

Potential impacts on ecology by extension to an existing building
on Queen's Road (Nos 54-58), Reading

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Executive Summary

1. The potential impacts of the extension of existing properties at 54-58 Queen's Road, Reading are described. The general low impact of the development on the ecological value of the site is predicated by three facts: (i) the buildings impacted by the development are not suitable for bats (negligible/low potential for bats) or show presence of current or previous occupancy; (ii) no sign of badgers on site or within 30m; (iii) no signs of nesting birds in tree earmarked for removal as part of the development.
2. The habitats lost on Site (one false acacia tree) are of low value for ecology but could support nesting birds in the breeding season.
3. It is recommended that if construction works occur during the bird breeding season (end March-October) that the tree earmarked for removal and the buildings on site are checked for nesting birds. If birds are nesting then no works can be undertaken while birds are nesting that could impact on their breeding..
4. To provide biodiversity enhancement in line with the NPFF, we recommend the installation of two bat and two bird boxes in nearby suitable areas and we provide a list of native species to use to replace the lost false acacia tree with a native tree species that will increase the value for wildlife.

1. Introduction

- 1.1.1 This report considers the potential ecological impacts of the extension to existing buildings on Queen's Road (54-58), Reading. It includes an assessment of potential impacts of the Development on terrestrial flora and fauna in terms of direct and indirect impacts.
- 1.1.2 The development will not result in the removal of any substantial removal of natural vegetation (one tree will be removed as part of the development).
- 1.1.3 The work was undertaken by Whittingham Ecology (WE) and associates and was informed by:
- Extended Phase 1 Survey (completed on August 16th 2019 and reported here);
 - Desktop surveys via searches of on-line biological archives;
 - General assessment for other protected species (e.g. bats)

2. Methods

Scope of Assessment

- 2.1.1 The following potential impacts have been considered as part of the assessment:
- Direct and indirect impacts on designated nature conservation sites including the potential requirements for a Habitat Regulations Assessment;
 - Direct and indirect impacts of the proposed development on terrestrial habitats within the study area; and
 - Direct and indirect impacts of the proposed development on protected species, including bats, badger and birds;
- 2.1.1 Mitigation measures are also outlined.

Assessment Guidelines, Guidance and Methods

- 2.1.2 The ecological assessment was carried out in accordance with the following guidance documents:
- Guidelines for Ecological Impact Assessment in the United Kingdom (Chartered Institute of Ecology and Environmental Management (CIEEM 2016); and
 - Guidelines for baseline Ecological Assessment (Institute of Environmental Assessment, 1995).

Approach to Assessment

- 2.1.3 The approach follows that recommended by CIEEM.

Sources of Information

Data Searches

- 2.1.4 Searches for historical records of protected species relevant to the Development were conducted using exploration of website-based biodiversity archives.

Surveys

Protected Sites (Desk Surveys)

- 2.1.5 The desk study included a review of the statutory designated sites, non-statutory designated sites and protected and notable species within 2km of the Site. This was undertaken by searching Multi-Agency Geographic Information for the Countryside (MAGIC), searching out relevant information (e.g. by consulting citations for SSSIs - <http://www.sssi.naturalengland.org.uk/Special/sssi/search.cfm>, qualifying criteria for European designated sites such as Special Protection Areas (SPAs) and Special Areas for Conservation (SACs) - <http://jncc.defra.gov.uk/page-1400>) and by undertaking a review of all records available from the internet (e.g. NBN) within a 1km radius of the site.

2.1.6 Habitat Survey

An extended Phase 1 Habitat survey (JNCC 2010), to include a survey for potentially relevant protected species, was undertaken on 16th August 2019 by a qualified ecologist (Rebecca Cattell) (10:30-14.35 – 22°C, 100% cloud, some periods of heavy rain).

Protected Species

Habitat and Protected Species Surveys (Field and Desk Based)

- 2.1.7 Records were obtained of all protected species from web-based archives, and used to inform the assessment.

Protected species survey

- 2.1.8 An extended Phase 1 Habitat survey (JNCC 2010), to include a survey for potentially relevant protected species, was undertaken on 16th August 2019 by a qualified ecologist (Rebecca Cattell) (10:30-14.35 – 22°C, 100% cloud, some periods of heavy rain).

Bats

- 2.1.9 The buildings were examined both internally and externally for the potential presence of bats.

Badger Survey

- 2.1.10 The survey methodology described in Harris et al. (1989) was adopted and focussed on identification of badger signs, including prints, paths, latrines, hair and shelters. All areas of the site and a buffer of 30m were surveyed. Surveys were conducted by surveyors with previous experience of badger ecology.

2.1.11 Bird Survey and other protected species

All areas of the Site were covered to within 50m and all species noted. A buffer of 30m around the Site was also surveyed, where accessible via Public Rights of Way.

Legislative and Policy Context

- 2.1.12 There are legislative, policy and planning policy requirements relating to protection of species habitats and biodiversity.

Species Habitats and Biodiversity Legislation and Policy

- 2.1.13 Relevant species, habitats and biodiversity legislation includes the following.

- 2.1.14 EC Directives and international conventions relevant to this chapter include:

- The EC Directive on the Conservation of Wild Birds (Birds Directive) (2009/147/EC previously 79/409/EEC);

- The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979);
- The EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive 1992) as amended (92/43/EEC); and
- The Convention on Biological Diversity (1992).

2.1.15 UK legislation of relevance includes:

- The Wildlife and Countryside Act 1981 (as amended);
- The Conservation of Habitats and Species Regulations 2010;
- The Countryside and Rights of Way Act 2000;
- The Protection of Badgers Act 1992;
- The Wild Mammals (Protection) Act 1996; and
- The Natural Environment and Rural Communities Act 2006.

2.1.16 The key UK legislation is the Wildlife and Countryside Act 1981 (WCA 1981) which consolidates previous national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 2009/147/EC (previously) 79/409/EEC on the Conservation of Wild Birds (Birds Directive) in Great Britain. The Conservation of Habitats and Species Regulations 2010 transpose the Habitats Directive into national law. The Regulations provide for the designation and protection of 'European sites', and the protection of 'European protected species'.

2.1.17 Biodiversity obligations under the Convention on Biological Diversity (1992) are implemented in England through 'Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services (Defra, 2011) and the 'UK Post-2010 Biodiversity Framework';

Planning Policy

2.4 Key planning policy documents relevant to ecology and nature conservation comprise the following:

- National Planning Policy Framework (2019); and
- On-line Planning Practice Guidance;

2.5 Chapter 15 of the **National Planning Policy Framework** is concerned with conserving and enhancing the natural environment and its more detailed policy provisions, as set out in paragraph 170, seek to minimise impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

2.6 Local planning authorities are advised (in paragraph 174) that in order to protect and enhance biodiversity and geodiversity, plans should 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; that they should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and that they should identify and pursue opportunities for securing measurable net gains for biodiversity.

2.7 When determining planning applications (paragraph 175), local planning authorities are advised that they should, if significant harm to biodiversity resulting from a development

cannot be avoided (through locating on an alternative site with less harmful impacts), ensure that it is adequately mitigated, or, as a last resort, compensated for. If this is not possible, then planning permission should be refused.

- 2.8 **Planning Practice Guidance (PPG) on the Natural Environment including biodiversity, geodiversity and ecosystems (2019)** advises that Section 40 of the Natural Environment and Rural Communities Act 2006 places a duty on all public authorities in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity. It states that a key purpose of this duty is to embed consideration of biodiversity as an integral part of policy and decision making, which should be seeking to make a significant contribution to the achievement of the commitments made by government in its 25 Year Environment Plan.
- 2.9 Planning authorities are advised that they need to consider the opportunities that individual development proposals may provide to conserve and enhance biodiversity and geodiversity and contribute to habitat connectivity in the wider area (including as part of the Nature Recovery Network). In this context, the PPG advises that it is useful to consider:
- the latest government policies that are relevant, including the commitments in the 25 Year Environment Plan;
 - the contents of existing up-to-date plans and strategies for biodiversity and nature recovery;
 - the potential effects of a development on the habitats or species on the Natural Environment and Rural Communities Act 2006 section 41 list;
 - whether an ecological survey is appropriate;
 - opportunities to restore or enhance local ecological networks, including those that contribute to the wider Nature Recovery Network;
 - how to secure net gains for biodiversity as part of green infrastructure provision; and
 - opportunities to work strategically in order to streamline development decisions: for example, by establishing a 'zone of influence' around protected sites.
- 2.10 The PPG advises that information on biodiversity and geodiversity impacts and opportunities should inform all stages of development (including site selection and design, pre-application consultation and the application itself). It states that an ecological survey will be necessary in advance of a planning application if the type and location of development could have a significant impact on biodiversity and existing information is lacking or inadequate, but that local planning authorities should require ecological surveys only where clearly justified. Assessments should be proportionate to the nature and scale of development proposed and the likely impact on biodiversity.
- 2.11 The PPG also provides further advice on the issues that are important in applying policy to avoid, mitigate or compensate for significant harm to biodiversity.

3. Results - Existing/Baseline Conditions and predicted impacts

Protected Sites

International Designated Sites.

- 3.1.1 There are no internationally designated sites located within a 10km radius of the Site. Therefore, there is no requirement for a Habitat Regulations Assessment.

UK Statutory Designated Sites

- 3.1.2 There are no SSSI's in the surrounding 2km buffer of the site.

Local sites

- 3.1.3 The site is located in an existing building on Queen's Road, Reading (nos 54-58). There are no locally impacted sites as shown up in a search using MAGIC. However, there may be local sites not shown in this database.
- 3.1.4 Figures 1 and 2 are presented below to show the boundary of the Site relative to the surrounding areas and the habitats present on Site.

Figure 1. Red-line boundary of development within context of Reading city centre.



Figure 2. Phase 1 habitat map for red-line boundary area within which the proposed development is enclosed. Each of the categories of phase 1 mapping shown in the legend is described in the 'Habitats on Site' section of the text. The numbers of the properties on Queen's Road are shown in red letters.



Habitats on Site

- 3.1.5 We describe the habitats mapped here and present a map in Figure 2 and photos of the site. Please see the categories in the legend of Figure 2 which are described below.

Buildings

- 3.1.6 The site contained three conjoined three-storey buildings with loft spaces, currently in use as offices. The buildings were of relatively modern construction (post-1960), brick-built with a tiled roof and in a state of good repair. They were located with an urban city environment in central Reading. The buildings were numbered 54, 56 and 58. The loft space in each building was inspected for potential suitability as a bat roost. A series of photos (1-14).
- 3.1.7 **Suitability for Protected and Notable Species.** The loft spaces were all dark within and warm (heated buildings). Timber beams and breeze block walls inside were of relatively recent work and in good repair. No access points noted for bats. No evidence of bats within any of the lofts. Lofts at 58 and 56 were fully accessed but it was not possible to safely enter 54 with ladder due to a height gap. Loft 54 was inspected at head height through the loft door (but wasn't able to get as many photos of this one). All were similar inside. No access points noted on the outside of the buildings. The River Kennet is approximately 110m to the North of the site but the building is post-1960. **Low to negligible bat roost potential and no signs of current or historical use by bats. No presence of current or historical nesting birds.**

Building 58



Photo 1. B58, front view, Northern face



Photo 2. B58, rear view, Southern face



Photo 3. B58 loft space



Photo 4. B58 loft space



Photo 5. B58 loft space

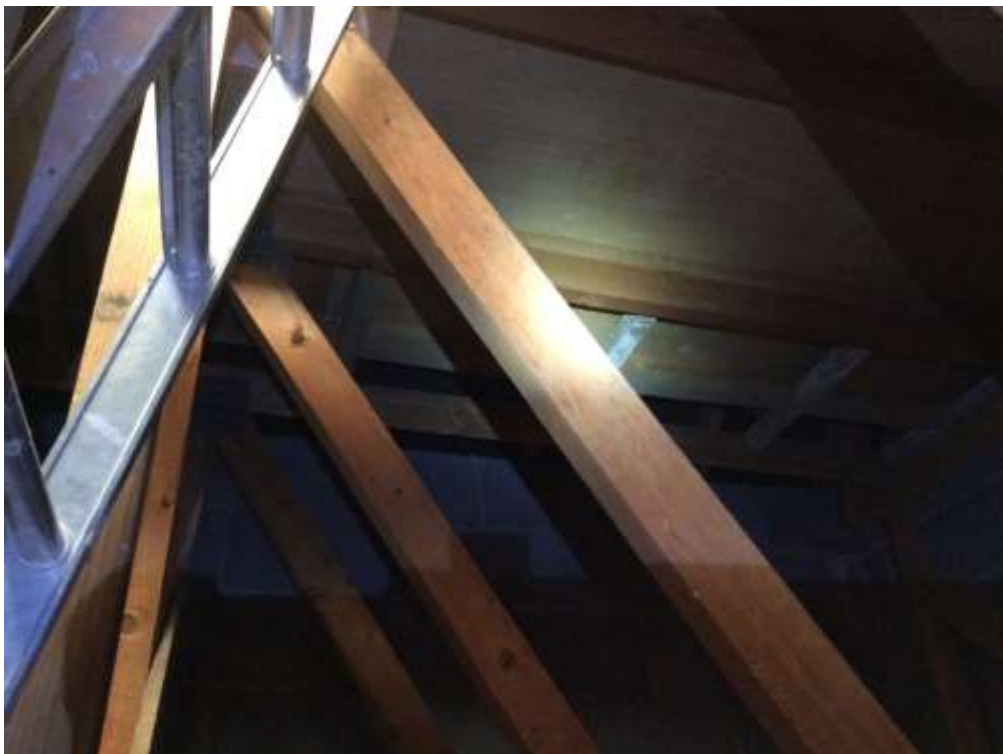


Photo 6. B58 loft space

Building 56



Photo 7. B56 (middle building), front – Northern face



Photo 8. B56, rear view – Southern face



Photo 9. B56 loft space



Photo 10. B56 loft space



Photo 11. B56 loft space

Building 54



Photo 12. B54 front view, Northern face



Photo 13. B54 rear view, Southern face



Photo 14. B54 loft space

Introduced Shrub (see photos 15-16).

- 3.1.8 There were areas of introduced shrubs at the front and Eastern side of the buildings and along the Western edge of the carpark at the rear of the buildings. The strip at the front and

side of the buildings contained choisya *Choisya ternata*, stag's horn sumach *Rhus typhina*, hebe *Hebe* Sp., cherry *Prunus* Sp., ivy *Hedera helix*, viburnum *Viburnum tinus*, rowan *Sorbus aucuparia*, mahonia *Mahonia* Sp., firethorn *Pyracantha coccinea*, rock rose *Helianthemum* Sp., and ruderals bristly ox-tongue *Picris echioides*, ragwort – probably Oxford ragwort *Senecio squalidus*, herb Robert *Geranium robertianum*, green alkanet *Pentaglottis sempervirens* and Canadian fleabane *Conyza canadensis*. The strip along the carpark contained some native ruderal species including bramble *Rubus fruticosus* agg., bristly ox-tongue *P. echioides*, prickly lettuce *Lactuca serriola*, wild marjoram *Origanum vulgare*. Introduced shrub species in this area were buddleja *Buddleja davidii*, mahonia *Mahonia* Sp., barberry *Berberis* Sp. and rose of Sharon *Hypericum calycinum*. **There will be some minor changes to the shrubs (see mitigation).**



Photo 15. Introduced shrub at front of buildings



Photo 16. Introduced shrub on Eastern boundary

Broadleaved Parkland/Scattered Trees (see photo 17).

- 3.1.9 There were a couple of non-native trees on the site. A mature yellow false acacia 'Frisia' *Robinia pseudoacacia* at the rear (Southern) end of the car park and a semi-mature unidentified tree, possibly *Phillyrea latifolia* in the middle of the car park. The false acacia will be removed as part of the development. This will require mitigation (see section below).



Photo 17. Mature yellow false acacia 'Frisia' *Robinia pseudoacacia* at the rear (Southern) end of the car park

Intact Hedge – Species Poor (see photo 18).

- 3.1.10 There was a section of intact hedge in the middle of the car park comprised of barberry *Berberis* Sp., firethorn *P. coccinea* and ivy *H. helix*. This hedge will be removed as part of this development (see mitigation).



Photo 18. Intact hedge – species poor

Wall (photo 19).

3.1.11 There was a brick wall along the Southern and half of the Eastern boundary.



Photo 19. Brick wall on Southern boundary

Bare Ground (Photo 20).

- 3.1.12 A large proportion of the site was brick hard standing for car parking. Negligible ecological impact by the development on this habitat.



Photo 20. Car park

3.2 Mitigation

Design Phase

- 3.2.1 Mitigation is described for ecological receptors likely to be impacted in any way by the Development and how these have been considered in the design of the Development.
- 3.2.2 The removal of the false acacia tree will be mitigated by the planting of a semi-mature native tree species (such as oak spp. – see Appendix 1) elsewhere within the footprint of the red line boundary shown in Figure 2.
- 3.2.3 The intact species poor hedge (see Photo 18) will be replaced with a similar length of hedge using native species (see Appendix 2).
- 3.2.4 The introduced shrubs will be replaced by an equivalent area using native species (see Appendix 2).

Construction Phase

Birds

- 3.2.5 The false acacia tree (see Photo 17) will be removed as part of this development. If the development occurs during the bird breeding season (March-October) a check will need to be made whether birds are using this tree (and the buildings on site) for nesting. If there are birds nesting at the time of construction care should be taken to avoid disturbance of nesting birds, their active nests, eggs and young are all protected from killing and injuring.

General

- 3.2.6 Good tidy site practice will be adhered to during construction in order to avoid negative impacts on wildlife (e.g. not providing suitable areas for roosting/hibernating), this includes covering excavations, keeping tools locked up and reducing soil compaction by minimising vehicle movements and using low ground pressure vehicles, particularly during wet weather. Lighting needed during construction will be directional wherever possible to minimise light pollution to the wider environment.
- 3.2.7 To provide biodiversity enhancement in line with the NPPF, we recommend the installation of two bat boxes and two bird boxes in nearby suitable areas.

Post-construction

- 3.2.8 We recommend that the roof terrace and planting areas for the development make use of planting of native vegetation. A range of recommended species is presented in Appendix 2.

References

CIEEM (2016) *Guidelines for Ecological Impacts Assessment in the UK and Ireland: terrestrial, freshwater and coastal*. Chartered Institute of Ecology and Environmental Management. www.cieem.net;

Department for Communities and Local Government (March 2012) National Planning Policy Framework;

Department for Communities and Local Government (2014) Planning Practice Guidance on the Natural Environment including biodiversity, ecosystems and green infrastructure;

Harris, S., Cresswell, P. & Jeffries, D. (1989) *Surveying for Badgers*. Occasional publication of the Mammal Society, London;

Institute of Environmental Assessment (1995) *Guidelines for Baseline Ecological Assessment*. E. & F.N. Spon. London;

Joint Nature Conservation Council (JNCC) (2010). *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. JNCC Publications, Peterborough.

Appendix 1 Wildlife-Friendly Planting

A range of guidance for wildlife-friendly gardens can be found at <http://www.wlgf.org/Plants.pdf> in addition the tables below are useful pointers for the site.

Table A2.1: Native and wildlife-friendly shrubs (Natural England, 2008).

Common Name	Scientific Name
Hazel	<i>Corylus avellana</i>
Elder	<i>Sambucus nigra</i>
Goat willow	<i>Salix caprea</i>
Hawthorn	<i>Crataegus monogyna</i>
Dog rose	<i>Rosa canina</i>
Guelder rose	<i>Viburnum opulus</i>
Gorse	<i>Ulex europaeus</i>
Broom	<i>Cytisus scoparius</i>
Wayfaring tree	<i>Viburnum lantana</i>
Shrubby cinquefoil	<i>Potentilla fruticosa</i>
Raspberry	<i>Rubus idaeus</i>
Alder buckthorn	<i>Frangula alnus</i>
Wild privet	<i>Ligustrum vulgare</i>
Barberry	<i>Berberis × stenophylla</i>
Barberry	<i>Berberis vulgaris</i>
Bell heather	<i>Erica cinerea</i>
Bilberry	<i>Vaccinium myrtillus</i>
Black currant	<i>Ribes nigrum</i>
Blackthorn	<i>Prunus spinosa</i>
Buckthorn	<i>Rhamnus catharticus</i>
Butcher's-broom	<i>Ruscus aculeatus</i>
Cowberry	<i>Vaccinium vitis-idaea</i>
Cross-leaved heath	<i>Erica tetralix</i>
New Zealand holly	<i>Olearia macrodonta</i>
Daphne	<i>Daphne odora</i>
Dogwood	<i>Cornus sanguinea</i>
Field rose	<i>Rosa arvensis</i>
Firethorn	<i>Pyracanthus angustifolia</i>
Flowering Currant	<i>Ribes sanguineum</i>
Gooseberry	<i>Ribes uva-crispa</i>
Hebe 'Midsummer Beauty'	<i>Hebe</i> sp.
Holly	<i>Ilex aquifolium</i>
Japanese quince	<i>Chaenomeles japonica</i>
Lilac	<i>Syringa vulgaris</i>
Mexican orange	<i>Choisya ternata</i>
Mezereon	<i>Daphne mezereum</i>
Midland hawthorn	<i>Crataegus laevigata</i>
Oregon grape	<i>Mahonia aquifolium</i>
Osier	<i>Salix viminalis</i>
Portugal laurel	<i>Prunus lusitanica</i>

Common Name	Scientific Name
Privet	<i>Ligustrum ovalifolium</i>
Purple willow	<i>Salix purpurea</i>
Snowy mespilus	<i>Amelanchier canadensis</i> , <i>Amelanchier lamarckii</i>
Spindle	<i>Euonymus europaeus</i>
Spurge laurel	<i>Daphne laureola</i>
Sweet briar	<i>Rosa rubiginosa</i>
Wild privet	<i>Ligustrum vulgare</i>

Table A2.2: Native and wildlife-friendly trees (Natural England, 2008).

Common Name	Scientific Name
Pedunculate oak	<i>Quercus robur</i>
Ash	<i>Fraxinus excelsior</i>
Wych elm	<i>Ulmus glabra</i>
Whitebeam	<i>Sorbus aria</i> agg.
Rowan	<i>Sorbus aucuparia</i>
Aspen	<i>Populus tremula</i>
Apple	<i>Malus domestica</i>
Bird cherry	<i>Prunus padus</i>
Common alder	<i>Alnus glutinosa</i>
Crab apple	<i>Malus sylvestris</i>
Crack willow	<i>Salix fragilis</i>
Downy birch	<i>Betula pubescens</i>
Field maple	<i>Acer campestre</i>
Hornbeam	<i>Carpinus betulus</i>
Juniper	<i>Juniperus communis</i>
Large-leaved lime	<i>Tilia platyphyllos</i>
Small-leaved lime	<i>Tilia cordata</i>
Pear	<i>Pyrus communis</i>
Scots pine	<i>Pinus sylvestris</i>
Sessile oak	<i>Quercus petraea</i>