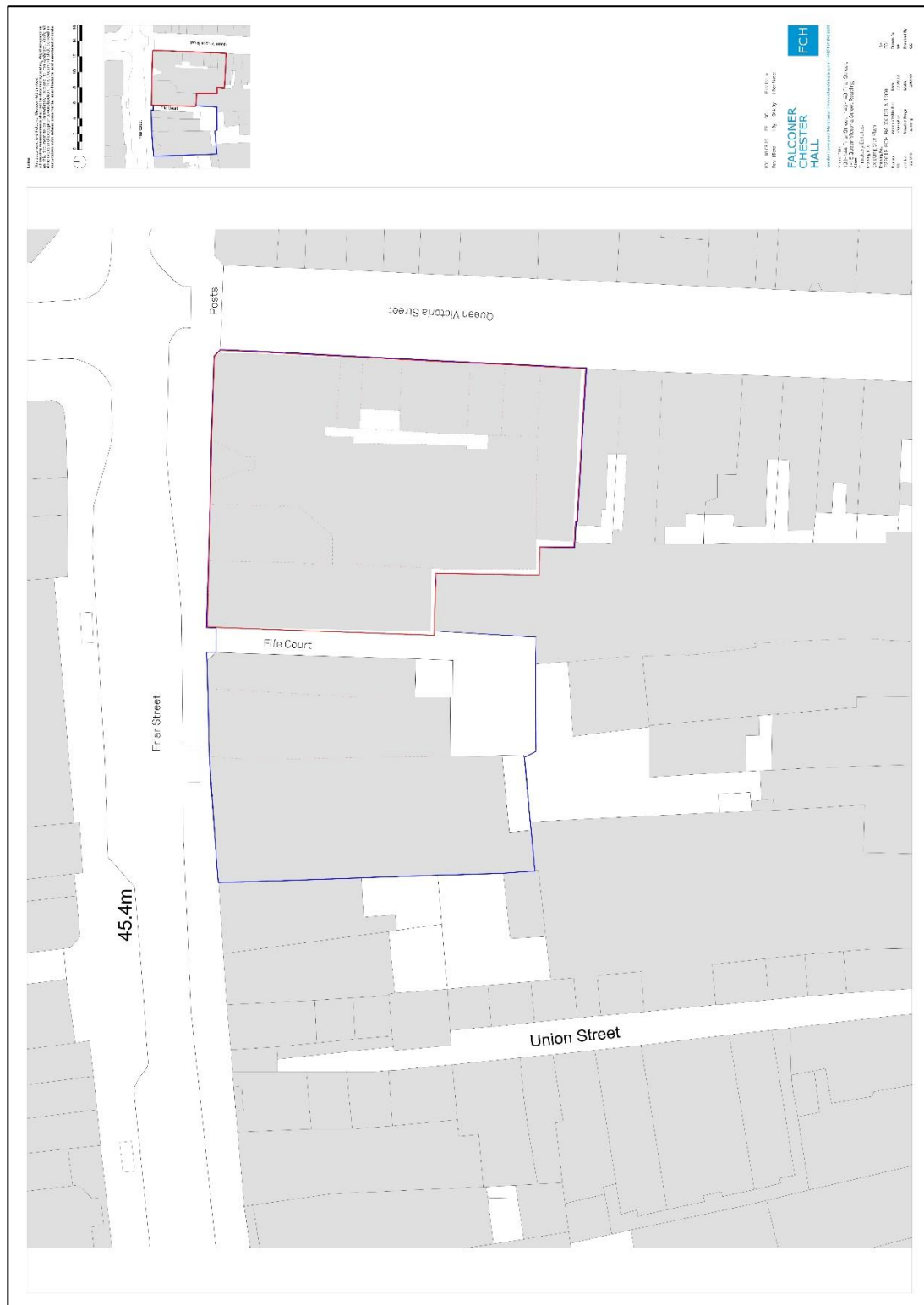
8 APPENDICES

8.1 Appendix 1: Figures

Figure 1 – Habitat map of the site. Red area only- Buildings & Hardstanding



Figure 2 – Location Plan – Redline Boundary.



8.2 Appendix 2: Photographs

Photograph 1: The site on Friar Street Reading.



Photograph by Tommy Root 2022

Photograph 2: The site on Friar Street Reading.



Photograph by Tommy Root 2022

Photograph 3: Roof of buildings on the site.



Photograph by Tommy Root 2022

Photograph 4: Roof of buildings on the site.



Photograph by Tommy Root 2022

Photograph 5: Queen Victoria Street.



Photograph by Tommy Root 2022

Photograph 6: Roof and buildings on the site.



Photograph by Tommy Root 2022

Photograph 7: Fife Court on the site at Friar Street.



Photograph by Tommy Root 2022

8.3 Appendix 3: Suitably Qualified Ecologist Details

Name:

Mr Roger Spring BSc MCIEEM.

Qualifications:

BSc, Conservation Ecology, Deakin University Melbourne, Australia, completed 2001.

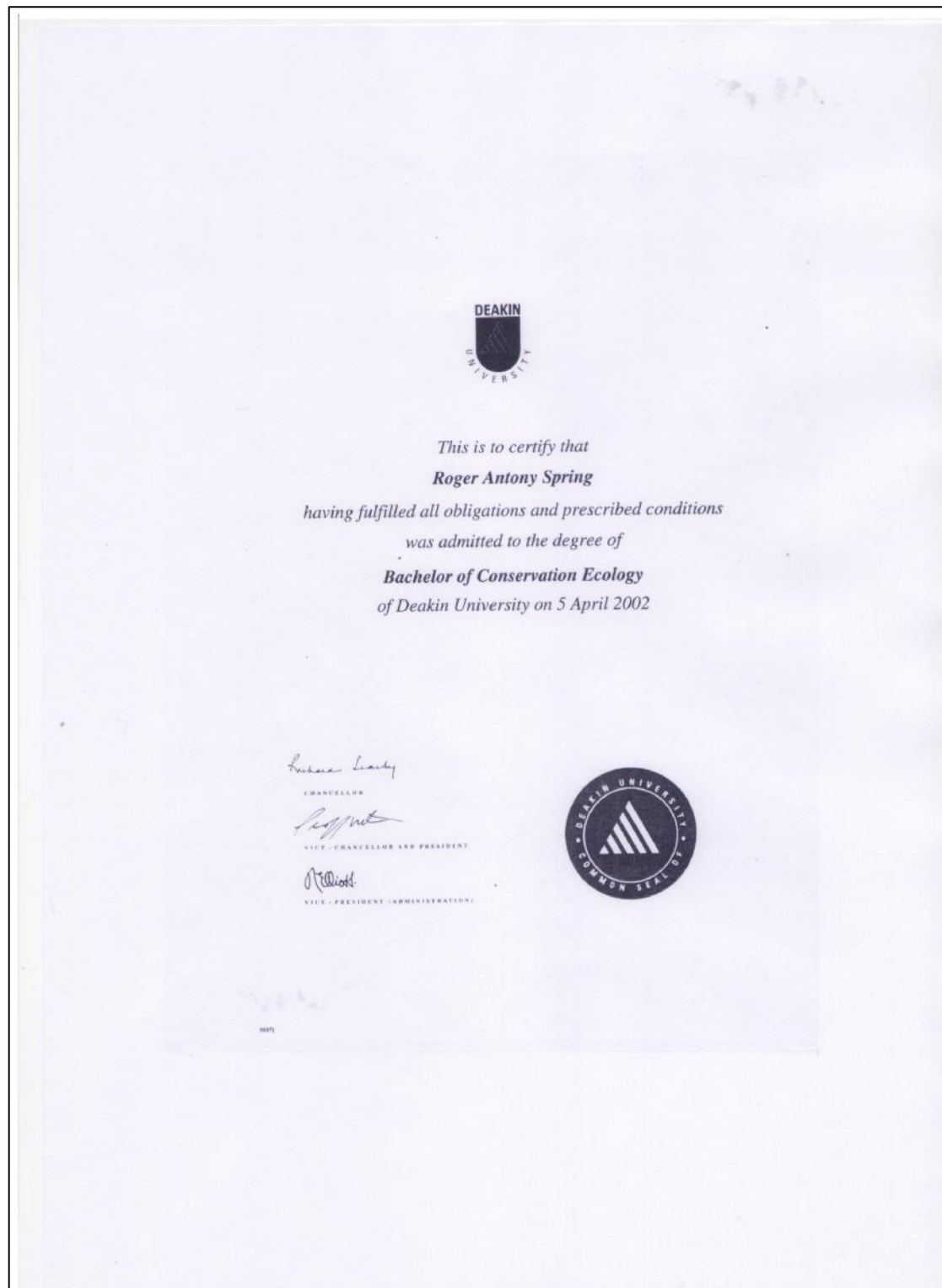
Professional Membership:

Full Member of the Institute of Ecology and Environmental Management (no: 4054).

Ecological Experience:

Over seven years of continual, post-graduate, professional, ecological experience.





8.4 Appendix 4: Five Year Ecological Management Plan

Table 2: Five Year Landscape Ecological Management Plan for the BREEAM Development at 145-148 Friar Street, 1-15 Queen Victoria, Reading

Actions	Season for works to occur	Years to be undertaken
Installing bird boxes	All year round	1
Cleaning bird boxes	End of Winter- to avoid impact to nesting birds.	1-5
Replace damaged or lost bird boxes	As necessary	1-5
Install new brown roof	All year round	1
Install log pile on brown roof	All year round	1
Remedial work- Replace any damaged or lost bird boxes. Replace any lost logs in the log pile.	As above	1-5

Thackery Estates Ltd. is responsible for following all recommendations in this report including the above five year Landscape Ecological Management Plan.

8.5 Appendix 5: Biodiversity net Gain Calculations

Table 3: BNG Calculations

145-148 Friar Street, 1-15 Queen Victoria Street		Return to results menu	
Headline Results			
On-site baseline	Habitat units	0.00	
	Hedgerow units	0.00	
	River units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.03	
	Hedgerow units	0.00	
	River units	0.00	
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	0.00%	
	Hedgerow units	0.00%	
	River units	0.00%	
Off-site baseline	Habitat units	0.00	
	Hedgerow units	0.00	
	River units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00	
	Hedgerow units	0.00	
	River units	0.00	
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.03	
	Hedgerow units	0.00	
	River units	0.00	
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	100.00%	
	Hedgerow units	0.00%	
	River units	0.00%	
Trading rules Satisfied?		Yes ✓	